



**The Meridian system  
you can afford!**

Exclusive in-depth test of the new entry-level actives and preamp/processor combo

**Turntable  
temptation**



Can Audio Note's new £3,000 TT-2 Deluxe beat our favourite deck of 2011?

# Hi-Fi Choice

**PASSION FOR SOUND**

www.hifichoice.co.uk

December 2011

**£3.99**

## Small & mighty

Speaker supertest reveals the season's best £1,000 compacts

**Manchester show special**

We're first to bring you next year's hottest new hi-fi: in-depth show report inside

**21**

specialty selected reviews including: Audiolab, Denon, T+A, Totem and more...



DECEMBER 2011

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12

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**Beauty and the beat**

Exclusive! Our verdict on the classy new £1,250 CD22 and I22 integrated



**Burmester revealed**

Behind-the-scenes look at the incredible Berlin factory

ONLY AVAILABLE DIRECT

# The revolutionary Brennan JB7 will change the way you listen to your CD collection - forever!



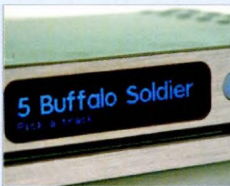
Store, browse and play up to **5000 CDs\*** - at the touch of a button!



Built-in hard drive - loading each CD takes JUST 3 - 4 MINUTES!



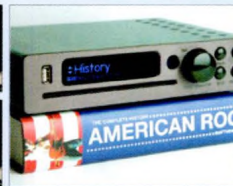
One simple button will play your entire collection at random!



Album and track names are automatically added!



Combines tracks in ways you would never dream of!



No bigger than an average hardback book!



Find the music you want to hear in SECONDS!

★ VOTED 'BEST BUY' BY GRAMOPHONE MAGAZINE, WHAT HI-FI & SUNDAY TIMES ★

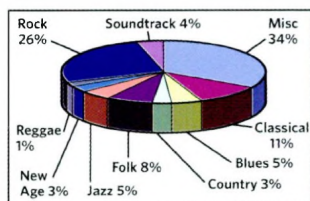
How many CD's do you own and never play? Think of the money they cost, the space they take up.

Well, now thanks to one man's brilliant invention, you'll find yourself listening and falling in love with your music collection all over again.

No more clutter, no more hassle, just every album you've collected over the years, every favourite track - instantly available at the touch of a button. All from something no bigger than a hardback book. The Brennan JB7 will even pick your music for you and play it back in a combination that will surprise, entertain, amuse and even move you in a way you would never have imagined!

*"At last I can get rid of the racks of CDs in my living room"*

*"Quite honestly it's the best thing I've bought in years!"*



**Massive CD database** on the Brennan JB7's hard drive contains the titles of 2.4 million albums including their track names.

- PUT AN END TO YOUR CD CLUTTER
- GAIN VALUABLE SHELF SPACE
- ALL OF YOUR MUSIC AT THE TOUCH OF A BUTTON
- PERFECT FOR ENTERTAINING OR RELAXING TO
- CONTROL FROM YOUR ARMCHAIR
- COMPILE PLAYLISTS QUICKLY AND EASILY
- TAKE ADVANTAGE OF CHEAP CD PRICES

OVER 10,000 ALREADY SOLD!

Martin Brennan



### The face behind the Brennan JB7

Martin Brennan has worked with Sir Clive Sinclair and Sir Alan Sugar and has designed over 20 silicon chips in his career. Ever since CDs were invented Martin longed for a CD player that would hold his entire disorganised CD collection.

He wanted something as simple to use as a light switch but at the same time something that would let him find a particular track without leaving his armchair.

In 2006 the record companies said unequivocally that they are happy for you to load your own CDs onto a hard disk but the Advertising Standards Authority have asked us to tell you that it is unlawful to copy material without the permission of the copyright holder.

- Additional features:**
- Seven rainbow colour coded playlists
  - Segue function blends one track into the next
  - One touch record from vinyl, cassette or radio
  - Use it with existing hi-fi or on its own
  - Plays MP3 downloads - future proof
  - Credit card size remote control

**Buy it, load it, play it and if you still don't love it - WE'LL GIVE YOU YOUR MONEY BACK!**

If the Brennan JB7 isn't right for you - gives us a call and we will arrange to come and collect it and give you a full refund - we can even arrange collection from a place of work.



\*See copyright message on the Brennan website

There really is nothing quite like the revolutionary Brennan JB7 for the price. Re-connect with your music TODAY!

**ONLY AVAILABLE DIRECT.** to 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.



**NIGEL WILLIAMSON**  
**EXPERTISE:** MUSIC

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



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

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



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

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

# Welcome...

www.hifichoice.co.uk Issue No. **353** December 2011



...to the latest edition of *Hi-Fi Choice*. Things are back to normal this issue following our *Awards* edition and we've packed in an exciting and diverse range of products for you that are all within reach for the discerning enthusiast.

Our exclusives this month include Primare's beautiful I22 integrated and matching CD22, a combination that just oozes style, substance and class and all for just £1,250 per box.

Taking performance and functionality up a gear is Meridian's incredible Media Core 200 and entry-level DSP3200 actives, a system that Jason Kennedy describes as "slick with excellent detail resolution", get the full story on p80.

But it's our cover stars that really make the issue this month. We've gathered together six of the most interesting new standmounts on the market for our Blind-Listening panel to decipher, with a surprise winner. Head over to p40 to discover more.

*Dan*

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

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### OUR PROMISE TO YOU

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



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web site:

[www.jordanacoustics.co.uk](http://www.jordanacoustics.co.uk)



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SMARTPHONE

large product range ▶ free parking ▶ 0% flexible finance\*



ACCORDEON model



APOGEO model

**Handmade by master craftsman in Italy, Bassocontinuo shun fashion and conventional rules to bring a truly superior range of supports for those who want the very best from their components and system.**

Going back to the drawing board and starting with a clean sheet, Bassocontinuo painstakingly looked at every aspect of support design.

From searching for the finest materials with the best acoustic properties to using master craftsmen in the marine industry, to the shape and aesthetics, no matter how long it took, Bassocontinuo simply left nothing to chance because everything had to be right.

With a wide choice of different models, configurations, colours, finishes, and bespoke versions, Bassocontinuo cater for the most demanding customer.

Call Jordan Acoustics to experience Bassocontinuo for yourself.



Complete Bassocontinuo Range available from Jordan Acoustics. Call to find out more.



*Bassocontinuo*

## bournemouth showroom

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.*

## glenrothes showroom

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.*

Don't forget  
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on **twitter**



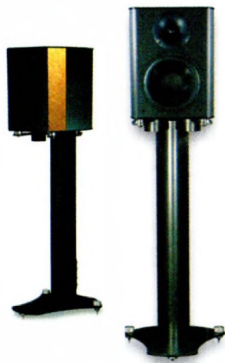
part exchange\* ▶ large selection of used items ▶ home demonstrations\*

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



The all new Geometry Series from Wilson Benesch pays homage to the importance of geometry in all good design. With the Geometry Series Wilson Benesch applies these principles, with passion, to Acoustic Engineering.

The Geometry Series aspires to be the evolutionary development of the time tested Odyssey Series that is now in its tenth year. This collection provides the summation of many years of considered thought and re-evaluation, encouraged in part, by new technologies and new manufacturing capabilities.



### NEW Vertex

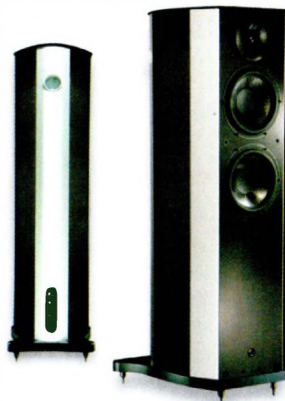
*by wilson benesch*

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

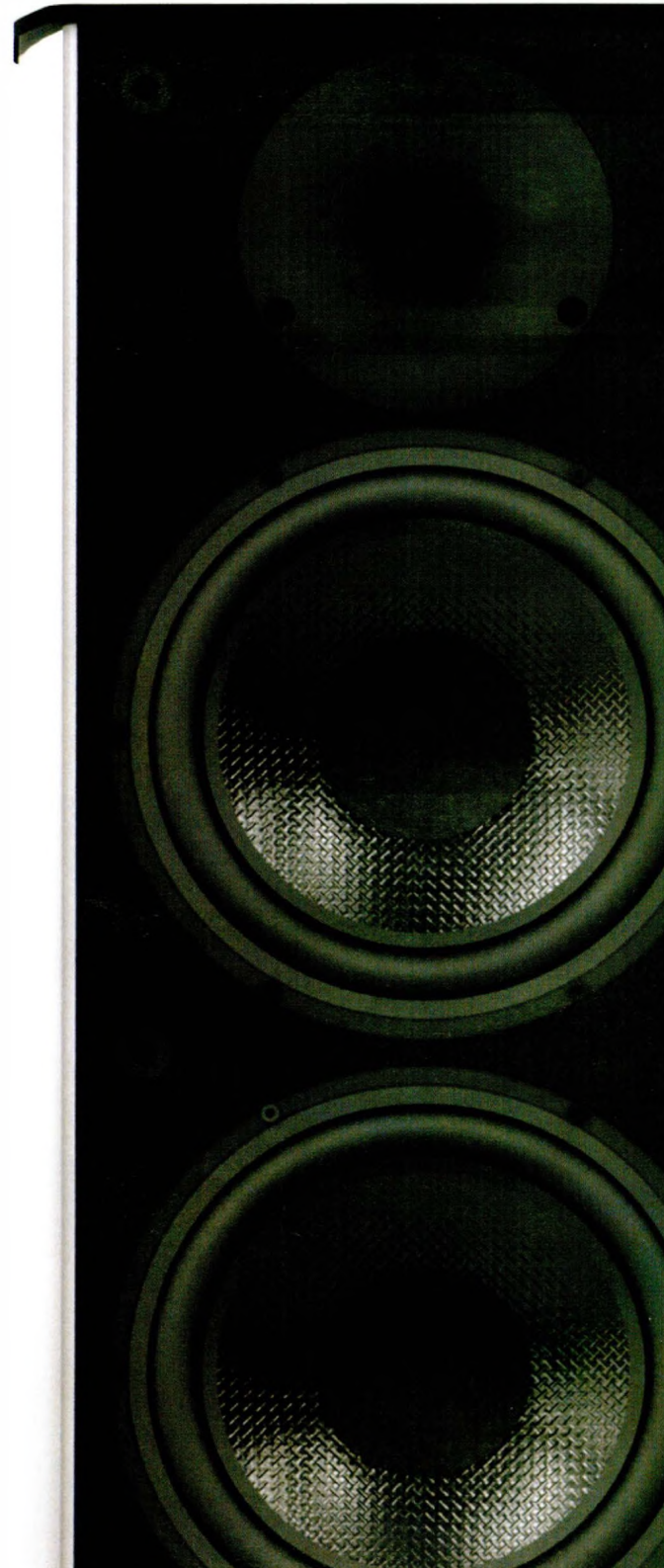
### NEW Vector

*by wilson benesch*

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



 geometry  
series



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"We've seldom heard detail so well balanced in an affordable system."

*Richard Black: Primare CD22 and I22 p56*

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**Never miss an issue – turn to p32 for our latest subs offer**

## 20/20 vision

PMC celebrates 20 years in the business with a complete new range of speakers and an incredible warranty commitment

**PRICE:** £1,375-£3,100  
**AVAILABLE:** NOW  
**CONTACT:** 0870 4441044  
**WEB:** PMC-SPEAKERS.COM

**P**MC is twenty years old this year and to celebrate, the Luton-based company has launched a new range of loudspeakers. The twenty series includes both thinking and design cues from the fact models, but makes them available at a more affordable price.

The twenty series comprises four speakers: two standmounts (twenty.21 and twenty.22) and two floorstanders (twenty.23 and twenty.24). The 21 and 23 models use a 5.5-inch driver, while the 22 and 24 use a larger

The crossovers are bespoke and feature military-grade glass-fibre boards, upon which ultra-thick copper tracks are applied together with hand-selected components. PMC claims that further tuning is achieved by careful placement of components on the board and the orientation of the board itself to eliminate electromagnetic interference and interaction.

The cabinets are constructed from twin-veneered, 18mm-thick Medite HDF. The transmission loading places the greatest stresses at the

The twenty range includes both thinking and design cues from the fact models

6.5-inch model and a correspondingly larger cabinet. These drivers are specific to the twenty series and feature a natural fibre-cone, lightweight doping. All models use a 27mm soft-dome tweeter developed in conjunction with SEAS. This incorporates a dispersion grille that PMC says, 'produces a near-holographic soundstage'. In keeping with other designs, the twenty range also features an advanced transmission line to assist with bass re-enforcement.

top of the cabinet and PMC has countered this with heavy bracing to this panel to significantly reduce colouration. Four real-wood finishes are offered.

Finally, the twenty series' (and all other passive PMC designs) are available with an incredible 20-year warranty and thanks to exhaustive record-keeping, PMC can supply matched parts for any speaker it makes for the complete length of time that the warranty covers.





**BASSLINE**

**PMC ISA KEEN** advocate of transmission line loading for its loudspeakers and the twenty series benefits from the same technique. The bass driver is placed at the end of a long tunnel, heavily damped with acoustic material. This absorbs upper bass and midrange frequencies, while keeping lower bass intact and in phase. These frequencies emerge from a large vent, which essentially operates as a second driver. This results in deep and potent bass from a small cabinet.

# T+A

Completely new and uncompromisingly audiophile  
**E-Series *balanced***



The MUSIC PLAYER *balanced* is simply THE audiophile music source. As well as featuring the latest generation of 192 / 24 kHz Streaming Client (LAN, WLAN, USB media storage devices, iPod including control system), a superb 32-bit double-mono DAC, an audiophile CD player, high-quality FM tuner and five digital SP/DIF inputs (coax at 192 kHz), it's fully balanced design offers the very best in audiophile performance right through to the XLR outputs.



The POWER PLANT *balanced* is the ideal integrated amplifier partner for any audiophile source. It's fully balanced design and T+A developed switching output stages deliver a lively and compelling sound capable of a massive 500 Watts. When partnered with the MUSIC PLAYER *balanced*, users will enjoy class-leading performance no matter how their music content is stored.

Hand built in Germany, the E-Series *balanced* from T+A is available in the UK now.

For more information or to arrange a demonstration, please contact:



acoustic brands ltd

Acoustic Brands Limited (ABL) Ltd.

Tel - 07917 431 280

Email - [sales@acousticbrandslimited.com](mailto:sales@acousticbrandslimited.com)

Web - [www.acousticbrandslimited.com](http://www.acousticbrandslimited.com)

## Studio sound

JBL's Studio Monitor range 'offers studio sound at home'

**J**BL has launched a complete new range of loudspeakers. The six-strong Studio Monitor series borrows heavily from the historic JBL Monitors, but includes new technologies. JBL says, that all models are designed to give 'studio quality in a transportable size.'

All are three-way designs and use bass drivers, including the substantial 15-inch unit in the range-topping 4365, to a

rather more discrete 5.25-inch unit in the smallest 4312. The large speakers make use of horn loading for the tweeter and midrange drivers to increase sensitivity and improve soundstage.

Although the Studio Monitor series has strong professional leanings, most are available in a walnut finish with blue front panels. The exception being the 4312EB, which is finished in black.



**PRICE:** £399-£13,799 **AVAILABLE:** NOW **CONTACT:** 01707 278100 **WEB:** UK.JBL.COM



## Make the Grado

**GRADO** has added the PS500 to its range. The new model borrows heavily from the flagship PS1000 and Grado says that it offers almost all of the performance of the latter at roughly one third of the price.

The PS500 makes use of the same high-quality hybrid earpiece as the PS1000. This consists of a hand-crafted mahogany section and a 'spark-finished' outer housing of very hard metal alloy. The combination is said to ensure no ringing or resonance from the enclosure. The drivers use rare-earth metals and the connecting cable is Grado's own formula with fifteen wires enclosed in a proprietary shell. The result of all this effort is, says Grado, 'a distortion-free and strikingly lifelike musical performance.'

**PRICE:** £700  
**AVAILABLE:** NOW  
**CONTACT:** 01 279 501111  
**WEB:** GRADOLABS.COM



## Best PAL

**TIVOLI** has updated its PAL portable radio. The new PAL+ (Portable Audio Laboratory) is equipped for DAB and DAB+, but retains FM playback and adds DMB support, should this become a part of the European spectrum.

Tivoli claims to have put considerable effort into making the PAL+ as portable as possible and, to this end, the unit features a high-density NiMH battery with 10 hours life from a three-hour charge. The unit can also be powered from the mains. A single, full-range 6.5cm driver provides the audio and the PAL+ is available in a variety of colours.

**PRICE:** £249  
**AVAILABLE:** NOW  
**WEB:** TIVOLIAUDIO.COM

## Wireless wonder

Canton's your World makes wireless simple

**C**anton has launched its your World range of wireless components, designed to make streaming from an iPod or PC as simple as possible.

The range comprises a USB adaptor and iPod dock, both of which can act as a source. This information can then be sent wireless for distances of up to twenty metres from the bass station, to a choice of different wirelessly equipped speakers.



**PRICE:** £370 **AVAILABLE:** NOW **CONTACT:** 020 8200 8282 **WEB:** CANTON.DE

# CYRUS

## Explore your music

The Cyrus streaming platform provides the perfect solution for all music lovers. This new range of streaming music players provide you with immediate access to all of your favourite tunes and albums, plus you can listen to literally thousands of different internet radio stations from across the world; all in true hi-fi quality.

Purchase a Cyrus streaming music player during August and September to receive a free NAS drive and network switch. These thoughtfully chosen products will release the full potential of the n-remote control so you will have a host of options in which to browse your music, all at the touch of a button. Music this convenient has never sounded so good.



**free**  
NAS Drive  
&  
Accessories

Buy a Cyrus Stream XP, Stream X or Streamline during August and September 2011 and you will receive a free NAS drive and network switch. This package provides everything you need to play high quality music. Visit a retailer today!

- Lintone Audio 7-11 Park Lane, Tyne & Wear • Tel. 0191 4774167
- Fanthorpes 6 Hepworth Arcade, Hull • Tel. 01482 223096
- Moorgate Acoustics Ltd 184 Fitzwilliam Street, Sheffield • Tel. 0114 2756048
- Frank Harvey Hi Fi 163 Spon Street, Coventry • Tel. 02476 525200
- Nottingham Hi Fi Centre 116-122 Alfreton Road, Nottingham • Tel. 0115 9786919
- Audiovation 4 Cross Church Street, Huddersfield • Tel. 01484 424000
- Vickers Hi Fi Ltd 8 Concorde Park, York • Tel. 01904 691600
- Bartletts Hi Fi 175-177 Holloway Road, London • Tel. 0207 6072148
- Sevenoaks (Holborn) 144 Grays Inn Road, London • Tel. 0207 8377540
- Sevenoaks (Sevenoaks) 109-113 London Road, Kent • Tel. 01732 459555
- Sevenoaks (Tunbridge Wells) 28/30 St Johns Road, Kent • Tel. 01892 531543
- Sevenoaks (Witham) 1 The Grove Centre, Essex • Tel. 01376 501733
- Southport Hi-Fi 8-10 Princes Street, Merseyside • Tel. 01704 536901



### Did You Know

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



# All new Q

QAcoustics claims that its new range is the best ever

**Q**Acoustics has launched the all-new 2000i series of speakers. The company is clearly confident, describing them as 'the best affordable speakers ever produced.'

The range includes two standmount models with a floorstanding flagship, plus

a centre speaker and subwoofer are also available. All models use a 25mm tweeter with multi-layer cone material and 'super decoupling' from the cabinet. The mid-bass drivers are carbon fibre and ceramic-coated paper. The range is available in graphite, walnut and high-gloss finishes.



**PRICE:** £105-£550 **AVAILABLE:** NOW **CONTACT:** 01279 719953 **WEB:** QACOUSTICS.CO.UK



## Universally yours

**PRIMARE'S** new BD32 universal Blu-ray player (£3,250) is 3D-capable and handles Blu-ray, DVD, DVD-A, SACD and CD. The BD32 is also capable of streaming audio and video over a network, via both an ethernet connection and supplied USB dongle. The outputs include a balanced XLR connection, for optimal two-channel performance, as well as HDMI 1.4 and multichannel pre out for AV duties.

Internally, high-quality Crystal DACs are used for decoding duties, mated to Primare-tuned output stages. The SACD replay is handled by a dedicated separate decoding circuit to ensure optimal performance. The power supply is entirely linear and includes an R-Core transformer with separate windings for analogue and digital. Colour finishes include black and titanium.

**PRICE:** £3,250 **AVAILABLE:** NOW  
**CONTACT:** 01423 358846  
**WEB:** PRIMARE.NET

## Send and receive

NAD launches wireless DAC

**N**AD's new DAC1 is a wireless, two-box transmitter and receiver that works independently of an existing wireless network and can operate at ranges of up to 40 metres. The bandwidth allows for lossless transmission up to 16-bit/ 48kHz files.

The DAC transmitter operates as a PC soundcard and sends a digital signal

wirelessly to the Receiver. This uses a Burr-Brown DAC with high-quality op amps to decode the signal, although NAD also provides a coaxial digital output to allow for decoding via another DAC if preferred.

NAD says that a particular advantage of this system is that services such as Spotify are easy to access.



**PRICE:** £295 **AVAILABLE:** NOW **CONTACT:** 01279 501111 **WEB:** NADELECTRONICS.COM

## NEWS IN BRIEF

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



•**MERIDIAN** will only produce 40 of its £60,000 40th Anniversary system. The electronics are signed by company founders Bob Stuart and Allen Boothroyd and are finished in ruby red. [meridian-audio.com](http://meridian-audio.com)



•**TANGENT** has launched the Fjord iPod dock. This features design input from Scandinavian Guru Jacob Jensen and is designed to be as satisfying visually as it is aurally. [tangent-audio.com](http://tangent-audio.com)



•**BLACK RHODIUM** says that its ACT speaker cable has many of the traits of its flagship cable at a significantly lower price of £550 for a three-metre pair. [blackrhodium.co.uk](http://blackrhodium.co.uk)



•**BEDPHONES** are headphones designed specifically for wearing in bed and feature flat ear-pieces and a dedicated iPod app. [iheadphones.co.uk](http://iheadphones.co.uk)

•**CORRECTION:** in HFC 352 the number for IsoTek should be 01276 501392.

# Stream-on

Pro-Ject's new £700 high-resolution media streamer is revealed

**P**ro-Ject has released the latest addition to its Box range of components. The Stream Box DS is a full-function DNLA and UPnP streaming client, supporting bitrates up to 24-bit/192 kHz, with gapless playback across all formats.

While larger than the most diminutive of the Box components, it is still a half-width design. This increase in size allows it to feature a 3.5-inch colour TFT screen on the front panel for

displaying album and track info. The Stream Box is also able to access Internet radio services, via built-in V-Tuner software.

The Streambox makes use of the new 'DS design', which features a 3-mm-thick front plate, rectangular edges and no visible screws. This is also intended to help reduce the effects of external vibration on the unit.

Like the other members of the Box range, the Stream Box is available in both black and silver.



PRICE: £700 AVAILABLE: NOW CONTACT: 01235 511 166 WEB: PROJECT-AUDIO.COM

## DESERT ISLAND DISCS

David Denyer, PR for Clearaudio, Leema Acoustics and Icon Audio selects his four faves



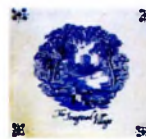
**MCDONALD & GILES**  
**MCDONALD & GILES**  
Although still very Crimonesque McDonald & Giles leans towards a psychedelic whimsy and results in an absolutely beautiful jazz /psyche / prog masterpiece.



**JETHRO TULL**  
**THIS WAS**  
This Was is quite unlike any of the other Jethro Tull albums. For one, it is the only album to feature the band's founder, guitarist Mick Abrahams.



**VAN MORRISON**  
**MOONDANCE: 1970**  
Van Morrison's second album Moondance reveals a very fast-maturing composer. Exquisitely composed, arranged and performed with soulful vocals.



**THE IMAGINED VILLAGE**  
**THE IMAGINED VILLAGE**  
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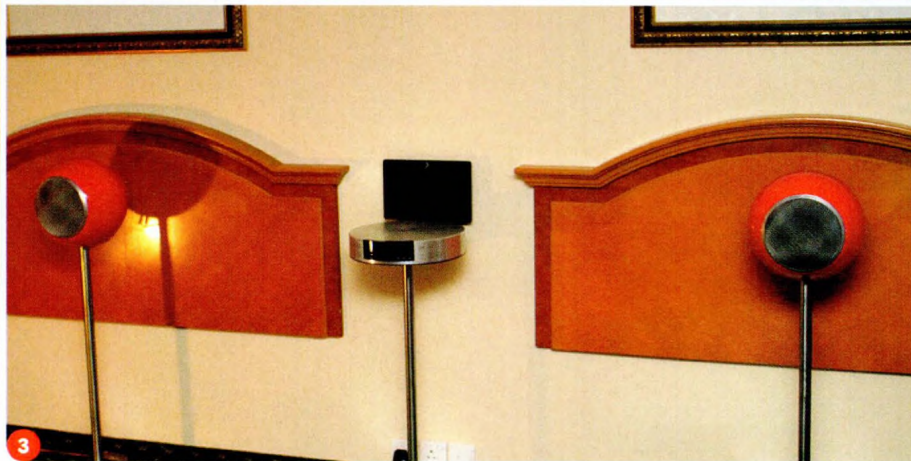


EIGHT  
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1967



[www.kef.com/thefifty](http://www.kef.com/thefifty)



SHOW REPORT

# Manchester 2011

The long-running Manchester Entertainment Show still has much to offer to the hi-fi aficionado, as **Ed Selley** discovered

**H**aving gone through a name change or two in recent years, the ethos of the Manchester Show remains broadly unchanged. As a show organised by a dealer group, there is a strong emphasis on sales. If you like what you see in any given room, you can head to a sales office and secure your own sample.

To this end, the equipment on show is targeted firmly at the more attainable end of the market. Compared to the National Audio Show we visited last month, there were many rooms showing systems with a price of less than

£10,000 and some that were a considerable amount less than that. This approach seemed to be working, with all the sales offices looking busy.

The central Manchester location meant the show was as well attended as ever, but the Renaissance hotel seems both sufficiently experienced and sufficiently spacious to accommodate the show and keep things organised.

Generally, Manchester does not see that much in the way of new product, but we were pleasantly surprised to find some interesting new arrivals this year...

## 1 KEF BLADE AND R SERIES

KEF took a large ground floor room and alternated between demonstrating our 2011 High End Award winner (HFC 352), the Blade, and the new R Series. While the technology-demonstrator that was developed for the Blade has put in an appearance at a number of shows, this was the first time that the production Blade had been shown in the UK.

The R-Series, designed to fit between the XQ and Reference units, was also making its first UK appearance. At the back of the room, KEF had brought along a display of historic models, charting the path to the current designs. [kef.co.uk](http://kef.co.uk)

bookshelf designs might be too large. The mid/bass driver is a smaller version of the unit successfully employed in the Motive series, but the tweeter is a ribbon device which represents something of a departure for the company. This is placed alongside the mid-bass driver in an internally damped cabinet.

The IOTA will initially be available in white and black, but red, yellow and blue finishes were also on display to gauge opinion. [neat.co.uk](http://neat.co.uk)

## 3 ELIPSON

Making its debut at Manchester, Elipson was demonstrating its impressive MC1 Music Center (HFC 352) with the striking-looking Planet L loudspeaker. Elipson is now selling this setup as a complete system for £1,800. The tall pole stand that usually mounts the Planet can also be used to support the MC1, which makes for an aesthetically pleasing arrangement.

The MC1's impressive feature count and the use of the Bang & Olufsen ICE power modules makes for an extremely competitive unit and one that is a performance winner. [elipson.com](http://elipson.com)

## 2 NEAT IOTA

Neat Acoustics was showing its brand new IOTA loudspeaker. This new entry-level model is designed to work in extremely tight locations, where even ordinary

**“The equipment on show is targeted at the more attainable end of the market.”**





**4 AUDIOLAB M-DAC**  
Audiolab had examples of the new M-DAC playing and on static display in its room. The M-DAC takes much of the functionality of the 8200CDQ (itself a preamp-equipped version of our Award winning 8200CD) and places it in a smaller casework with the CD mechanism removed.

The volume control and headphone sockets are retained, however, so the result is a digital preamp with both digital and analogue line inputs.

Given the performance of the CD players, the DAC is likely to be an equally capable unit and the feature set looks very interesting indeed.  
[audiolab.co.uk](http://audiolab.co.uk)

**5 WHARFEDALE JADE**  
Also on demonstration in the same room were the Wharfedale Jade series. This new range of standmounts, floorstanders and accompanying home cinema speakers is constructed from a material that Wharfedale describe as 'Crystalam', which is a multi-

layer composite used instead of more conventional MDF.

The main drive units are made from a material known as 'Accufiber', which combines glass and carbon fibre in a woven matrix. This impressive technology is placed in an aesthetically pleasing cabinet available in real wood veneers, as well as the more severe 'black' on display at the show.  
[wharfedale.co.uk](http://wharfedale.co.uk)

**6 CANTON CHROMIUM**  
Canton had its new Chrono ranges on display. The Chrono CL series is a five-strong range finished in a real-wood veneer and making use of the trademark aluminium and manganese drivers. The Chrono SL series is similar in design and appearance, but includes additional floorstanding and bookshelf models and is finished in a series of high-quality gloss lacquers instead of wood.

The basic Chrono range again looks similar, but uses less advanced drive units.  
[canton.de](http://canton.de)



**7 TEAC DISTINCTION SERIES**  
TEAC unveiled a complete new range of components. The Distinction series is designed to slot between the less expensive TEAC models and the flagship Esoteric components. Appearance wise there is more than a little Esoteric in the design and appearance of the range.

Comprising three SACD-capable CD players (two feature digital inputs) and three integrated amplifiers, the A-3000 is an impressively sized 200-watt powerhouse that looks extremely impressive for the £2,000 asking price. The range is completed with an AM/FM tuner.  
[teac.co.uk](http://teac.co.uk)

**8 TEAC MINI COMPONENTS**  
TEAC also showed off its new range of Reference 01 half-width components. The UD-H01 32-bit DAC (reviewed in the next issue of *HFC*) was joined by mock-ups of the DS-H01 iPod transport; and A-H01 amplifier DAC, which combines a 24-bit DAC with an ICE Power module

for an intriguing 'PowerDAC'-type unit.

The final item is an as yet unnumbered network streamer that offers both digital and analogue outputs and 24-bit/192kHz streaming ability. The iPod transport and amp/DAC should be available before the end of the year, with the streamer following in early 2012.  
[teac.co.uk](http://teac.co.uk)

**9 QUADRAL**  
Quadral brought a large amount of display equipment with them and alternated demonstrations amongst different speakers and electronics. Two new arrivals at different ends of the price spectrum were the Chromium Style 20 and the Aurum Wotan VIII.

The Chromium 20 is the smallest member of the Chromium range and is designed to offer a compact two-way standmount, equally happy in stereo or multichannel systems. The Wotan VIII is the smallest Aurum floorstander and like the Altan VIII (*HFC* 350) can be ordered in wide huge range of lacquered finishes or wood veneer.  
[quadral.com](http://quadral.com)



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[www.cabasse.com](http://www.cabasse.com)



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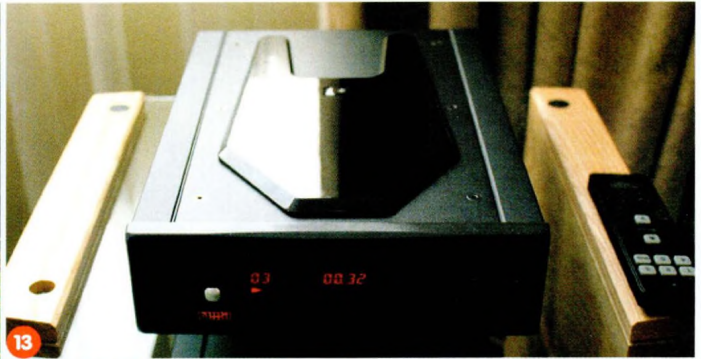


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[www.senso-systems.co.uk](http://www.senso-systems.co.uk)  
[www.soundcrafthifi.com](http://www.soundcrafthifi.com)

**Cabasse**



**10 PMC TWENTY**

The twenty loudspeaker series was making its UK debut at the show and the room was correspondingly busy as a result. The complete range took turns on demonstration in partnership with Bryston electronics. The twenty series sits beneath the highly regarded fact range and brings some of the design features and aesthetics to a lower price point.

In keeping with the rest of the PMC line up, all the models make use of a transmission line for improved bass response and feature an impressive twenty-year warranty. [pmc-speakers.com](http://pmc-speakers.com)

**11 NAIM SUPERUNITI**

The SuperUniti appeared at a UK show for the first time with Naim and as the source and amplification for the Neat IOTAs. The one-box system combines the network streaming features

of the NDX and ND5 with an internal amplifier that borrows heavily from the SuperNAIT. The unit also features digital inputs, iPod capability and Naim's comprehensive internet radio services. Naim was sufficiently confident to partner its demonstration unit with its more expensive Ovator floorstanders in the demonstration room.

In the second Naim room a more conventional separates system was fronted by the ND5 XS. [naimaudio.com](http://naimaudio.com)

**12 BOWERS AND WILKINS AND CLASSÉ**

Bowers & Wilkins paired up our 2011 Product of the Year (HFC 352), the CP-800 preamp, with matching CD player and power amplifier to provide power and source to demonstrate the new PM-1 standmount. The presence of the CP-800 allowed for easy

switching between CD and stored media via the extremely impressive USB input. Great attention had been paid to isolation and the CD and power amp were both resting on large acrylic 'cradles' that separated them completely from the surfaces they were placed on. [bowers-wilkins.com](http://bowers-wilkins.com)

**13 REGA APOLLO CD**

Rega took the opportunity to show off its new Apollo CD for the first time. The half-width unit is designed to partner the Brio R integrated amplifier and like the amp, features some unusual design touches. These include a 'tweaked' discrete output amplifier and a power supply arrangement that makes use of the considerable experience garnered with the flagship Isis CD player.

The lid of the Apollo also borrows heavily from the Isis, with a large clamshell that takes up a considerable part of the top plate. [rega.co.uk](http://rega.co.uk)

**14 DALI FAZON**

DALI had originally intended to make the Fazon available in black and white finishes only, but

the response to the fire engine red samples that appeared in the promo photography was sufficiently positive that it has been added as an option.

The Fazon combines an elegant curved aluminium body with 2.5-inch mid-bass drivers and a 1.1-inch 'oversized' tweeter developed from the Mentor series. The foot at the bottom of the speaker allows for virtually invisible cable management, with the cable travelling up through the centre of the foot and remaining invisible from the outside of the speaker. [dali.dk](http://dali.dk)

**15 PROAC**

ProAc chose to bring a single pair of loudspeakers with them, which in this case was the response D40/R. The 'R', in this case, refers to the use of a ribbon tweeter, setting it apart from the standard D40. This tweeter is partnered with a pair of 6.5-inch mid-bass drivers with an ultra fine carbon-weave cone and die-cast chassis.

At £6,125, the D40 is the least expensive ProAc model to be so equipped, although ordering them in some of the more exotic finishes

# SHOW REPORT

## HOME ENTERTAINMENT 2011, MANCHESTER



will increase the price further.  
[proac-loudspeakers.com](http://proac-loudspeakers.com)

### 16 AUDIO NOTE

Having essentially done the National Audio and Manchester show back to back, Audio Note had brought along a less expensive set-up. This comprised the CD1.1 and 2.1, one-box CD players on alternating demonstration and a pair of AN-J loudspeakers.

More unusual was the use of a Soro for amplification duties. Relatively powerful by Audio Note standards, the Soro uses a quartet of 6L6 valves in push-pull configuration. All units were finished in brushed silver, which is being made available across most of the range.  
[audionote.co.uk](http://audionote.co.uk)

### 17 WILSON BENESCH AND AUDIONET

Wilson Benesch brought along a system that comprised its ARC standmount with Torus infrasonic generator, Full Circle turntable with A.C.T tonearm and electronics from German company Audionet (who they distribute).

Wilson Benesch's use of carbon fibre is extensive and represents the basis of entire design philosophy, rather than a 'me too'

exercise. The Audionet range is equally distinctive and features amps, DACs and CD players.  
[wilson-benesch.com](http://wilson-benesch.com)

### 18 REL

One of the few high-end set-ups was being demonstrated by REL Acoustics. As well as a multichannel room demonstrating the usual kidney wobbling action, it had an Audio Research and Sonus faber system, underpinned by a Gibraltar subwoofer to demonstrate the hi-fi qualities of its products.

The Gibraltar G2 features a 450-watt internal amplifier mated to a 10-inch carbon-fibre weave driver, with an impressive 1.5 inches of piston travel for an in-room result of 18Hz at -6dB.  
[rel.net](http://rel.net)

### 19 FOCAL

Focal was demonstrating its Diablo Utopia. The smallest member of the Utopia range, the Diablo is a two-way standmount, which pairs a 6.5-inch 'power flower' mid-bass driver with the trademark inverted dome beryllium tweeter.

In keeping with the rest of the Utopia series, the Diablo finishes a significant 'slash' at the rear of the cabinet, that places the tweeter in an essentially separate enclosure.



In keeping with the name, the display pair was finished in a red lacquer, but black and white finishes are also available.  
[focal-fr.com](http://focal-fr.com)

### 20 MISTRAL

Tucked away in the open plan area of the show were products belonging to newly arrived company Mistral. As well as a full-size EL34-based integrated amp, Mistral also produces an intriguing compact hybrid valve amplifier called the DT-307A. This features a 25-watt output, two line inputs, and 30-pin iPod connector.

At the show this was partnered with the pretty DT-307S loudspeaker, which features a four-inch Kevlar

woofer and soft dome tweeter in a resin cabinet for an appealing desktop audio system.  
[mistralaudio.com](http://mistralaudio.com)

The Home Entertainment show remains an important and well-attended event with a strong commercial focus. To this end, manufacturers that had brought along relatively sensibly priced equipment were clearly seeing considerable customer interest in their wares and generally getting more than reasonable sound out of their offerings as well.

The number of rooms featuring media streamers grows ever larger and we suspect they will soon outnumber CD players – a watershed moment. ●

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# Switching opinion

**Richard Black** takes a closer look at switch-mode power supplies

A linear supply, used in practically all AC mains-powered appliances made up to the mid-1990s, uses a transformer to step down the mains to something a bit closer to what's required by the equipment, followed by a rectifier to turn AC into DC and a capacitor to smooth the resulting waveform so that it more or less approximates a truly steady voltage. It's a perfectly viable way of doing things, the biggest practical drawback being that a mains transformer to handle more than a couple of watts is inevitably a big, heavy and expensive component.

A switching power supply goes about things differently. There is generally a rectifier as the first stage in the supply, converting the mains directly to DC. Following this, a 'chopper' circuit switches on and off rapidly, allowing current to flow intermittently. This effectively turns the DC back into AC, but with the important difference that it is at a much higher frequency than the mains itself. This means that it can be stepped down to the required voltage with a much smaller transformer, because the amount of iron and copper required in a transformer is inversely proportional to frequency.

The circuitry following this smaller transformer includes another rectifier and capacitor circuit and the capacitor value can be much smaller than in a linear supply, again because of the higher operating frequency. In addition, a feedback control circuit can be used to vary the way the high-voltage DC is chopped into the transformer, which allows a regulated supply to be constructed with very low loss. 'Regulated' means that the voltage stays constant whatever the load current and in a linear circuit this invariably involves throwing away rather a lot of power as heat. In a sophisticated switch-mode supply, much less power is wasted.

There are limits to how far all this can be taken, of course. On the face of it, it would

seem attractive to push operating frequencies up as far as possible so that transformers and capacitors could be tiny, but the transistors used to do the switching have limits to how fast they can operate and losses in the core of a transformer tend to increase with frequency, too. As a result, the frequency at which a switch-mode supply operates is usually in the region of 10kHz to 500kHz, depending partly on how much power it is handling. That's still enough to give a significant saving in size and cost compared to a linear supply in most applications.

But there's a down side, too. All that high-frequency switching is apt to generate electrical noise which can get conducted and radiated in all directions and could, if not dealt with, play havoc with the finely balanced operation of sensitive audio equipment. Indeed, never mind electrical noise, some switch-mode supplies have been known to whistle audibly at their operating frequency – if it's in the audio band, transformers will tend to resonate at a frequency we can hear very acutely.

## Tough regulations

The good news is that modern switch-mode supplies are generally very carefully designed to minimise HF noise. To a large extent, we've regulations to thank for this: since the 1980s, increasingly tough rules have been brought in by national and international bodies that restrict the amount of noise equipment can generate. Many manufacturers have ended up going way over the top in terms of meeting target figures, after they noticed that performance often benefits in other ways when interference is attended to properly.

As a result, there is really no reason to avoid equipment just because it contains a switching supply. Linear supplies are by no means entirely noise-free, so it's not as if there's a noise-free reference available. In general, these days, switch-mode power supplies are pretty close to blameless.

There is really no reason to avoid equipment just because it contains a switching supply. In general, these days switch-mode power supplies are pretty close to blameless



Primare's I22 integrated amp utilises switch-mode (see p56)



**RICHARD BLACK**

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

## WHAT DO YOU THINK?

Are you put off equipment with switch-mode supplies? Tell us why.

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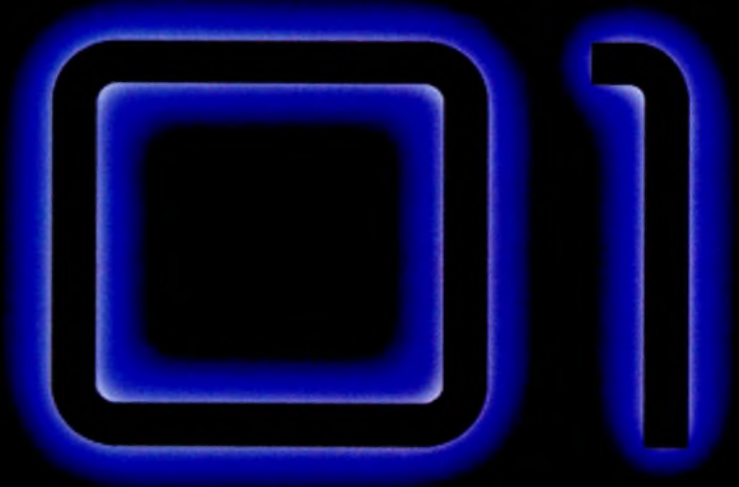
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# Best buy?

Are you really free to make your own purchasing decisions?  
**Dan George** asks how much logic plays a part

I'm a firm believer in magazine testing. Having been involved in *Hi-Fi Choice's* rigorous testing standards for the last 11 years, I have absolute faith in the process and have the utmost respect for anyone in publishing who feels duty-bound to bring unbiased, accurate and reliable reviews to the buying public.

That makes me a believer in magazines in general. And just like you, I devour every word of those magazines I regularly subscribe to but, perhaps, maybe I place too much trust in their verdicts. You see I'm guilty of buying blind. It's not the case with hi-fi, of course, but on several occasions now I've spent four figures on

products without trying, testing and sometimes even seeing them in the flesh. Appalled? Or are you also just as guilty?

In the last five years I've been saddened to see hi-fi stores disappear from the high street. Audio retailers are not alone, there's a fundamental change going on in our high streets, and this is having a direct effect on consumers' (and audiophiles') ability to get hands-on time with product and make meaningful comparisons with short-listed potential purchases. This high street contraction is fuelling the buying blind transaction. Our mailbag increasingly points to a dependence on magazine review verdicts, especially for readers in more rural parts of the country.

## Close, but no guitar

There's also the new breed of direct-sellers who are gaining momentum with offers of risk-free purchases, where goods can be returned often for free on a no-quibble basis. I've witnessed this with hi-fi products,

as well as with my other hobbies and the proposition is tempting, especially as products tend to review so highly, in terms of value as the middleman is removed.

The magazine's line is, and always has been, buy with your own ears. We're here to serve you, dear reader, with our expertise pointing you towards the better pockets of the market. Without wanting to sound like a broken record (remember those?) you need to ensure that a product sounds 'right' for your needs. So what about buying blind and how are our purchasing thought processes really shaped?

Well, we all like to think of ourselves as rational people, but the truth is we're emotional buyers. We tend to buy things that make a connection with us on an emotional level and then try to justify it with logic. Some even seek validation for their emotional purchases through magazine, website or forum opinion and choose to discount any negative points in the pursuit of confirmation that the right choice was made.

Marketeers, of course, know we buy with our hearts and pump huge resources into tapping into our conscious and subconscious minds. So that's where review-based magazines like *Hi-Fi Choice* come in and offer a bit of the 'head' stuff: the science-based and subjective opinion. But it only stretches so far...

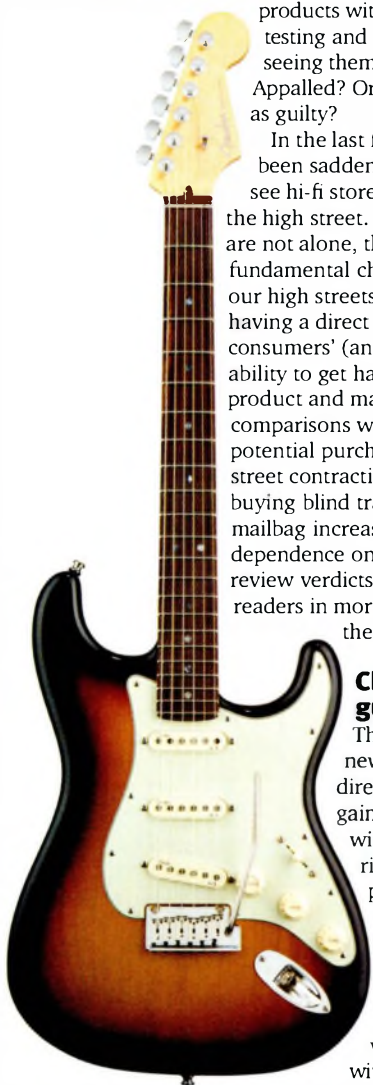
I had an interesting exchange with another magazine editor recently; I was looking to buy a guitar and just before parting with the money, I decided to seek some validation from an authority on the subject. He questioned my choice as if I'd suffered a head injury; for there were 'better' products for the money. I didn't care: I wanted Brand X and some assurances that it wasn't a total dog. I was buying emotionally.

But here's the kicker: he also was looking for validation from me on a hi-fi purchase and explained how he'd lusted after Brand Y since his teens. "Is it any good?" he asked. It happened to be a reasonable choice, but there were better alternatives; 'head' choices, if you will. But just like me, he didn't care. He wanted it and just like me he sought some reassurance. I found it an entertaining exchange, especially as we're both paid-up advocates of the magazine review process and the results it delivers.

So when you turn the pages of this magazine, don't obsess too much about four- versus five-star verdicts. Use our conclusions as a guide and then make up your own mind, it's a much better way of achieving long-term satisfaction.

As for the guitar? I'm sticking with the same brand but I'm shifting up a price range. Magazines tend to have that effect, you know.

Magazines like *Hi-Fi Choice* offer a bit of the 'head' stuff: the science-based and subjective opinion. But it only stretches so far...



**DAN GEORGE**

Dan edits the good ship *Hi-Fi Choice* and has a decade of experience in finding the best product and reviewers to make it happen

## WHAT DO YOU THINK?

Are you brand-loyal? Do you still lust after your earliest system? Let us know. Email us now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)

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# Cambridge Audio P40

The unwritten rule used to be that all amps had to look squat and boxy, says **Jimmy Hughes**, then along came the P40

**N**o one had ever seen anything like it. An amplifier so slim, so sleek, it looked like it came from another planet. The year was 1969 and the original Cambridge Audio P40 was totally different: elegant, futuristic-looking and super-cool.

But, how was it possible to make something that slim? Simple: the P40 was the very first amplifier to employ a toroidal mains transformer. The use of this transformer was little short of revolutionary and it enabled the P40's designers to give the amplifier its low, sleek shape.

It oozed class and style, making rivals look frumpy and old-fashioned. The toroidal transformer also ensured zero mains hum on the phono input – a fault that blighted virtually every integrated amplifier at that time.

## More than just a pretty face

Among its special features was a unique input stage that was virtually impossible to overload. But, as a side-effect of this innovation, the tape output feed varied with the setting of the volume control; it wasn't 'fixed' as usual. As a result, the tape monitor had to have its own independent volume control – on the back panel!

The P40 was free-standing only – another first. It could not be built into a cabinet or console. Back then, virtually all hi-fi components (amps, tuners, turntables, tape decks) could be flush-mounted; indeed, some could be bought without a case (to save money) where cabinet-mounting was envisaged.

Available in silver, the P40 had gorgeous brushed-aluminium front and back panels, with solid-teak end cheeks. It cost around £64. A more powerful P80 version was also available for £92, and this came in black with rosewood end cheeks. Later, power output was upped slightly to 50 watts and 100 watts and so the P50/P100 was born.

Most unusually for the time, each P-series amplifier came with a little test sheet to show

that the amplifier exceeded its printed specifications – in many cases by a fairly handsome margin. The original P40/P80 and early P50/P100 had a capacitor-coupled output stages. But, by the early '70s the P50/P100 was direct coupled. Game on!

This gave the amps an even firmer leaner sound, with tighter more powerful bass. Alas, it also enabled the amp to destroy your loudspeakers should the output stage 'go DC'! I owned two P50s, the second being a direct-coupled Mk II with a 'well above spec' power output of 38 watts per channel. Alas, the smile was wiped from my face when the amp went 'DC' a few months later – frying the bass drivers in a pair of Spondor BC-1s in the process!

Unfortunately, while the various Cambridge Audio P series amplifiers offered cutting-edge electronics in terms of technical performance, reliability was not all it might've been. As with many British-made amps of the early '70s, it was not a question of 'if' but 'when' it would fail.

I recall visiting an audio fair around 1974, and seeing a prototype Cambridge Audio amplifier with a multi-pin connector on the base. Apparently it was intended for use with a piece of test equipment that would tell the engineer what had failed in the event of the amp going wrong. Somehow, it didn't inspire confidence.

Which was a pity, because the Cambridge Audio amplifiers certainly sounded good. London dealer Audio T was an early champion of Cambridge Audio amps, taking every opportunity to proselytise its virtues over 'sacred cows' like Quad's 33/303. The P40 and P50 were budget esoterica – a decade before the term was coined.

There's no doubt that the Cambridge Audio P40 was a hugely influential design that spawned many imitators. It offered excellent sound quality and superb value, plus an aesthetically beautiful design that even Bang and Olufsen might not have been ashamed of. It pointed the way forward to a brave new world. ●

I owned two P50s, the second being a direct-coupled Mk II with a power output of 38 watts. Alas, the smile was wiped off my face when the amp went 'DC' – frying the bass drivers in a pair of Spondor BC-1s!

Cambridge Audio's legendary P40 included a 'revolutionary' transformer



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?

What is your memory of the P40? Perhaps you bought one or plumped for a rival? Email us now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)

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The Spendor S3/5R (2007-2010) achieved what many thought impossible - New levels of transparency and imaging coherency, more articulate bass delivery, and the enjoyable fatigue-free listening experience which so clearly distinguished the original S3/5 from other small loudspeakers.

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# Letters

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### Over here

Living in New York makes for easy access to about half of the brands regularly reviewed in *Hi-Fi Choice*. The other half being unavailable highlights the still much-regionalised nature of the hi-fi consumer market. However, after reading your reviews I do have a couple of questions.

I was wondering why, for example, Ayre (the darlings of *Stereophile* and *The Absolute Sound* magazines) have not yet appeared in your comparison tests, at least within the past year that I've been reading your mag? Could it be that Ayre components are not available in the UK?

In the US or, at least, in New York, they are mid-priced hi-fi components, very much like Leema or Naim are in the UK. They're similarly priced, yet held in even higher esteem in terms of sound. A combination of AX 7e and CX 7e (each about \$3,000, driving B&W 805 Diamonds) sounds so compelling that it makes me wonder how they would compare with the best available in Europe (and Japan), like the newly minted 2011 EISA stereo system winner by Primare, for example. So, I'd be interested to know your views on Ayre?

Similarly, with regard to speakers, I am sure any American or Canadian music enthusiast would love to see a comparison test of the Canadian-made Totem Element line, especially the Element Fire (about \$6,000 in the US) standmount and the cheaper two floorstanders, the Element Earth (\$7,000), with Europe's best, such as the Monitor Gold/Platinum series, ELACS, Spendor 7s, or others within the £3,000 to £5,000 range.

It would great if you could include in the comparison, the Wilson Benesch Trinity, of which I've heard only good things, and which are, at least in terms of price, direct competitors to the Totem Elements.

Finally, a McIntosh MA6600 integrated amp retails in the US for \$6,000 - it costs less than the US price for the £2,500 Naim SUPERNAIT - which is a bit



Pricing of equipment between the US and the UK varies considerably

weird, as B&W 805 Diamonds (around £3,200 in the UK) are \$5,500 in the US. So, an obvious conclusion is that Naim (another offending UK brand is Meridian) are trying to 'rip off' Americans, or, in milder terms are very poor value propositions.

I guess that this sort of predatory mercantile exchange is mutual, as the above-mentioned Mac MA6600 retails in the UK for £6,000. It is easily visible who's speculating, by comparing those prices with the prices for Japanese integrated amps like the Luxman L505 (\$3,000), the Accuphase 250 (\$3,500) and the Anniversary Denon (\$2,000), etc.

I could believe that a Mac that weighs twice as much as the not-so-light Luxman can cost \$6,000. But Naim, Meridian, Leema - your name it - are surely overpriced. Maybe this explains why certain British companies do not make many inroads into the US.

**Yory Teperman, USA, via email**

**HFC** It is always good to hear from our readers abroad. You raise some interesting points in your letter that we will do our best to answer.

The Ayre range has a relatively low profile in the UK, while the models you mention have been in production for a reasonable length of time. This means that we would probably wait until new models appeared before reviewing them.

We have been seeing more products from Ayre's

UK distributor recently and would hope to review more of its equipment in the future. We know the brand is highly regarded in the US and we suspect that it is a strong rival for electronics in the price ranges that you mention.

We hope that you will enjoy the review of the Totem Arro (see p66). Totem are making significant inroads into the UK market and we hope to feature many of its products in coming issues. We find the design ethos of Totem to be more in common with European brands and, if you check out next month's *Blind-Listening Group Test*, you will see the Totem Rain maker take on five European rivals.

The variation in pricing between Europe and North America is a minefield. Many British brands show a significant increase in cost outside of the UK, but equally many American products are noticeably more expensive when they arrive in the UK and Europe.

The most common cause of increases is down to a manufacturer costing its product on a 'from the factory' basis in the country they are based and having to include the costs of a distributor when selling abroad. Whether this fully explains the variations is, of course, another matter entirely!

### Lossy lossless?

I've been a dedicated reader of *Hi-Fi Choice* for many years and I

agree with a lot of your opinions and reviews, compared to that of some other hi-fi magazines, but this is the first time I have felt the need to write in, as I'm quite frustrated as to why, when storage is so cheap and broadband speeds are ever increasing, are we still ripping CDs using compression, as well as buying compressed music.

I've done many tests of the different ripping software that's available, comparing all formats: WAV; AIFF; FLAC; WMA; AAC; MP3; streamed from a NAS to my Squeezebox. WAV always sounds superior to all other formats, including FLAC, no matter which software is used. I have finally settled for EAC (Exact Audio Copy), as the music ripped has much more detail and better soundstage.

I also feel that music download services such as HDtracks, iTunes and the alike need to offer WAV, while in the near future there needs to be just one standard for high-resolution music downloads, e.g. 24-bit/96kHz or similar.

**Leigh Evans, via email**

**HFC** As it stands, we'd be happy for a website to be offering more lossless audio in any format, but we agree that history shows that a consistently applied standard offers the best bet for any format to prosper in the market. 24-bit/96kHz is a standard that almost all network audio players can handle, but the fact that companies such as Linn Records and HDTracks are already pushing for 24-bit/192kHz, then the old standard might be superseded by events.

Perceived differences between lossless 'packed' formats, like FLAC, AAC lossless and pure WAV, is something that is very hard to pin down. FLAC has always been designed around the principle that the original WAV it was created from can be recovered from the file in question. This would suggest the same sonic qualities as the



**The Sonos range is another valid streaming option but uses proprietary software.**

*original file, but if your own experiences are different then it is best to go with what works best.*

*While we agree that storage is cheaper than it has ever been, the difference between 1,000 albums stored in FLAC and 1,000 albums stored in WAV is approaching two terabytes, which – especially when backup is taken into account – is a very considerable difference. This is also noticeable, thanks to the variable speed of the UK internet.*

### Missing the obvious?

I've finished reading your ultimate *Blind-Listening Group Test* piece on streamers (HFC 351). The elephant in the room was ignored! I speak of Sonos, of course. That would have made the test a really definitive piece of work but, unfortunately, you ignored it and the question remains unanswered. I refer only to the comparable Sonos players, not the integrated speaker/amps. **Stephen Curtis, via email**

**HFC** We considered featuring a Sonos player in the group, but for a number of reasons we finally decided against it. The first, is that the Sonos is proprietary in operation using its own server software. This would not have been insurmountable, but would have required the software to be run in parallel with the software for the other five units.



The Audiolab 8200A sounds great and shows no signs of wobbliness ▶

*There is also the more debatable perception of the Sonos being part of a wider system – more so than any of the other units featured in the test. We do think that there is some validity to the concept though and may visit the idea in the future.*

### Ja wobble

In HFC 349 you reviewed the Audiolab 8200A integrated amplifier, about which I have a couple of questions.

I have read on German hi-fi internet forums that the volume control knob is loose or wobbly. I'd already noticed that the volume control was loose on the 8200Q preamplifier at the High End Show in Munich and wondered if it's the same on the 8200A?

Also, does the amp sound a bit harsh in the treble, particularly in regard to female voices?

**Serge Voigt, via email**

**HFC** Richard Black replies: "I don't recall the volume control being loose or wobbly and I haven't got any note of it. Depends what someone means by wobbly, of course, – if it's simply that it is on a short plastic shaft and it doesn't feel like the knob on some high-end equipment with metal shafts and precision guides, then fair enough – the price of the kit shows through in one or two places. But really loose, no – maybe they had a batch with

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slack quality control. I suspect more likely the former, though."

Sonically, Richard (or any other members of the team who have heard the 8200A) don't feel that there is any undue harshness to the treble although the speakers you choose to match the amp with will make a difference. We think the Audiolab is a fantastically even-handed performer and this is why it was our sub-£1,000 Award winner.

### Back to basics

I read different hi-fi magazines on a regular basis, including *HFC*, and notice that you all write a lot about streaming audio. No complaints – it is fantastic. It then seems odd that I never get to read about how you transfer your own CD/SACD/DVD audio music into a PC, Mac etc.

Can any CD/DVD drive costing £10 make a complete flawless, lossless transfer? Can I use any software for it? What about user interfaces, options, pros and cons and is there a difference in sound quality etc?

And how do you get your analogue music into a PC? I know this is a no-no for vinyl lovers, but what if you have some audio cassettes? If streamers sound so different, then it's hard to imagine that there is any difference between ADCs. Are there any articles or recommendations I can check out?

**Nils Kjærby Jensen, via email**

**HFC** As a dedicated hi-fi publication, there will be limits to the amount of coverage we can give to the more computerised end of streaming, but we hope that you found Malcolm Steward's two-part introduction to streaming audio in *HFC* 347 and 348 useful (and if you missed them, you can secure digital copies of both issues at [Zinio.com](http://Zinio.com)).

Accurate ripping can be achieved via any CD mechanism if you use software such as dBPoweramp, which will make multiple passes on the same disc to ensure complete accuracy. For ripping vinyl to digital, we still regard the very talented Furutech GT40 (*HFC* 342), which has much to recommend it and we may certainly look at analogue-to-digital converters in the future.

The Furutech GT40 is a useful vinyl ripper



## LETTER OF THE MONTH

### Get in Touch



**I HAVE USED** a SlimServer for five years, but two days ago I took advantage of a loyalty discount from Logitech for a new Squeezebox Touch. I now have 300GB of music in a variety of formats on my iMac, streaming wirelessly to the (Russ Andrews-powered) Touch. This is connected by an optical cable to my Cambridge 840C, which has balanced connections to the 840A.

Russ Andrews power supply and speaker cables are used throughout and Usher S520 speakers are mounted on sand-filled stands quite close to the wall. I also have a Linn Basik for vinyl and use iPeng for iPad to control the Touch. It sounds fantastic! While I don't have your experience with the many systems you have heard (apart from the occasional shop visits and hi-fi shows), I think it sounds far better than its modest cost might indicate. In my '30s semi, this system looks and sounds great. ●

**David Simister, via email**

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Natural Dynamics...  
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A-series



A360 September 2011

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## The Music Chain

Much is written about music and the musicians who entertain us, and we rightly exalt great musicians. But there is an interlinked chain of participants, two of which are I believe are crucial to our music scene in today's world. For centuries the music chain was a very short one - composers or songwriters, musicians and listeners, and the judgement on quality was immediate. Recording technologies have changed all this exponentially.

Today, we listen to most of our music from a recording and this gives recording engineers the opportunity to avoid poor acoustics, duff notes and off days. This, of course, means the chain has grown to include the recording engineers, the music distribution system (retailers or downloads), hi-fi manufacturers, hi-fi sellers and the hi-fi purchasers, the latter being the listeners. I should start by saying that hi-fi has become an adulterated term that no longer has its original meaning because it's applied to much equipment that certainly should not be termed high-fidelity.

It's said that a chain is only as strong as its weakest link. However, I believe there are two particularly strong links that, if removed from the chain, would seriously damage the quality of recorded music. These are the audiophile, or hi-fi connoisseur, and the specialist hi-fi retailer, the latter in nearly all cases also being the former because it's their interest that has driven them into their particular business. These are the people who most appreciate how exciting and involving music can be and how it can deliver an emotional experience.

### Hi-Fi Connoisseurs

So why is the hi-fi connoisseur so important to the music industry? By their nature, audiophiles are generally avid music lovers who enhance their enjoyment through listening to music at its very best quality level, which means playing great recordings through hi-end hi-fi to achieve the most outstanding results. Without the audiophile, the main driver for quality would probably be removed from the chain. Let's be honest, over recent years the majority of music listeners now settle

for MP3 convenience and, therefore, mediocre sound quality. If the pendulum ever swings so far that all but a few listen to highly compressed formats such as MP3, music producers will not waste their resources on producing high quality recordings because it would be commercially unnecessary, even if their recording engineers wanted to achieve the best they could. After all, an MP3 or AAC file, the iTunes default format, downloaded at 128 kbps (the most popular download speed), is about one-eleventh the size of a full resolution CD track, 1411 kbps, so the quality is inevitably far inferior. Information is irretrievably lost and the full dynamic range is lacking. Using an iPod while jogging does not really raise a quality issue but playing low-resolution tracks through an iPod docking station that feeds into a decent hi-fi system, is a disaster area. It's rubbish quality made louder. Fortunately, there is still significant demand from audiophiles committed to sound quality to sustain the production of high quality recordings, but it would be a tragedy if there weren't. For example, most classical recordings downloaded as

# THE TOP 20



an MP3 or AAC file are a complete waste of time because there is so much information missing that they are reduced to just the essence of a tune.

### Specialist Hi-Fi Retailers

Just as essential a link in the chain as the hi-fi connoisseur is the specialist hi-fi retailer and the two are rightly dependent on each other. Without the specialist retailer the hi-end hi-fi manufacturer would have to rely on the internet and hi-fi magazine reviewers to try and assess the relative merits and performance of their products against that of their competitors - a notoriously unreliable decision making process. Specialist hi-fi retailers are constantly being offered new products for assessment and potential stocking and, as it is also their hobby as well as their livelihood, they are greatly interested in achieving the best performance and seeking out the most outstanding products and combinations. More than that though is their relationship with audiophiles for, if they are to stay in business, they must satisfy the most discerning customers in the industry. The reality is that audiophiles and specialist hi-fi retailers are essential to each other.

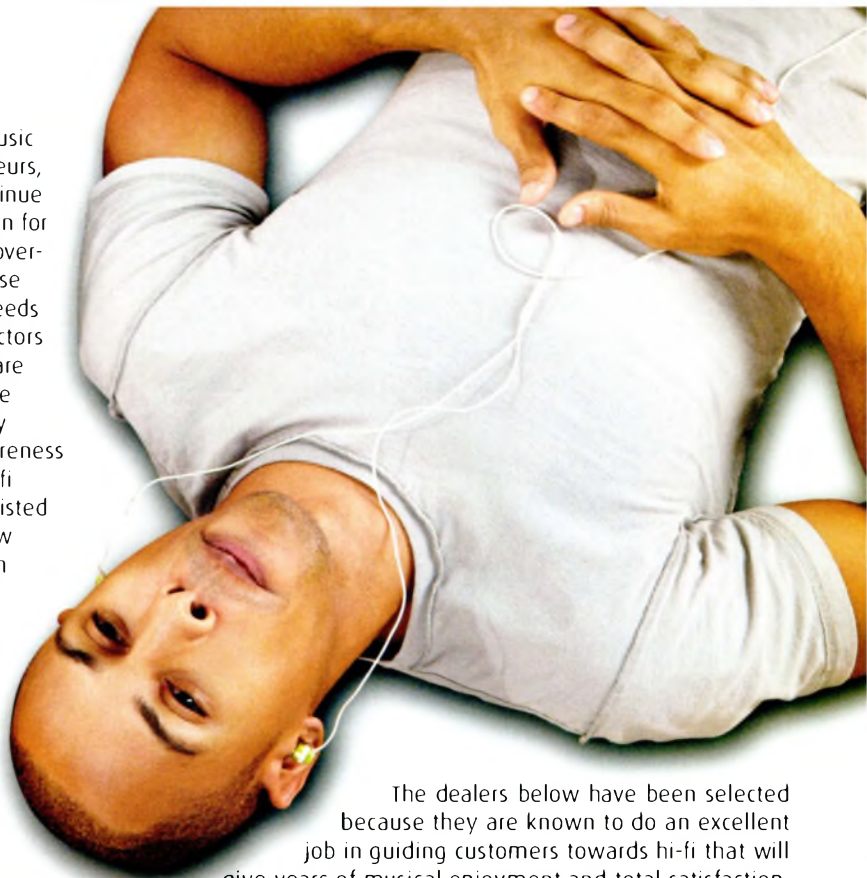


## Future of Recorded Music

What are the future prospects of maintaining high quality music recordings? We must hope that audiophiles, or hi-fi connoisseurs, or perhaps most accurately described, music lovers, will continue to drive the demand for quality. But another important reason for hope within the mass-market is that there is no longer any overriding reason for MP3 and AAC to have such a following. These formats were designed to overcome very slow download speeds and expensive memory capacity. These are not significant factors for most people now. Full resolution, CD quality, downloads are already available and should become the norm as long as the general public can be made aware of the tremendous quality benefit. This has happened with HD TV so we know this awareness can grow rapidly. In the meantime, we must highly value hi-fi connoisseurs and specialist hi-fi retailers, of which the ones listed on this page represent the UK's finest. Specialist dealers know how to choose the products that combine as a superb system and how to get the best out of it by expert installation in the home. If there's a price premium over an internet purchase, it's probably a small one, but it's unquestionably worth the difference.

## STAR QUALITIES

VALUE FOR MONEY .....	★ ★ ★ ★ ★
SERVICE .....	★ ★ ★ ★ ★
FACILITIES .....	★ ★ ★ ★ ★
VERDICT .....	★ ★ ★ ★ ★



The dealers below have been selected because they are known to do an excellent job in guiding customers towards hi-fi that will give years of musical enjoyment and total satisfaction.

# GUIDE

## TO BUYING A HI-FI SYSTEM

### OUR TOP 20 UK HI-FI DEALERS

#### SOUTH

##### Ashford, Kent

SOUNDCRAFT HI-FI  
40 High Street.  
t: 01233 624441  
www.soundcraftthifi.com

##### Chelmsford RAYLEIGH HI-FI

216 Moulsham Street.  
t: 01245 265245  
www.rayleighhifi.com

##### Colchester RAYLEIGH HI-FI

33 Sir Isaac's Walk.  
t: 01206 577682  
www.rayleighhifi.com

##### Kingston-upon-Thames

INFIDELITY  
9 High Street,  
Hampton Wick.  
t: 020 8943 3530  
www.infidelity.co.uk

#### Maidenhead

AUDIO VENUE  
36 Queen Street.  
t: 01628 633995  
www.audiovenue.com

#### Rayleigh, Essex

RAYLEIGH HI-FI  
44a High Street.  
t: 01268 779762  
www.rayleighhifi.com

#### Southend-on-Sea

RAYLEIGH HI-FI  
132/4 London Road.  
t: 01702 435255  
www.rayleighhifi.com

#### LONDON

Ealing AUDIO VENUE  
27 Bond Street.  
t: 020 8567 8703  
www.audiovenue.com

#### N1 GRAHAMS HI-FI

190a New North Road.  
t: 020 7226 5500  
www.grahams.co.uk

#### SW11 ORANGES & LEMONS

61/63 Webbs Road.  
t: 020 7924 2043  
www.oandlhifi.co.uk

#### SW20 O'BRIEN HI-FI

60 Durham Road.  
t: 020 8946 1528  
www.obrienhifi.com

#### SOUTH WEST

Bath AUDIENCE  
14 Broad Street.  
t: 01225 333310  
www.audience.org.uk

#### Exeter GULLIFORD HI-FI

97 Sidwell Street.  
t: 01392 491194  
www.gullifordhifi.co.uk

#### MIDLANDS

Benbury OVERTURE  
3 Church Lane.  
t: 01295 272158  
www.overture.co.uk

#### Birmingham

MUSIC MATTERS  
363 Hagley Road,  
Edgbaston.  
t: 0121 429 2811  
www.musicmatters.co.uk

#### Covertry FRANK HARVEY

163 Spon Street.  
t: 024 7652 5200  
www.frankharvey.co.uk

#### Leicester CYMBIOSIS

6 Hotel Street.  
t: 0116 262 3754  
www.cymbiosis.com

#### Nottingham

CASTLE SOUND & VISION  
48/50 Maid Marian Way.  
t: 0115 9584404  
www.castlesoundvision.com

#### NORTH

Cheadle  
THE AUDIO WORKS  
14 Stockport Road.  
t: 0161 428 7887  
www.theaudioworks.co.uk

#### Chester ACOUSTICA

17 Hoole Road.  
t: 01244 344227  
www.acoustica.co.uk

#### Hull THE AUDIO ROOM

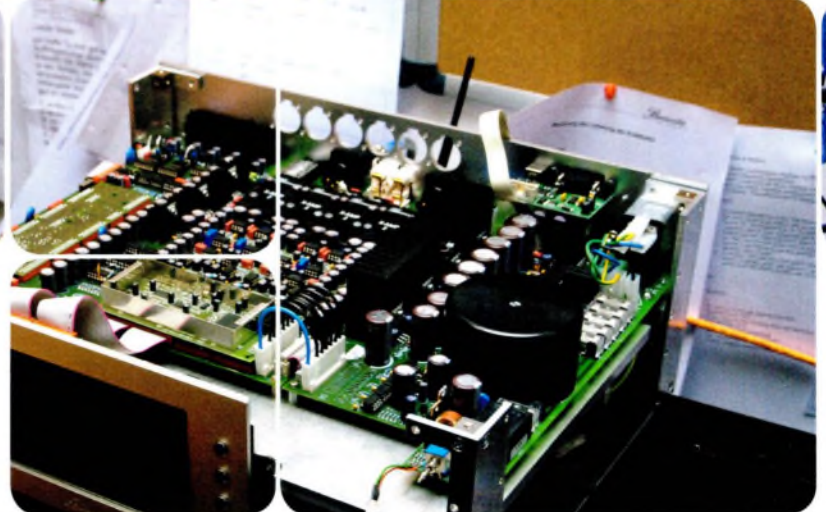
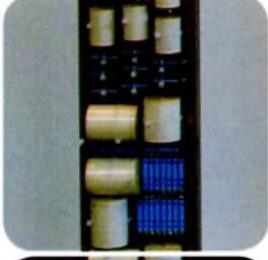
2 George Street, Hedon  
t: 01482 891375  
www.theaudiroom.co.uk

#### York

SOUND ORGANISATION  
2 Gillygate.  
t: 01904 627108  
www.soundorg.co.uk



**THE INSIDER**  
**BURMESTER**





# Craft work

As Burmester prepares its return to the UK, **Jason Kennedy** gains exclusive access to the Berlin factory and Dieter Burmester, the perfectionist behind the distinctive marque



**D**ieter Burmester discovered the joy of great sound when he bought a Quad 22/II valve-powered system with ESL57 speakers in the sixties. A system he still looks back on with considerable affection despite having built up a very successful company that produces high-end examples of all the components in a sound system, except turntables.

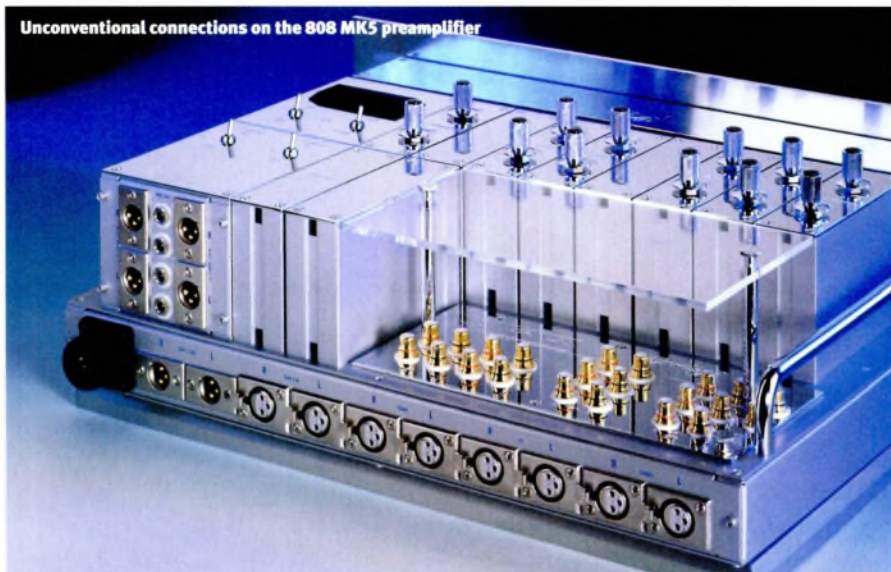
Dieter was a musician before he discovered the joys of quality audio equipment, which is an unusual trajectory as most musicians don't listen in the same way that we do, they listen to the notes and the way they are played rather than the overall sound. It's even more surprising that he was and still is a bass-player and thus the least likely to appreciate the qualities of an electrostatic speaker with limited bass power. But the Quad system set him on a journey that resulted in the first Burmester product coming to market in July 1977. This, at least, is the date indicated by the 777 preamplifier's name; the first two numbers are the year and the last one the month.

An example sits in the company's museum in a brass case that is not so different to the largely chrome-plated components that the company makes today. Apparently components don't always go into production at the anticipated time, hence the 111 music server which Burmester anticipated launching in January 2011, will more likely go on sale in March 2012.

In its defence it is an extremely ambitious piece of electronic engineering for a company that has only just finished its first wireless DAC, the 113, which should be with us soon with any luck.

## Transparent cover

Dieter Burmester studied electronic engineering and found his first job in medical science, where he discovered the potential of balanced connections. His measurement work required high-precision results over long cables and only balanced connections, where the signal and return are separate to the shielding, provided low enough noise to be accurate. He brought



this technique to hi-fi in the 838 preamplifier, which was the first audio component to feature balanced inputs.

His company makes a range of CD players, preamps, power amps, power conditioners and loudspeakers, some at truly eye-watering prices, but when you see the effort and attention to detail that goes into their creation and realise that all this is done in a part of the world where skilled labour is at a premium, it's not surprising.

All the design work is done in-house by a team of engineers, who not only create the electronics and casework design, but also the software, which undoubtedly explains the protracted gestation of the 111. Expected to cost between €25,000 and €30,000 this state-of-the-art digital music player is a substantial beast that is internally split into two parts as the example with a 'transparent cover' reveals.

The top contains the analogue electronics, including a linear power supply, discrete custom op-amps and the digital-to-analogue section from Burmester's Reference Line 069 CD player, itself a pretty serious device. The lower section contains the 'PC stuff', which includes a

**“By building components to the highest standards (Burmester) is recognised throughout the world.”**

switched-mode power supply with water cooling to avoid fans, the motherboard and a CD-ROM drive. Access to this drive is via a slot hidden under the front panel display which is neat. The 111 has a terabyte of RAID-mirrored storage onboard and uses CD Paranoia ripping, which works well in our experience and is something of a rarity in dedicated audio components

We were surprised to learn, however, that it doesn't have a touch screen – apparently Burmester's customers might be offended by fingerprints on the screen – but rather is controlled by knobs and buttons on either side. The knobs are multi-functional and were custom made for the company so that they feel as good as they look. Alternatively you can drive it with an iPad app; presumably this is one device where fingerprints can be tolerated or, at least, hidden.

in the long term. Loudspeaker drive units are soak-tested and matched prior to installation; the company buys matched drivers but does its own measurements to achieve closer pair-matching. Dieter is of the opinion that the closer you can match components throughout the chain, the better the resulting sound. Other speaker manufacturers would seem to agree and also go to lengths to get a close match with their drivers, but such extensive soak testing prior to measurement is uncommon. It's intended to iron out problems that might not otherwise appear until speakers are in people's homes, as it effectively emulates an extensive running-in period in normal domestic use.

**True pedigree**

Dieter Burmester likes a smooth sound from his speakers so that they can be played at high levels without becoming fatiguing and all eight stereo speakers that his company builds use ribbon or Air Motion tweeters to achieve the combination of level and dynamics he enjoys.

Finished components are heavily tested before they leave the factory, initially with around 300 measurements and, thereafter, with an extended period of use. Amplifiers, for instance, are hooked up to a four-ohm resistor and fed a high-voltage signal for two weeks in order to weed out faults. We saw a row of the massive 909 power amps being soaked in this way and they give off serious heat, as you might imagine, given their 600-watt output and fork-lift testing mass.

As the name suggests, the 909 is over 20 years old so it's the Mk5 suffix that indicates its true pedigree. This is the method by which Burmester indicates sometimes pretty major changes to its components, a Mk1 909 may not share a great deal more than its chassis with a current model, but this consistency of casework



**Affordable price**

The aforementioned 113 DAC is, as the wacky tooth logo on the front panel suggests, a Bluetooth device that uses the higher quality APT-X version of that system much like DACs from Chord Electronics. It runs at up to 24-bit/192kHz and has more traditional digital inputs, as well as USB. Being the smallest component we saw at the factory it should come in at a more approachable price than the average Burmester component, but we can't see Chord losing any sleep on that front.

The company goes to considerable lengths to ensure that every part it uses in its products is fully tested and visually checked before assembly, ensuring components last and that failures are rare.

The company services products going back to the seventies and offers full upgrades at little more than cost. And given that a lot of the cost is in the casework this makes them good value



From the museum: Burmester 846 preamp, 838 phono stage and 866 active crossover



### 808 PREAMPLIFIER

Burmester has always gone for a modular approach when it comes to in and outputs on its products. For instance, the 100 phono stage, we reviewed in *The Collection 2011*, can be had with one or two phono stages and you can also include an analogue-to-digital converter with USB output for digitising your vinyl collection. This approach stems from the 808 preamplifier that's now in Mk5 form, but was created by Dieter in 1980 so that he could make direct comparisons between sources with differing output levels.

Built way before you could do this with a processor, as is now the norm, each input module has a pair of gain pots, an approach that was pretty radical back then. One of Burmester's first customers was van den Hul, who was keen to be able to compare cartridges through two matched phono stages. The silver wired 808 sits alongside the 077 in Burmester's Reference Line and remains one of the most distinctive components in the high end.

### BURMESTER TIMELINE

- 1977** Company launches with 777 preamp
- 1980** World's first modular high-end preamp, the 808
- 1983** First balanced input phono stage, the 838
- 1984** First balanced in- and output preamplifier, the 846
- 1985** First balanced input power amp, the 850
- 1987** World's first upsampling DAC preamp, the 870
- 1990** First power DAC pre 909 system
- 1991** World's first belt-drive CD player, the 916
- 1991** Moved to current Berlin manufacturing facility
- 1994** World patent DC-compensation mains conditioner 948
- 1994** First loudspeaker: 949 Mk1
- 1995** 909 power amplifier introduced
- 2010** Automatic channel adjusting phono stage, the 100



Burmester Reference Line system in the demo room

Drive units are burned-in where no-one can hear them scream

The fact that Burmester does pretty much everything, apart from wood and metalwork in-house gives the company maximum control over the end result. It also explains why its products are so expensive in this age of outsourcing, but it's proved to be a successful approach.

The reason for our visit is that Burmester is now distributing its range in this country, but it's not the first time that these shiny designs have been available here, although in the past there were independent distributors involved. By doing the job itself, the company can offer retailers better margins and thus hopefully have more success in what is a pretty saturated market.

### Warm sound

In Germany, Burmester has been making inroads into in-car with a system for the Porsche Panamera that has three pre-set EQ filters to give a smooth or live sound alongside the conventional surround sound option. It's a powerful system that Dieter likes to demonstrate at full effect, being a musician he's clearly partial to a bit of sound pressure.

With the Reference Line system in the company demo room (above left) he points out that his goal is to produce an intense, substantial sound rather than a mere silhouette – a reference to systems that image well, but which lack energy. By using DC coupling throughout, Burmester products clearly have plenty of grip, but they avoid the tendency to hardness through the mid that this approach can sometimes produce. It makes for a distinctly warm sound by the often steely standards of German hi-fi and one which encourages full-on listening.

It's hard not to admire Dieter Burmester and the company that he has built over the last 35 years. By building components to the highest standards and sticking to a singular design approach, he has created a range of products that are recognised throughout the hi-fi world. The first review products should trickle through to the pages of *HFC* soon, so expect an in-depth review of the new Classic CD player. ●

is what gives Burmester products their classic, timeless appeal. Something that makes them very popular in the new far eastern markets, the majority of the top Reference Line components end up in China where the high-build quality would seem to be as desirable as the sound they produce. It's not hard to hear why Burmester would appeal to the oriental ear: Japanese high-end components tend to have a similarly smooth, clean balance, albeit not usually with the sort of power reserves available from amps like the 909.

If, or more likely when, a product has survived its workout on the test bench it goes to the final stage of QC, where it is auditioned. The company listens to every component and even cables to make sure that they are up to the mark. We didn't ask how many fall at this final hurdle, but would guess it's a low percentage given the thorough nature of the manufacturing process.

# How we test

Hi-Fi Choice employs the most rigorous test and measurement regime in the business, here we explain why our verdicts are beyond compare



## Hi-fi reviews

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

### EXPERT TESTING

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

### Listening

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

### Measurement

But even the most experienced listener, with a stack of familiar recordings heard in familiar surroundings, can't always know what is causing a particular

characteristic in the sound. Brightness, for instance, may be a function of frequency response or distortion and this is where measurements come in. We analyse a range of parameters to see just where the correlation lies between sound and design. Our test equipment has been tried, tested and added to over the years and again our experience with it is unrivalled.

### Straightforward presentation

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

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

### OUR AWARDS



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



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



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

## STATE-OF-THE-ART HI-FI TECH

HFC's test equipment is the most advanced kit available



**AT HI-FI CHOICE,** we have access to some of the most advanced test equipment currently available on the market, including the Audio Precision APx585, which you'll find in the labs of many top hi-fi manufacturers. The 585 can be configured to test a variety of key hi-fi products, such as amplifiers, CD players/DACs and – with the help of a specially-calibrated microphone – loudspeakers.

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

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

# Unrivalled group tests

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

## BLIND-LISTENING TESTS

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

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

## SIGHTED LISTENING

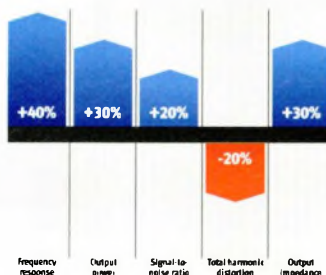
**IN ADDITION** to the 'blind' test, the author also spends a longer period listening to each system with various items of partnering equipment and a wider range of music. Apart from the obvious fact that this is how most people listen most of the time, this also has the advantage that interesting aspects of the sound can be investigated and different musical

styles tried out to see what works, not to mention experimenting with such variables as listening level.

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

## TECH LABS

### RESULTS AT A GLANCE



**THE SOUND** heard from a stereo system is actually a combination of the two loudspeakers, plus their interaction with the listening room. Our analogue approach provides information about the frequency response and tonal balance of a given pair. Running rapid sinewave sweeps, moving the microphone to different positions, establishes the 'real world' far field averaged frequency response and bass extension of a stereo pair.

By feeding all the speakers under test at the same predetermined

setting on the amplifier volume control, the sensitivity of the speaker may be derived. Impedance sweeps provide information about amplifier loading and the closeness with which the two examples of our pair match.

### SENSITIVITY

Sensitivity represents the relative loudness of a speaker for a given amplifier voltage. It's scaled to 2.83V at 1m (corresponding to one watt of power into an eight ohm load).

### BASS EXTENSION

Our figure is the averaged bass roll-off frequency at -6dB ref. the broad midband, for a stereo pair in the far field of a 4.3x2.6x5.5m room

### EASE OF DRIVE

Low impedance and sensitivity both make a loudspeaker theoretically harder to drive. Low impedance is especially important at low and midband frequencies

### OVERALL FREQUENCY BALANCE

True neutrality is an obvious goal, though some 'tailoring' is both acceptable and widely practised

### RESPONSE SMOOTHNESS

Beyond the overall tonal balance, the detail smoothness has much to do with the delicacy of the sound and its ability to deliver subtle harmonic shading.

## THIS ISSUE'S BLIND PANEL

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



**PAUL BENGE**  
JOB: HEAD OF SALES

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



**GREG DAVIDSON**  
JOB: IT CONSULTANT

**HAVING TAKEN** early retirement from his occupation in the hi-tech world of IT consultancy, Greg now pursues his other interests: hi-fi and music making.



**KEITH TONGE**  
JOB: MARKETING MANAGER

**AFTER EIGHT YEARS** at the coalface with the Cornflake Shop, Keith has spent the last 14 as Marketing Manager at PMC.

### TESTING EQUIPMENT USED

**Source:**  
•Naim CDS3/555PS, Rega Valve Isis CD players

•Linn Sondek LP12 (modified)/ Rega RB1000/ Soundsmith Strain Gauge turntable/ arm/cartridge

**Tuner:**  
•Magnum Dynalab MD 106T

**Amplifier:**  
•Naim NAC552/ NAP500 pre/power amp

**Cables:**  
•The Chord Company, Vertex AQ, Phonosophie, Vertere and Naim  
**Equipment supports:**  
•Mana, Vertex AQ, Naim, Townshend

### TEST MUSIC USED

**LAURIE ANDERSON:**  
STRANGE ANGELS



**CAMBRIDGE SINGERS:**  
THERE IS SWEET MUSIC



**MARI BOINE:**  
EALLIN'



## DEFINITIVE VERDICTS

No other magazine offers an equivalent listening programme

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

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

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

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

TESTED THIS MONTH: STANDMOUNTS  
TURN OVER NOW!

# Blind-listening Group test

STANDMOUNTS £1,000-£1,650

## Which small speakers lead the field?

**Paul Messenger** and the blind-listening panel audition six similarly sized standmounts with many similarities, performance is another matter, however

**ALL BUT ONE** of this group of speakers fall into the price band between £1,000 and £1,200. All are also compact and attractively finished standmount designs and although there are plenty of detail differences, their overall sizes and configurations are remarkably similar, as are – predictably enough – their measured performances.

The only real way to distinguish between these competing models is, therefore, by conducting careful listening tests. Only the Spondor SP3/1R2 sits outside that price range and the fact that it's significantly larger than the others ought to confer a modest performance advantage and helps to justify its extra cost.

All models in the group are from well known Western brands – one from Canada, one Finland, two Denmark, one Germany and one UK. All claim manufacture in their country of origin, apart from the German Quadral Aurum model, which is rather more ambiguously 'made in Europe'. All are broadly the same size (the Dynaudio

slightly and the Spondor significantly larger). All are reflex-ported, many tuned close to 50Hz (which is not ideal in

**“The only real way to distinguish between these models is by careful listening tests.”**

terms of our room modes). And all come attractively presented, normally with a choice of real wood veneers at the base price and some with options at extra cost.

Each brand has its own particular drive unit recipes. Three of the six use small 130mm (five-inch) bass/mid drivers, the Totem a marginally larger 140mm unit, while the larger Dynaudio and Spondor models both accommodate 180mm main drivers. The tweeters, too, show significant variations between the models, the Quadral opting for a planar ribbon-type device, while the DALI has a dome/planar hybrid module.



### PRICING

**OUR GROUP** have 'official' pricetags somewhere between £1,000 and £1,650 per pair, though most huddle towards the bottom end of that range. Some models will show price variations, either because of alternative finishes, or the competitive nature of web retailers. The link between price and size, weight or engineering content is hardly relevant here. All are port-loaded and come in real wood veneer as standard, though several also offer paint finishes, too.



### ON TEST



**Amphion Argon 1 £1,179**

**p43**

This unusually slim reflex-ported two-way comes in walnut veneer, but has several options. It uses metal diaphragm drive units and is distinguished by a large black waveguide surrounding the deep-set tweeter, which should assist time-alignment and treble distribution.



**DALI Mentor 1 £1,199**

**p45**

Arguably the most attractive of the group, in its smooth real wood veneer, the Mentor 1 follows the DALI tradition in using what it refers to as a 'hybrid tweeter module'. This combines a conventional-looking dome tweeter and a planar ribbon device on the same chassis. The main driver has a dish-shaped paper cone.



**Dynaudio Excite X16 £1,080**

**p47**

Although our samples arrived in fashionable high-gloss black finish, Dynaudio's Excite X16 is also available in a choice of various real-wood veneers. Reflex ported at the rear, the enclosure is a little larger than the group average, as is the diameter of the bass/mid driver's cone.



**Quadral Aurum Megan VIII**

**£1,000**

**p49**  
This German standmount, finished in real-wood veneer, feels particularly solidly built, partly due to its enclosure thickness, but also the fact that the back panel is inset and, therefore, acts as a brace. In the Quadral tradition, the tweeter used here is a ribbon-shaped planar device.



**Spondor SP3/1R2 2 £1,650**

**p51**

Larger and more costly than the others assembled for this group, the wood-veneered SP3/1R2 also uses a larger bass/mid driver with an EPC plastic cone. The SEAS-sourced tweeter has an unusually wide surround. Spondor has long used a technique which combines a thin-wall enclosure with damping pads.



**Totem Rainmaker £1,100**

**p53**

A little taller and shallower than most, this pretty little speaker comes with stern warnings that 70-100 hours of breaking-in is required for best results. Finished in real-wood veneer, the rear panel has a small port and twin terminals, while the tweeter is a mesh-protected metal dome diaphragm.



BLIND-LISTENING  
STANDMOUNTS  
£1,000-£1,650

**GROUPTEST**



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# Amphion Argon 1 £1,179

An unconventional standmount from one of hi-fi's newer companies, based in Finland

## DETAILS

**ORIGIN:**  
Finland

**TYPE:**  
Standmount  
loudspeaker

**WEIGHT:**  
8kg

**DIMENSIONS:**  
(WxHxD)  
160x310x265mm

### FEATURES:

- Large waveguide around tweeter
- Metal diaphragms for both drivers
- Real wood veneer or painted finish
- Rear port with foam bung option
- Ultra-slim front aspect

**DISTRIBUTOR:**  
Robytone BV

**TELEPHONE:**  
00 31 0493 744020

**WEBSITE:**  
amphion.fi

**A**mphion is a relatively young brand, founded in 1998 and brings some interestingly different techniques to the party.

The most obvious of these is the large waveguide that surrounds the tweeter and matches the diameter of the bass/mid drive unit. This has several implications. The prime purpose is to control the tweeter's directivity, presumably to avoid the directivity discontinuity that usually occurs in the transition from bass/mid driver to tweeter. However, it may also be due, at least in part, to the potentially superior time alignment that results from locating the tweeter down within the waveguide and well behind the front panel, which should help place the two voice coils the same distance from the listeners.

The speaker is slimmer than most of its contemporaries and the enclosure is nicely built, with sharp edges all round. Our samples came finished in a rather anonymous walnut veneer, though two other veneers and three painted options are also available. An attractive bonus is that the waveguide is roughly the same size as the bass/mid drive unit, bringing a rather fetching symmetry to the appearance.

No complete grille covering both drivers is supplied here, but both drive units have metal diaphragms and these are protected from prying fingers by discreet fixed open-mesh metal grilles. The tweeter has the usual 25mm dome, while the bass/mid driver has a relatively small 90mm cone. A modest rear port provides reflex loading and may be

blocked by the supplied foam bungs if the speakers are placed close to a wall. Signal is applied to a single terminal pair.

## SOUND QUALITY

Although the vote wasn't entirely unanimous, the majority of panellists in the *Blind-Listening Group Test* placed the Argon 1 at the top of their lists, unambiguously voting it the winner.

It's not perfect, but then no speaker is, especially when it's as small as those assembled here. But despite the inevitable lack of sheer bass weight imposed by the modest size of its enclosure and main driver, this speaker delivers an entertaining and well-timed bottom end, encouraging the feet to tap along with the music.

The restrained top end did leave one panellist complaining of a degree of 'wooliness' in vocal rendition and this is certainly a valid criticism. There is a slight lack of air and sparkle here, though this is arguably less serious than experiencing an excessive top end, especially when a speaker is likely to be used at the end of a fairly modest system.

The major strength of this speaker, however, lies in its unusually coherent and lucid midband. Our choral excerpt sounded clean, clear and free from the rather compressed



sound that had been audible during previous presentations with other loudspeakers. Stereo imaging showed good depth and the overall sound was quick, lively and musically communicative.

The Argon 1 is a fine little speaker that conveys the musical messages in a more convincing manner than many of its peers. The tonal balance might, perhaps, be a little too restrained for some tastes and systems, but the fine timing, smoothness and overall coherence ensure that it leads the way.

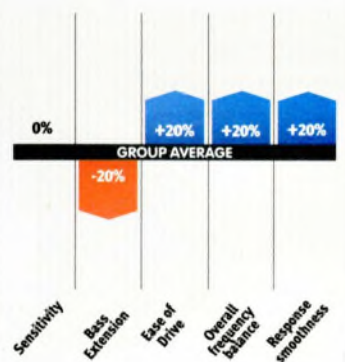
## TECH LABS

The Argon 1 sensitivity rating is an average 87dB, just 1dB above the figure specified by the manufacturer and this is in the context of an easy-to-drive load that stays above six ohms throughout.

The port is tuned to around 52Hz, so bass extension is effectively limited to around 40Hz under in-room conditions. However, the 50Hz peak is not too severe and although there were slight variations at low frequencies, the pair matching is pretty good.

The frequency response, measured under far-field in-room averaged conditions, is particularly impressive above 700Hz, showing a remarkably well-integrated transition through the 1.6kHz crossover point, with a notably smooth delivery throughout. Although output is maintained to 20kHz, the treble tends to roll-off somewhat above 5kHz and is certainly well below average by 10kHz.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY

★★★★★

#### VALUE FOR MONEY

★★★★★

#### BUILD QUALITY

★★★★★

#### PRACTICALITY

★★★★★

**LIKE:** Delivers a coherent midband with a seamless crossover transition

**DISLIKE:** Top end is a little dull, as was the veneer of our samples

**WE SAY:** Supplies fine midband coherence, alongside a tuneful and entertaining bass

### OVERALL

★★★★★

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# DALI Mentor 1 **£1,199**

This exceptional standmount has a unique hybrid tweeter module, combining dome and ribbon diaphragms

## DETAILS

- ORIGIN:**  
Denmark
- TYPE:**  
Standmount  
loudspeaker
- WEIGHT:**  
5.2kg
- DIMENSIONS:**  
(WxHxD)  
160x320x240mm
- FEATURES:**
- Two-and-a-half-way design
  - Hybrid dome/ribbon tweeter module
  - High-quality veneer or gloss-painted finish
  - Bass/mid driver has long-fibre dish-shaped pulp cone
  - Choice of black or cherry veneers
- DISTRIBUTOR:**  
DALI UK
- TELEPHONE:**  
0845 644 3537
- WEBSITE:**  
dali-speakers.com

**T**his Danish operation was once closely linked to a leading Scandinavian hi-fi retail chain, but it has always operated entirely autonomously and independently as a speaker manufacturer and indeed has proved more successful on the UK market than most overseas brands.

The DALI name has nothing to do with surrealism here, but is actually an acronym for Danish Audiophile Loudspeaker Industries. The Mentor range, probably best described as 'affordable upmarket', is one of several in the DALI portfolio and consists of six stereo pairs which share a number of proprietary engineering techniques.

The most obvious of these is seen in the tweeter arrangements. The top five Mentors are fitted with a high-frequency module that combines a conventional doped-fabric dome with a somewhat narrower ribbon-shaped planar device, ensuring fine power handling and headroom, while maintaining wide dispersion.

The speaker itself is very compact – DALI describes it as: 'essentially a Mentor 5 with a single five-inch bass/midrange driver' – and our sample came beautifully finished on five of its six faces in a very smooth cherry real-wood veneer. Black wood veneer and high-gloss white are the two alternatives here.

Whereas the front and back of the enclosure proper are gently curved, the front part is completely replaced by a flat panel in textured light grey. Mounting lugs for the optional grille are clearly visible. The rear panel also has mounting lugs, this time for fitting the optional wall bracket, perhaps if used for the surround channels in a multichannel sound system.

The terminal block has a single pair of multi-way connectors and also incorporates a well concealed port.

The main 120mm bass/mid driver has a dish-shaped diaphragm made from long-fibre pulp some 95mm in diameter. The tweeter module combines a 28mm doped-fabric dome with a planar element 45x25mm, the latter divided into three narrow strips.

## SOUND QUALITY

The Mentor 1's *Blind-Listening Group Test* gave a disappointing result, as the balance seemed rather lightweight and forward, while its complex tweeter arrangement didn't seem to confer any particular advantage.

While it sounds dynamically quite lively, this might well be because the upper midband is rather exposed and this is probably responsible for inhibiting transparency and introducing a touch of nasal coloration to voices.

Although the in-room measurements didn't provide any particular reasons to anticipate such findings, the Mentor 1 did sound rather small and lacking in body, warmth and weight. There was no denying an observation which was unanimously recorded by the panellists: 'Big percussion seriously lacking'. A bit small and aggressive; lacks warmth and



authority'. Furthermore, the top end received some criticism for sounding rather sibilant and detached.

Following damage sustained by the original pair during transit, a brand new pair was sent with the warning that they hadn't been run in. Although we did our best, extra running-in time is difficult to find when carrying out a *Blind-Listening Group Test*. While this might help explain the DALI's weak low-frequency performance, its lightweight forwardness remain significant handicaps.

## TECH LABS

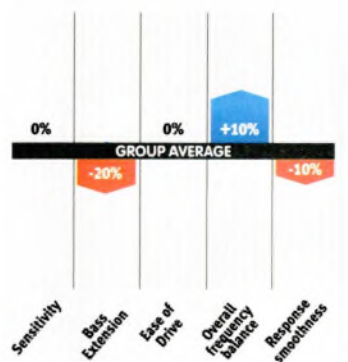
Rated by the manufacturer at 86dB, on our tests the Mentor 1 just scraped 87dB. But it was a very close call and, as usual, depends to a significant extent on the frequencies one selects to provide the figure.

In this case the decision to go for 87dB was due to a mild prominence in the upper mid/lower treble, 1-1.5kHz, a part of the audio range where the ears are very sensitive. This prominence is rendered all the more significant because the regions below (300-900Hz) and above (1.5-2.5kHz) are both somewhat lacking.

The frequency balance holds within creditably tight +/-3dB limits, though that also disguises some lack of mid-bass energy (60-120Hz) and some treble excess (4-5kHz).

The load stays above 5.5 ohms throughout and is virtually flat above 150Hz, so the speaker should be easy enough to drive, though the flat impedance implies some network complexity. The pair match was pretty good.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY

★ ★ ★

#### VALUE FOR MONEY

★ ★ ★

#### BUILD QUALITY

★ ★ ★ ★ ★

#### PRACTICALITY

★ ★ ★ ★

**LUKE:** Attractive design with lovely veneerwork, alongside a lively sound

**DISLIKE:** Has a rather lightweight and forward character

**WE SAY:** Lightweight sound is rather forward, coloured and lacking in transparency

### OVERALL

★ ★ ★ ★

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# Dynaudio Excite X16 £1,080

This chunky and solidly built Danish speaker has a larger than average main driver

## DETAILS

- ORIGIN:** Denmark  
**TYPE:** Standmount loudspeaker  
**WEIGHT:** 9kg  
**DIMENSIONS:** (WxHxD) 205x350x290mm  
**FEATURES:**
- 180mm bass/mid driver
  - Reflex ported at rear
  - Choice of six veneer or high-gloss finishes
  - Proprietary Dynaudio drive units
  - Long coil ensures powerful main driver dynamics
- DISTRIBUTOR:** Chord Electronics  
**TELEPHONE:** 01622 721444  
**WEBSITE:** dynaudio.com

**D**enmark's Dynaudio operation is one of relatively few brands to enjoy success in both the professional and domestic hi-fi speaker markets – one often notices Dynaudio speakers furnishing BBC TV studios, for example.

However, that's partly due to the high-power handling conferred by the use of extra-large-diameter voice coils on many of its bass/mid drivers. A feature that doesn't appear to be a part of this new Excite range, which seems to be more obviously oriented towards the price-sensitive home hi-fi marketplace.

The X16 sits one rung above the smallest model in the Excite range, which explains why the speaker is a little larger in both volume and main driver than the group average. Our samples came finished in the currently fashionable high-gloss black, just one of half-a-dozen options that include high-gloss white and a choice of four real-wood veneers (maple, cherry, rosewood and black ash). While the high-gloss versions are painted the same on all six faces, the veneered models have a dark charcoal front panel.

Accommodating that 180mm bass/mid driver explains why the X16 looks rather squat compared to the others in the group. However, the front vertical edges have a neat chamfer that slightly softens the lines.

The bass/mid unit has a 125mm diameter cone in a mineral-loaded plastic called MSP (magnesium silicate polymer). The tweeter uses a 28mm fabric-dome diaphragm, and both units have bright frames/faceplates. The two units are linked by a simple crossover network that uses high-quality components and gentle, first-

order 6dB/octave slopes. This is fed from a single terminal pair that shares the back panel with a generous size port.

## SOUND QUALITY

Despite its fine neutrality and good imaging, our *Blind-Listening Group Test* panellists didn't warm to the Excite X16's performance. Indeed, excitement was one thing that seemed to be singularly lacking in this case.

Pertinent quotes from each of the four panellists included the following: Number one: 'Very competent [but] lacking some crispness and involvement.' Second panellist: 'boring if neutral [and] spacious...bland if dynamically literate...very matter-of-fact, soulless.' A third listener: 'Soft-sounding on kick drum (they don't rock); seems to lose its pace when something a bit demanding comes on.' And finally: 'Monotone bass, very average detail, slow.'

Although they're genuine enough, not all the comments were as critical as those quoted above. The Excite X16 undoubtedly has some real strengths, in its fine neutrality, lovely balance and quite expressive dynamics. It certainly shows greater power and bass weight than the group average, but hands-on listening did tend to confirm the test findings that it's

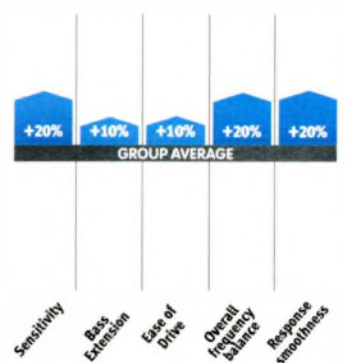


## TECH LABS

The combination of a larger bass/mid driver and enclosure with a port tuned to 41Hz does result in greater bass extension and sensitivity than average. On our measure the latter is a comfortable 88dB (although the company only claims 87dB), alongside a relatively easy amplifier load that stays resolutely above 5.5 ohms throughout (rather contradicting the spec's 4 ohm claim!). While the speaker delivers some worthwhile bass down to 30Hz, the 50Hz room mode is several dB too strong.

The pair match is very good and the in-room far-field averaged frequency response holds within +/-4dB above 60Hz. Output is a little strong at 130-300Hz and there's a modest peak around 1.4kHz. The presence shows a sensible degree of restraint, centred on 2kHz. The treble continues well up to 20kHz, but rolls off quite significantly above 8kHz.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY** ★★★★★ **LUKE:** Fine neutrality and a good tonal balance gave fine speech reproduction
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Lacks the coherence and timing for best music reproduction
- BUILD QUALITY** ★★★★★ **WE SAY:** Offers a high standard of neutrality, but lacks the speed for best music reproduction
- PRACTICALITY** ★★★★★

### OVERALL



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[www.bowers-wilkins.co.uk/pm1](http://www.bowers-wilkins.co.uk/pm1)



# Quadral Aurum Megan VIII **£1,000**

This very solid compact features a ribbon-type planar tweeter and a complex alloy main driver diaphragm

## DETAILS

**ORIGIN:**  
Germany

**TYPE:**  
Standmount  
loudspeaker

**WEIGHT:**  
9kg

**DIMENSIONS:**  
(WxHxD)  
194x357x290mm

- FEATURES:**
- Ribbon-shaped planar tweeter
  - Reflex port on rear
  - Five standard finishes includes three quality veneers and gloss paint
  - Twin terminal pairs add connection flexibility

• Shaped enclosure sides overlap at rear

**DISTRIBUTOR:**  
Quadral GB & Ireland

**TELEPHONE:**  
01785 748446

**WEBSITE:**  
aurumspeakers.com

**L**ittle known here in Britain (though we did review a couple of models about five years ago), Quadral is apparently the third most successful hi-fi speaker specialist in Germany, which must mean that it's a good size operation by any standards.

The Aurum range is actually a higher performance sub-brand of the main Quadral operation, with its own website and an extensive range of ten loudspeakers, plus some electronics. We reviewed the Altan VIII standmount quite recently (HFC 350), so now it's time to cast an ear over the somewhat smaller Megan VIII model.

The family resemblance is unmistakable and build again seems very solid indeed. The front and top edges of the sides are heavily post-formed and are deeper at the bottom than the top (overhanging the inset back panel) and the speaker also has a separate base, which is rather unusual. The standard version comes in a choice of three real-wood veneers, though at extra cost, high-gloss white or black are also available, or even a choice of many different lacquer colours to order.

The 135mm main bass/mid driver has a 95mm alloy cone, made from a cocktail of aluminium, titanium and magnesium. The tweeter is Quadral's latest variation on its ribbon-shaped planar tweeter theme. It's an area-drive 22x50mm device, its 22mm width divided into four very narrow strips.

Twin high-quality multi-way terminals are fixed directly through an alloy plate, using wire for the optional links. Internal wiring is from Real Cable, and the network uses metal layer resistors and

polypropylene film capacitors. The enclosure is port-loaded at the rear, and foam blocking bungs are supplied, which could be useful if the speakers are placed close to a wall. An optional grille is supplied and attaches using concealed magnets.

## SOUND QUALITY

The Megan VIII didn't fare too badly during the *Blind-Listening Group Test*, but it must be said it didn't raise any great excitement or enthusiasm either. Its key strength is a very well-ordered tonal balance, which delivers a very smooth and evenhanded sound across a broad spectrum of musical material and sound sources.

However, definition and detail are unexceptional and its reproduction did tend to become less clear as the music became more complicated. Simple material comes across rather well, although some midband coloration is audible on voices, especially when reproducing speech, which sounded a little congested and nasal in character.

Although the overall balance is very good, precise timing and midband transparency were not its strengths. Stereo image depth seemed rather limited and this was particularly noticeable when reproducing choral material.

Both frequency extremes attracted some criticism. Although the bass has



decent weight and authority, it also lacks agility, and has a tendency, in the words of one panellist, to 'waffle'. The top end sounds smooth, tidy and well judged in level, but could have been better integrated into the whole.

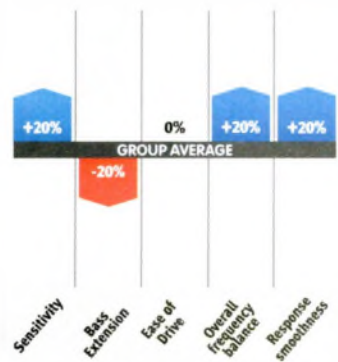
At the end of the day, there's no denying that the Quadral's Aurum Megan VIII produced a decent enough all-round performance, but one that was also sonically rather undistinguished. That said, it's unquestionably a good-looking, smooth and well balanced contender.

## TECH LABS

Although the manufacturer only claims a sensitivity of just 86dB/W, our test gives a value of 88dB. That may be because our measurement is based on 2.83V (which corresponds to a consumption of 1W with an eight-ohm load), so part of this discrepancy might be due to the fact that the impedance sometimes drops to around 4.5 ohms in the bass region).

The far-field averaged frequency response looks very impressive, even under in-room conditions. Apart from the usual 50Hz peak, corresponding to the coincidence of the port tuning frequency with a major room mode, the only departures from the ideal are a dip at 120Hz (floor cancellation) and some leanness between 300Hz and 700Hz. However, the latter does leave the band from 800Hz to 1.3kHz looking a trifle exposed. Treble output is smooth and well maintained to beyond 15kHz, assisted by a hint of prominence around 12kHz.

## RESULTS AT A GLANCE



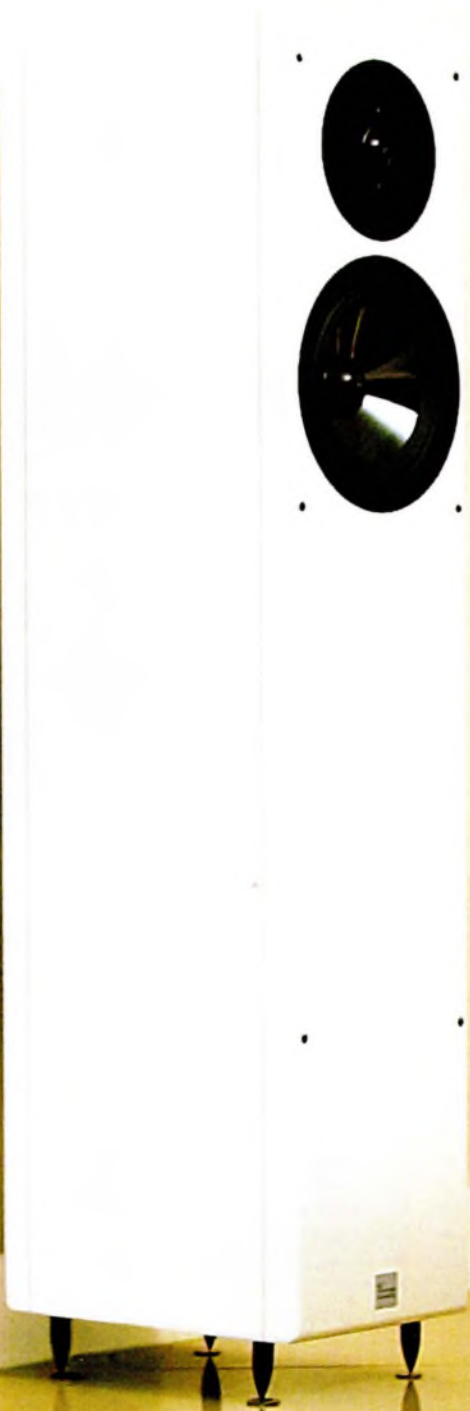
## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Solid build, attractive styling, classy ingredients and very evenhanded balance
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Sounds distinctly coloured, especially on speech
- BUILD QUALITY** ★★★★★ **WESAY:** It lacks precise timing despite the evenhanded balance
- PRACTICALITY** ★★★★★

### OVERALL





## Style & Performance

With over twenty years of experience and a multitude of patented technologies, Vienna Acoustic speakers are renowned for acoustic brilliance and superb build quality. The Bach Grand\* are the result of painstaking technical research and passionate attention to detail.

This beautiful floor standing cabinet features a powerful 7 inch mid-bass driver with 'Twin Balanced Reflex' that combines a conventional rear port with a ground breaking airflow control port on the front cabinet, to deliver class-leading bass output and control. This complex front port system also combines a refined 1 inch triple stacked neodymium magnet silk dome tweeter, resulting in a sonic presentation of power and verve that belies the speakers' compact proportions.

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Email: [sales@audyus.co.uk](mailto:sales@audyus.co.uk)

[www.va-speakers.co.uk](http://www.va-speakers.co.uk)

\*Bach Grand priced from £1750 per pair depending on finish.

# Spendor SP3/1R2 **£1,650**

Classic 1970s styling distinguishes this relatively large model from the pack

## DETAILS

ORIGIN:  
UK

TYPE:  
Standmount  
loudspeaker

WEIGHT:  
9.5kg

DIMENSIONS:  
(WxHxD)  
220x400x280mm

### FEATURES:

- Traditional 'classic' styling
- Reflex-loaded via rear port
- High-quality veneer finish
- 180mm bass/mid driver has polymer cone
- Tweeter has wide surround and small dome

DISTRIBUTOR:  
Spendor Audio  
Systems

TELEPHONE:  
01 323 843474

WEBSITE:  
spendoraudio.com

**S**pendor was founded by an ex-member of the BBC's Research Department more than forty years ago, primarily to make broadcast monitor loudspeakers, but that original – and with hindsight very radical – design soon became just as much of a favourite amongst hi-fi cognoscenti.

So much so that, despite changes in ownership and the development of numerous models that look better suited to domestic environments, those original monitors remain the inspiration behind Spendor's Classic R2 range of traditionally styled models.

The five models in the Classic R2 range are all standmounts with 'picture frame' front baffle edges around inset grilles. They cover a wide range of enclosure and driver sizes, but all feature Spendor's traditional approach to enclosure construction, using relatively thin but well-damped panels, albeit now executed in MDF, rather than birch ply.

First reviewed in *Hi-Fi Choice* some three years ago (*HFC 317*), this compact two-way SP3/1R2 is just one step above the bottom rung. Some might find the presentation somewhat old-fashioned; others will find its classically traditional appearance very attractive. It's discreet, commendably restrained, and nicely finished on all six faces in an understated real-cherry veneer (with black ash or dark walnut alternatives).

The SP3/1R2's enclosure is roughly 16 litres, reflex-loaded by a generous rear port. It has a 180mm Spendor bass/mid drive unit with a 120mm ep38 polymer cone, a wide surround, a high excursion

motor and a powerful magnet. Perhaps significantly, it operates up to a relatively high 3.7kHz.

Above that point the signal is handled by an unusual and fairly new tweeter design that Spendor (and others) use in a number of models. It's a 22mm affair with a 'proper' surround and a small 19mm dome. Twin terminal pairs are fitted straight through the enclosure, feeding the drivers via heavy gauge wiring, with high-quality crossover components and careful layout.

## SOUND QUALITY

The SP3/1R2 did quite well with our panelists, however, its performance wasn't quite as good as we had expected, given its size and our very positive previous experiences with this model.

The reason is probably due to a degree of coloration associated with the peak around 1.6kHz that we found during the measurement programme, and which wasn't present on the samples we tested some three years previously. This might only be a small anomaly, but it does stand proud of the response as a whole and is bang in the zone where the ear is most sensitive, so there's some justification for assuming that it may well have been responsible for a mild degree of midrange nasal coloration on voices that the listeners noted.



That mild disappointment notwithstanding, the SP3/1R2 mostly lived up to its fine reputation, delivering a beautifully judged and essentially ideal balance between midband and treble, with fine coherence and a spacious, airy sound especially through the midband.

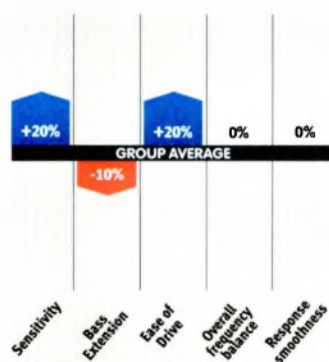
That mild midband anomaly meant that our latest samples of the SP3/1R2 fell a little short of the standard achieved by our 2009 originals, but this remains a fine all-rounder in most respects and deserving of our attention.

## TECH LABS

Although the Spendor is the largest speaker in the group, this doesn't assist the bass extension at all, as its port is tuned to a relatively high 57Hz. Sensitivity, however, is a useful 88dB, exactly matching the manufacturer's specification, and this is achieved alongside an easy-to-drive amplifier load which stays above 5x ohms throughout.

Disregarding the usual 52Hz port/room-mode peak and the 130Hz floor cancellation, the in-room far-field frequency response is rather impressive right through the low-frequency region and all the way up to 1kHz. In most respects the response of these new samples looks almost identical to those tested three years ago. On this occasion, however, the previously flat response peaks up significantly at 1.6kHz, which tends to emphasise a general unevenness 1-5kHz. Above 5kHz the treble is smooth, flat and very well-judged.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY** ★★★★★
- VALUE FOR MONEY** ★★★★★
- BUILD QUALITY** ★★★★★
- PRACTICALITY** ★★★★★
- LIKE:** Nice coherence and transparency with good stereo imaging
- DISLIKE:** Price is significantly higher than the group average
- WE SAY:** Balance is beautifully judged and sound is essentially coherent

### OVERALL



# More than words



words  
that count ...



'Amazingly clean and transparent sound, agility and seamless integration.'

**What Hi-Fi Jun 10 • What Hi-Fi Award Winner 2010**

'Excellently engineered and finished, the Spendor A9 is a fine loudspeaker with a thoroughly modern appearance and sound quality, with class leading bass power, extension, attack and speed. Representing good value and overall performance, the A9 deserves HIFICRITIC recommendation.'

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'It presents music with a charm and poise that is rare in audio of any price. I would imagine that in 20 years time, when all the shiny 'must have' loudspeakers of 2010 are long forgotten, there will still be a lot of people happily playing music through their Spendor A9s. That's how good they are.'

**Hi-Fi+ Issue 77 Mar 11 • Hi-Fi+ Best of the Best 2011**

'Spendor's new A9 is one impressive loudspeaker.'

**Hi-Fi World Mar 11**



A3

A5

A6

A9

## SPENDOR

[www.spendoraudio.com](http://www.spendoraudio.com)

The Spendor A-line



# Totem Rainmaker £1,100

Canadian manufacturer Totem has built a strong reputation with its attractive compact speakers

## DETAILS

- ORIGIN:**  
Canada
- TYPE:**  
Standmount loudspeaker
- WEIGHT:**  
5.8kg
- DIMENSIONS:**  
(WxHxD)  
173x355x230mm
- FEATURES:**
- Strong, lightweight enclosure
  - Small reflex port on rear
  - Real wood veneer
  - Borosilicate enclosure damping
  - Tweeter dome has large rear cavity
- DISTRIBUTOR:**  
Joenit BVBA
- TELEPHONE:**  
00 32 15 285 585
- WEBSITE:**  
totemacoustic.com

**T**otem has the rather quaint tradition of naming its models after the country's First Nations shibboleths, a procedure which is, frankly, rather more imaginative than most rivals manage.

The Rainmaker is a compact standmount, loading its bass/mid driver by a reflex-ported enclosure of just nine litres capacity. The shape is a little unusual, rather taller and less deep than most speakers of this size and the construction is strong, linking all the panels with properly mitred joints. Yet it's also quite light in weight, since mass tends to store energy. Totem also adopts its own unusual technique in using a borosilicate paint to line the enclosure and provide some damping.

Our samples came dressed in a mahogany veneer, which is attractive enough, if a trifle anonymous. Black and cherry are the veneer options, and satin white is also available.

The top and side front edges are slightly rounded, while those around the back panel are slightly chamfered, giving the whole thing a touch of class by emphasising the care with which it has been put together.

The 140mm bass/mid driver has an unspecified moulded cone some 100mm in diameter. This has a flared profile, an integral central dust cover and a stiffening raised edge. Although no separate grille is supplied for the complete front panel here, a small protective metal mesh covers the tweeter's 25mm alloy dome. The back panel houses twin terminal pairs that provide some connection flexibility, plus a small reflex-loading port.



## SOUND QUALITY

The Rainmaker unanimously came a strong second place in the *Blind-Listening Group Test*, although it does seem a little odd that its character was decidedly different from the company's Arro (see p66), which was reviewed separately, but around the same time.

The Rainmaker might lack the smooth, even tonal balance of the Arro, but it's no less entertaining for all that. The bass end attracted praise for its depth and tunefulness and an ability to create a generous soundstage, while the speaker showed a fine ability to track dynamic changes and deliver convincing contrasts.

In truth, it can also sound a trifle untidy and sometimes a bit 'splasy' with emphasised sibilants. But it's also quite coherent and the tendency towards untidiness somehow doesn't seem to get in the way of the music, largely one suspects because the strong top end remains quite clean and sweet.

However, one listener did point out that this strong top could become a little fatiguing over time and that may well depend on the sources, amplification and ancillaries being used. Because the loudspeaker is at the end of the hi-fi chain, it can prove a little too revealing of any inadequacies introduced elsewhere. The Rainmaker works very well on a

high-quality system, but under some circumstances it might prove a little too transparent to limitations introduced further up the chain.

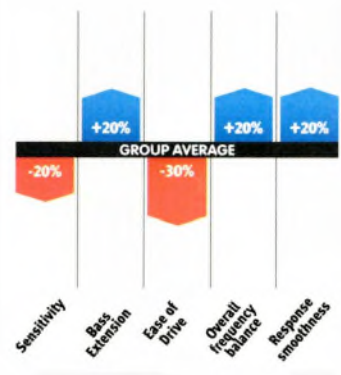
Fine timing, good coherence and a decent helping of dynamic realism all provide plenty of compensation for the Rainmaker's slightly wayward balance. Yes, the broad midband is a bit distant and the top end a little too strong, but the whole is much more than the sum of the parts here and the bottom line is that this is a fun loudspeaker that's always entertaining and informative.

## TECH LABS

The Rainmaker delivers a rather unusual in-room far-field averaged frequency response trace. The bass extension is assisted by a relatively low port tuning frequency of 38Hz, while the usual 50Hz room-mode peak is less severe than average here. Under in-room far-field conditions average output is around 87-88dB from 30Hz to 300Hz, but then drops to around 84-85dB over the next 300Hz-3kHz. Output then recovers so that the treble proper (4-10kHz) is up at 86dB. Happily, the midband is impressively flat and the crossover transition very well handled.

Given the above unevenness, it's hard to pick a specific sensitivity rating, so we've picked a broad average 86dB, somewhat below the 87.5dB claimed by the manufacturer. Furthermore, the amplifier load is relatively demanding, twice falling to four-ohm minimum at low frequencies and the pair match is also a little weak through the bass and midrange.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★
- VALUE FOR MONEY**  
★★★★★
- BUILD QUALITY**  
★★★★★
- PRACTICALITY**  
★★★★★
- LIKE:** Fine communicator with a lively, transparent and coherent character
- DISLIKE:** Slightly odd tonal balance: strong treble, warm bass and restrained midband
- WESAY:** This is a very entertaining and involving speaker, with finetuning

### OVERALL



# Lab conclusions

Our six standmounts showed little variation in technical specifications, but when it came to overall performance, **Paul Messenger** detected some definite pros and cons

## TECH LABS

Similar ingredients inevitably lead to very similar sets of test results, so it's hardly surprising that this group showed little variation in terms of such parameters as sensitivity and bass extension.

Even the Dynaudio and Spendor models offer only minor advantages in the rather complex equation that invariably links together bass extension, sensitivity, port tuning and amplifier loading.

The sensitivities of our group actually varied by an almost insignificant 2dB and even that distinction is only an eyeball estimate, since in practice sensitivity

varies significantly with frequency and can, therefore, only be a rough estimate.

The Dynaudio and Totem do have a slight bass extension advantage over the others, but that merely reflects the fact that their ports are tuned slightly lower, at 40Hz and 38Hz respectively. Pair-matching proved pretty good throughout, judged by the impedance curves, though the Totem did show minor mid-band variations.

Bass mode peaks and associated room effects aside, these speakers all delivered rather good frequency responses under in-room far-field averaged conditions, typically holding within +/-3dB or +/-4dB limits over

most of the band. However, while the tightest responses such as those shown by the Dynaudio and Quadral models might be evidence of firm engineering control, these didn't translate into the best sound quality as judged by our listeners.

A major reason for measuring the frequency response of a stereo pair under in-room conditions is to establish the optimum positioning for each model. Close-to-wall siting normally boosts the 50-100Hz octave by several dB. However, since all the models here showed some excess at 50Hz, all were used clear of walls and were, therefore, often a rather lean 60-120Hz.



Under our conditions it's possible to criticise the bass alignments of all these models, because their port tuning frequencies tended to be very close to a significant (roughly 52Hz) gain mode. Even with the speakers sited well clear of walls, this combination results in a significant peak at 52Hz, just above a fairly rapid bass roll-off. This unwelcome scenario might have been better avoided by tuning the ports to a rather lower frequency, or by making the port tuning adjustable.

## RESULTS AT A GLANCE



Make/model	Amphion Argon 1	DALI Mentor 1	Dynaudio Excite X16	Quadral Aurum Megan VIII	Spendor SP3/1R2	Totem Rainmaker
Price	£1,179	£1,199	£1,080	£1,000	£1,650	£1,100
Sound	★★★★★	★★★★	★★★★★	★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★	★★★★★	★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Practicality	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Conclusion	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	Superb sonic coherence and integration, plus well-judged bass, though top end is notably restrained	Veneered finish and very classy presentation, but sound is a bit lightweight and forward	Beefy standmount has plenty of bass power and welly, but lacks sweetness and can get aggressive	Fine presentation and solid build, but sound is rather coloured despite a lovely tonal balance	Classic styling and a well-judged balance, plus fine coherence, but a hint of nasality	Fine all-round coherence though a shade untidy with a notably strong top end

### Key features

Size (WxHxD) mm	160x310x265	160x320x240	205x350x290	194x357x290	220x400x280	173x355x230
Driver Config	2-way	2.5-way	2-way	2-way	2-way	2-way
Main driver size(s)	1x130mm	1x135mm	1x165mm	1x135mm	1x180mm	1x140mm
Stand/floor?	Stand	Stand	Stand	Stand	Stand	Stand
Cabinet finish	Real wood veneer	Real wood veneer	Black lacquer	Real wood veneer	Real wood veneer	Real wood veneer
Bi-wire?	No	No	No	Yes	Yes	Yes

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

Sensitivity	87dB <b>A</b>	87dB <b>A</b>	88dB <b>AA</b>	88dB <b>AA</b>	88dB <b>AA</b>	86dB <b>A</b>
Bass Extension	38Hz <b>BA</b>	38Hz <b>BA</b>	26Hz <b>A</b>	35Hz <b>BA</b>	40Hz <b>BA</b>	25Hz <b>A</b>
Ease of Drive	+20% <b>AA</b>	0% <b>A</b>	+10% <b>AA</b>	0% <b>A</b>	+20% <b>AA</b>	-30% <b>P</b>
Overall frequency balance	+20% <b>AA</b>	+10% <b>A</b>	+20% <b>AA</b>	+20% <b>AA</b>	0% <b>A</b>	+20% <b>AA</b>
Response smoothness	+20% <b>AA</b>	-10% <b>BA</b>	+20% <b>AA</b>	+20% <b>AA</b>	0% <b>A</b>	+20% <b>AA</b>

# Blind-listening verdicts

**Paul Messenger** and the panel were impressed by all the models tested, but it's the clever Finnish design that takes the honours

**ALTHOUGH THE INDIVIDUAL** voices weren't entirely unanimous, the *Blind-Listening Group Test* panel showed pretty good agreement about the pecking order in this group of speakers. The six models assembled here show such great similarities to one another in terms of bass/mid driver size, enclosure volume and port tuning, that our modest measurement regime provided relatively little discrimination, over and beyond obvious tonal balance differences.

The main qualitative differences in the sonic performance of the various models seem to lie both at the low-frequency end of the spectrum and in the crucial integration of the drive units close to the presence band. However, the treble output in relation to the midband also determined the character of each loudspeaker.

It was the fine presence coherence through the crossover zone that really put the Amphion Argon 1 on the top of the pile. That major strength is underpinned by a tidy, clean bottom end that imbues the music with a real sense of purpose.

The most obvious criticism of the Argon 1 is that its top end is rather dull and certainly some listeners might well prefer a rather brighter top end. In which case the Totem Rainmaker could well fit the bill. It achieved a strong second place in the listening tests and also has a decidedly strong top end – or one could describe it as a slightly too-restrained midband. Whatever, it's an entertaining and communicative speaker, but can sound a little untidy at times.

The Spondor came third, and also has plenty going for it, with fine overall coherence and arguably the best-judged relative treble level, though some midrange nasality attracted criticism. It's the largest speaker in the group, which might be why its price is rather higher than the others.

The Quadral and Dynaudio both deliver sound quality that is notably solid and well balanced, though both suffered somewhat from colorations, and neither won over the panel in consequence. The DALI's rather lightweight and forward character also failed to excite the listeners. ●

## THE WINNER IS...

**THE AMPHION ARGON 1** not only topped the lists during the *Blind-Listening Group Test*, it's also one of the most attractive looking. It's all due to an exceptionally slim front view and a nice aesthetic balance between the main bass/mid driver and the tweeter's waveguide.

Although the walnut veneer on our review samples isn't a particularly pretty example of the type, several alternatives are available and the painted white and black versions look particularly tasty.

Sonically speaking, the seamless presence integration and the consequential overall coherence are its main strength. Timing is invariably good and stereo images are precisely focused with accurate positioning.

Add in a tidy, clean and purposeful bottom end (which might lack weight, but avoids thickening effects) and you have a surefire recipe for success.



For a complete system solution based around our *Blind-Listening Group Test* favourites, look no further than these recommendations...

**TURNTABLE:**  
Roksan Radius 5.2 and Nima tonearm **£1,399**

A stylish and shapely turntable that has undergone painstaking refinement over the years, the current Radius 5.2 is usually packaged with its metal/acrylic unipivot Nima tonearm. While not entirely free from coloration, it delivers a sound quality with notably superior rhythm and pace, alongside fine stereo imaging.



**CD PLAYER:**  
Rega Saturn, **£898**

This stylish top-loader has a unique and quite recently developed CD drive mechanism that has more memory than most, the better to read the data accurately, as well as a clever 'ball chuck' to grip the disc with minimal inertia. The result is a very clean and involving sound, that is notably free from 'digital character, making an unusually attractive all-round package.



**AMPLIFIER:**  
Naim NAIT XS, **£1,455**

In some respects the NAIT XS can be seen as a 'stripped down' SUPERNAIT, lacking the digital input and DAC facilities, but offering similar upgradeability via external power supplies. Though somewhat less powerful on paper, it still has more than enough grunt for most applications and delivers a persuasive musical performance with plenty of sophistication.



# Beauty and the beat

Who said you can't have beautiful hi-fi and keen pricing? **Richard Black** looks at Primare's new £1,250-per-box CD and matching integrated

**P**rimare doesn't launch new products every day, so we were excited to be offered the first chance to try these newcomers. Replacing the CD21 and I21, they are the company's budget models, though obviously that's a relative term.

Still, £1,250 is a keen price although we can't think of much hi-fi that looks this impressive for that kind of sum. The sound's the thing, of course, but there's also no denying that visually, these units just ooze class.

That's partly due to clever design that shares as much hardware as

## DETAILS

**PRODUCT:** Primare CD22 and I22  
**ORIGIN:** Sweden  
**TYPE:** CD player/integrated amplifier  
**DIMENSIONS:** (WxHxD) Both 430x106x375mm  
**WEIGHT:** (CD22) 10.5kg / (I22) 10.0kg  
**FEATURES:**

- CD22: Single enhanced output
- Electrical and optical digital outputs
- USB-A input
- Plays MP3 and WMA files from CD-ROM or USB (amp info opposite)

possible with other models. The basic chassis is common to several Primare products and is based on thick steel sheet – you could probably stand on these without leaving a mark. The front panel is satin-finish aluminium, thick and very well made, complete with etched logo and very well-finished display windows, plus a volume knob that feels particularly solid and businesslike.

There's a pleasing simplicity to the front panel design, too, or at least visually pleasing: we're going to have to repeat a mild, but heartfelt rebuke we've issued to Primare in the past concerning operation of the CD player, as we would really like just a few more functions to be available from the front panel. In addition, since one's reliance on the remote control is increased, one is more likely to notice that it's not quite the remote one would wish to accompany





such attractive hardware. It does everything, of course (controlling a complete Primare system if you've got one), but it just looks a bit, well, cheap and cheerful. End of complaint – one can't have everything!

The CD22 is a conventional beast underneath its top cover, with an audio CD transport (not a CD-ROM one – luckily, those slow, noisy things seem to have fallen out of favour almost everywhere), a control board, a linear power supply with an R-core transformer and a dedicated D-A and audio output board. This last carries most of the mission-critical stuff, including the DAC chip and the upsampling chip or Asynchronous Sample Rate Convertor (ASRC).

#### Upsampling flexibility

It's not at all unusual to find an ASRC in a CD player, where they are used both for their digital filtering

**“We've seldom heard energy and detail so well balanced in an affordable system.”**

(upsampling) and jitter-reduction properties, but Primare has applied an unusual twist here in offering various upsampling options: none, 48kHz, 96kHz and 192kHz. If 'none' is selected there is still digital filtering applied by the DAC, though its precise characteristics are noticeably different from those of the ASRC.

The really unusual feature is the option of 48kHz upsampling, which most manufacturers evidently regard as not worth bothering with. There's no obvious reason why not, though, and although the response in this mode is very similar indeed to that for 96kHz or 192kHz upsampling it's

#### DETAILS

##### FEATURES:

• I22: Single loudspeaker output

Four line inputs

• Optional digital input board - electrical, optical and USB inputs

• Preamp and recording line outputs

• DAC board (£340)

DISTRIBUTOR:  
Karma AV

TELEPHONE:  
01423 358846

WEBSITE:  
primare.se

not absolutely identical and it's perfectly possible that sound will differ a little.

For the rest, features are a largely standard set. The player will read data discs with MP3 and WMA files on them and also features a USB-A socket at the rear for USB sticks with the same formats of files. There are digital outputs (electrical and optical) and a dimmable display. Everything is very well assembled, but nothing out of the ordinary.

#### The switch routine

The I22 is rather less traditional, mainly because of its employment of Class D for the power amplification. In fact, Primare has gone to town on this and developed its own Class D amplifier circuit, something relatively few hi-fi specialists have done as there are some very decent pre-assembled modules available.

Primare's 'Ultra-Fast Power Device' circuit reckons to improve on these, not least through the implications of the 'ultra-fast' bit. The claimed 'instantaneous' rise time of the circuit may be physically impossible, but it's a well-established fact that switching power amps work better if they can switch faster and Primare has evidently put some work into achieving exactly that.

The other feature that makes this circuit work well is the way the output filter has been integrated into the design, rather than being a separate module added on after the amp proper was signed off as a design. To be fair, some other current designs do this, but it was not always thus and poorly executed output filters probably had a lot to do with the dodgy reputation enjoyed by Class D in its early days. Primare explains that the way the amplifier and filter have been designed together means that feedback around the circuit is constant over the audio band, a highly desirable state-of-affairs in any amplifier circuit and generally quite tricky to arrange.

Switching technology is also used in the power supply for the I22, which is a switch-mode type. Again, these have been accused of causing all sorts of problems because the noise they inject into the mains wiring, but it ain't necessarily so; and it's hardly as if conventional transformer-based supplies are blameless either. This supply circuit benefits from 'power factor correction', which to some extent alleviates the noise and makes the amp a much friendlier load on the mains supply.



## Q&A...

WE SPOKE WITH PRIMARE MANAGING DIRECTOR LARS PEDERSEN



**HFC:** Tell us about UFPD – what singles it out from other Class D solutions available?

**LP:** It's an audiophile Class D. The limitations of conventional Class D are well known: while it's great for bass, distortion rises with frequency because it can't control feedback, which is the essential motor of Class D amplification. With UFPD we found a way to expand the operating window to encompass the range of audibility and beyond, while keeping distortion very low and feedback and impedance stable. This means it can drive any speaker while maintaining accuracy.

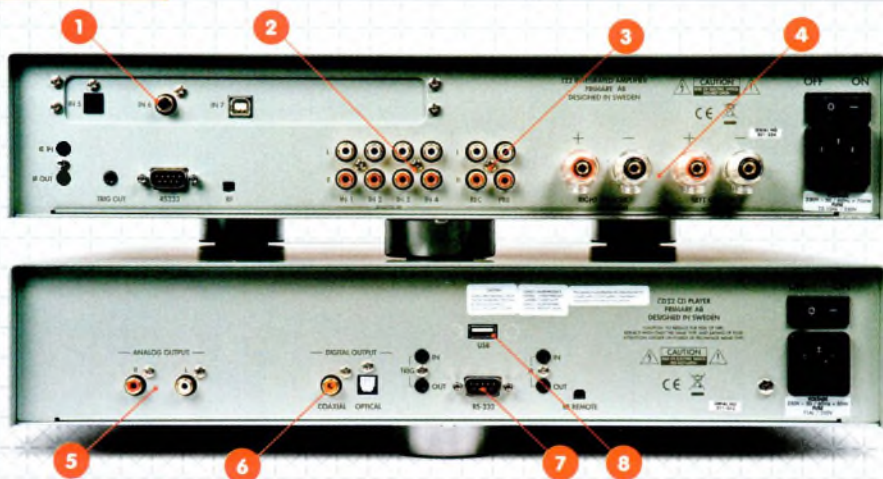
**Compared with 'traditional' Class A/AB designs, does Class D potentially offer higher quality or is it simply more power-efficient and sonically, at best, comparable?**

With UFPD Class D we've demonstrated that if you keep the loop gain stable you can achieve extremely low-distortion across the audio band and the result is superior to conventional Class A/AB designs. It's not as warm-sounding as conventional designs, but when you analyse it, the 'warmth' is an illusion of distortion. More conservative listeners may have difficulty in accepting that: but quite simply, they're encountering very low distortion, perhaps for the first time.

**Switch-mode power supplies are known to generate mains noise. What has Primare done to counter this?**

In conjunction with UFPD, Primare uses an isolated PFC (Power Factor Control) technology in the power supply, which controls the current from the mains voltage so that it is a pure sine wave with the same frequency and phase as the mains voltage. This means that even if 1,000 watts is taken from the mains, other equipment in the room will not be affected. The isolating stage of the convertor works in a ZVS [Zero Volt Switch] mode and, as a result, the switch flanks contain a lower quantity of harmonics, providing lower EMI (Electromagnetic interference) and a clean environment for the amplifiers to work in.

## CONNECTIONS



- 1 Digital inputs on optional extra board
- 2 Four analogue line-level inputs
- 3 Record (fixed-level) and preamp (volume controlled) outputs
- 4 Speaker terminals accept 4mm plugs, spade terminals or bare wire
- 5 Unbalanced output
- 6 Both normal types of digital output
- 7 RS232 socket allow for integration in home automation system
- 8 USB socket for memory stick, MP3 player etc.



**TALKING POINT**  
**CLASS D AMPLIFIERS** come in various flavours. The essential point that distinguishes them from the more familiar Class A/B types is that instead of modulating the electrical voltage in a linear fashion, so that it represents the acoustic waveform at all times, they chop it up so that it averages that same voltage. When we say 'average', we mean over a very short time – microseconds, in fact.

This is the same idea used in digital audio, though Class D isn't strictly digital. Actually that's a very fine point, down to the way in which it chops up the signal: a true digital product chops it into fixed-time segments, while Class D has infinitely variable segments. The end result is the same, though, and while it's far from intuitively obvious that decent fidelity can be achieved, the theory behind it is solid.

Input provision on the standard I22 is modest at just four, all unbalanced analogue. However, an optional module is available that adds three digital inputs, one each electrical, optical and USB, making this a rather well-connected amp. Usefully, the USB input is 'isochronous', in other words it's one of the modern breed that tells the computer how fast to send data, completely avoiding the need for it to synchronise to the incoming data stream and removing at a stroke the main source of jitter in USB digital audio streaming. It handles sampling rates up to 96kHz and word lengths up to 24 bits, so it's a genuinely audiophile component.

Both I22 and CD22 are well built, neatly assembled on multiple circuit boards with good-quality components but no fancy 'boutique' parts. Socketry is decent rather than outstanding.

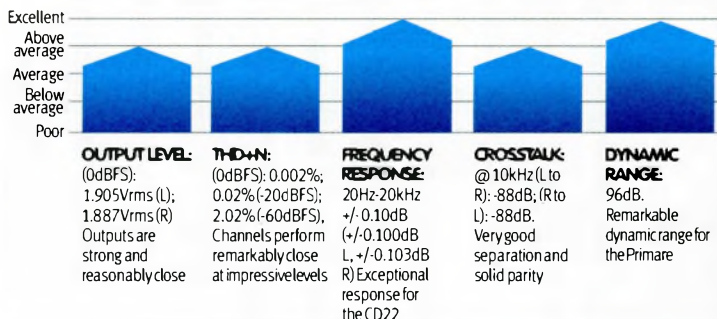
## Matched to perfection

Obviously, we were inclined to keep the two units together for most of our listening sessions and we had no reason to regret that. They seem very well matched in practically every respect and the sounds they made individually, when heard through familiar reference kit, had more than a hint of family likeness. In other words, you can safely assume that the following comments apply not only to the combination, but also to each component on its own, unless specified otherwise.

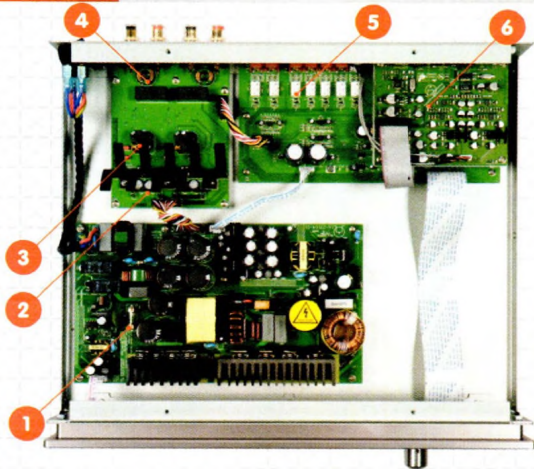
One's first impression of this pair is of good energy. It's not the last word in liveliness, and some may regret that, but there is a such a thing as too much energy in an honest sound-reproduction system (we've all heard systems that border on the simply manic) and Primare has stopped well short of crossing the

## TECH LABS

### RESULTS AT A GLANCE: CD22 CD PLAYER

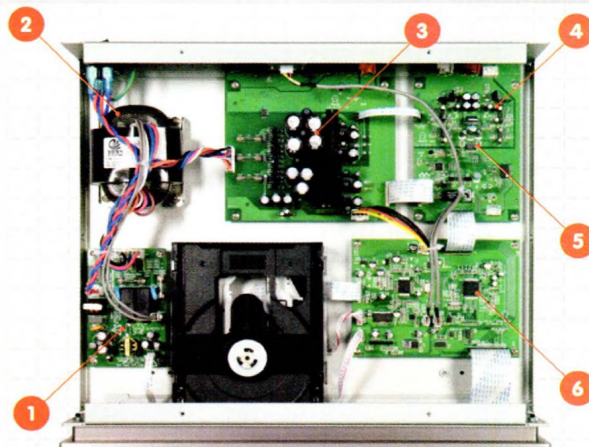


**HIDDEN TECH**



I22 amplifier

- 1 Switch-mode power supply with power factor correction
- 2 Main switching (output) transistors on small heatsinks
- 3 Main output filters
- 4 Common-mode output filters
- 5 Muting relays
- 6 Digital-input board



CD22 CD player

- 1 Low-power switch-mode supply for remote control etc.
- 2 R-core transformer for audiocircuits
- 3 Power supply smoothing and regulation
- 4 Gap in ground plane between digital and analogue circuit segments
- 5 DAC chip
- 6 Transport and error-correction logic circuits

line into that territory. What you get is a lively rendition with clearly defined rhythm in all its constituent elements, but no sense that the music is in danger of rushing away.

**A question of balance**

At the same time, the more subtle aspects of sound such as detail and imaging are very well attended to. Indeed, we'd go so far as to say that we've seldom heard energy and detail so well balanced in an affordable system.

We were particularly aware of this neat balancing trick when listening to a recently bought CD, of the Canadian piano virtuoso Marc-André Hamelin playing some of his own compositions. He plays so many notes per second that it's quite a tall order for a hi-fi system to reproduce them all clearly and we've heard one or two that manage that, but lose the

overall shape of the music. In this case, however, we were able to hear with great precision, not only which notes were going down, but where the general progression was leading and what the piano itself sounded like.

In similar vein, a couple of very familiar rock recordings seemed unusually clear, both as regards the drum kit underlay and the sense of the lyrics. The songs really seemed to have purpose and direction, while the way the structure had been built up vertically was also beautifully clear.

So with all this praise floating about, is there also a downside? Well, although the balance of both units seems exemplary across the midrange, there's a hint of dryness in the high treble that just slightly detracts from the sweetness of well-recorded high frequencies. In addition (and this applies principally to the I22), the bass isn't always quite as extended as



There's no shortage of comparisons around this price. £1,250 is bang in the middle of today's midrange for both amps and sources.

As alternatives to these units, you might, for instance, look at the Creek Destiny units (£1,400 CD, £1,600 amp), a shade dearer but oh! so civilised (in a good way, though) and while the Primare sound may be more immediate, Creek probably just slightly has the edge in resolution and extension.

Dividing the budget differently Rega's Saturn CD (£898) and Elicit amp (£1,595) offer large soundscapes with great impact and immediacy. Units from the Roksan Caspian range (£1,600 each) would be among the strongest contenders, if rhythm and timing are your main concerns.

None of these makes currently includes a digital input board for the amp, but you could add a DAC from, for instance, Cambridge or Arcam for a similar sum to the Primare add-on.

some. We recalled some truly seismic bass from the I32, though in the company of its peers the I22 is hardly bass-shy. Imaging depth isn't quite the best ever, but again for the price it's really very fine. Which could stand as a summary of both units, really! ●

**Hi-Fi Choice**

**OUR VERDICT: CD22**

- SOUND QUALITY** ★★★★★ **LIKE:** Excellent balance between timing and detail
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Operation from the front panel is inconvenient
- BUILD QUALITY** ★★★★★ **WE SAY:** Positively aspirational externally, the CD22 packs plenty of performance and will not disappoint
- FEATURES** ★★★★★

**OVERALL**



**Hi-Fi Choice**

**OUR VERDICT: I22**

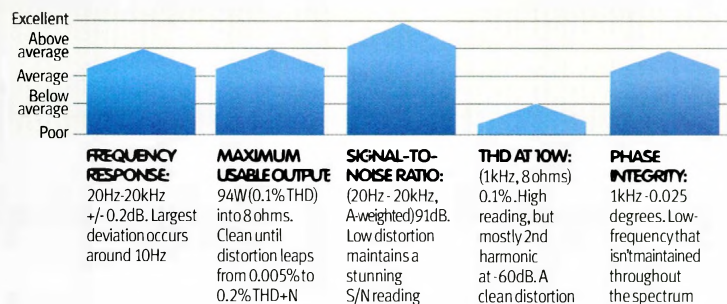
- SOUND QUALITY** ★★★★★ **LIKE:** Energetic, no loss of precision and environmentally engaging
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Bass doesn't quite have the reach of some; images could use a little more depth
- BUILD QUALITY** ★★★★★ **WE SAY:** An attractive unit with more than a hint of the true high end
- FEATURES** ★★★★★

**OVERALL**



**TECH LABS**

**RESULTS AT A GLANCE: I22 AMPLIFIER**





# Twin-engineered



Audio Note has a range of new arms for its well-established TT-2 turntable. **Ed Selley** finds out if two motors are better than one

**A**udio Note is best known for its extensive range of valve amplifiers and digital products, but it has been producing turntables and vinyl accessories for many years. The current range consists of three turntables, three new tonearms and a range of moving-magnet and moving-coil cartridges. Tested here is the middle of the range TT-2 (numerically at least, the TT-3 is an altogether different beast), with a brand new Arm One and IQII moving-magnet cartridge.

The TT-2 itself has been in production for some time in basic black for £1,290, but is now available in a

£2,200 Deluxe version tested here with real-wood veneers. The unit is a full plinth-type design with a three-point suspended chassis placed within it. Parts of this basic design date back a very long way and the TT-2 could be regarded as a heavily evolved Dunlop Systemdek in some regards.

## Act in balance

Where the TT-2 Deluxe differs from virtually every other deck on sale is in the use of a pair of AC motors to spin the acrylic platter instead of one. The motors are mounted on opposite sides of the spindle and the theory goes that the two motors act in balance to completely reduce

## DETAILS

**PRODUCT:** Audio Note TT-2 Deluxe turntable (£2,200); Arm One tonearm (£655); IQII- phono cartridge (£420).

**ORIGIN:** UK/Austria

**TYPE:** Belt drive turntable

**DIMENSIONS:** (wxhxd) 470x170x360mm

**WEIGHT:** 4kg (approx)

- FEATURES:**
- Twin motor belt drive turntable
  - Three point suspension
  - Captured unipivot tonearm
  - Choice of real wood veneers
  - Moving magnet cartridge with high quality copper coils, aluminium cantilever and diamond stylus

**DISTRIBUTOR:** Audio Note UK

**TELEPHONE:** 01273 220 511

**WEBSITE:** [audionote.co.uk](http://audionote.co.uk)

oscillation at the spindle, which is passed on to the platter. This is a difficult engineering process because if there is any variation in the motors, instead of improving playback they will exaggerate the oscillation further. Audio Note pair-matches every set of motors to ensure they behave the same and pays close attention to the chassis design to ensure that the two motors work in harmony.

The £655 Arm One is all new and a welcome addition to the ranks of sensibly priced tonearms. It is part of a three-strong range (see *Talking Point* opposite) and uses a single machined piece of aluminium for the arm wand and a second machined section to house the 'captured unipivot' bearings.

The combination of 'Rega-mount' fitting (still referred to as such, despite Rega not using it anymore) and an easily adjustable VIA means it should work well on a variety of decks. In this instance, our sample arrived mounted on the Deluxe with IQII cartridge in place and required no adjustments.

The £420 IQII is part of Audio Note's moving-magnet cartridge range and is an uprated Goldring design that uses higher-quality copper coils and a diamond stylus to obtain a much improved



performance over the stock model. Audio Note phono stages are generally moving-magnet designs and the IQ series precludes the need for an external step-up transformer to obtain the required levels of gain.

### High standard

After extracting the TT-2 Deluxe from its packaging, first impressions are good. At a price point where some very large and very shiny designs are available, the Audio Note can look a little sober by comparison, but the TT-2 has

**“Musicality is a difficult concept to pin down exactly, but the Audio Note has it in spades.”**

much to commend it. The fit and finish is excellent and the veneering, in particular, is of a very high standard. The TT-2 is not an especially heavy design, but still feels solid and well constructed. The unit is also supplied with a Perspex cover which is always a welcome addition.

The suspension is locked into place with a transit screw and removing it will allow you to level up the suspension via the three bolts at the suspension mounts. String the belt across the two pulleys and set the platter and the deck is ready to go. With the recommended tracking weight on the cartridge, we found the deck was a little sensitive to footfall when placed on a rack, but switching to a wall shelf eliminated this, so would be the better option if available. With the noise of twice as many motors



TALKING POINT

**THE ARM ONE** is the least expensive in a trio of new Audio Note arms. All three arms share the same bearings and metal, but differ in their internal wiring, with the Arm Two and Three using progressively higher-quality Audio Note silver wiring.

The IQII cartridge is also part of a trio of externally identical cartridges identified by progressive improvement to the coils. This 'level system' is a key part of Audio Note design practice and allows you to select components that are intended to form effective systems. The Arm One seems entirely capable of handling other types of cartridges, however.

### CONNECTIONS



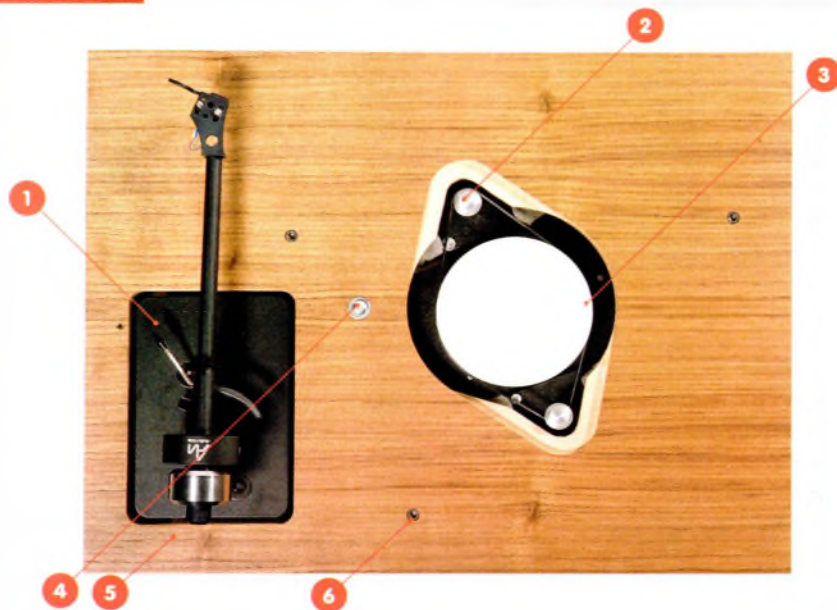
1 IQII moving-magnet cartridge

2 Coptonearm cable – silver in both Two and Three

3 Heavy counterweight with wide adjustment range

4 'Captured unipivot' bearing

**HIDDEN TECH**



- 1** Armboard
- 2** Two opposed motors for improved balance
- 3** Sub-platter
- 4** Transit screw to lock suspension in place
- 5** Cavity under the plinth for tonearm lead out
- 6** Adjusting points for suspension

as usual to suppress, the TT-2 is also impressively quiet.

If the TT-2 is a pleasant surprise, the Arm One is something of a revelation. This is an immaculately finished and well thought out unit that is as good as anything we have seen under £1,000. Changing cartridges is extremely simple and it seems able to cope with any cartridge it is likely to be partnered with. The cueing action and the general arm movement suggest the bearings are excellent as well.

**Persuasive case**

With the suspension level and the output connected to the internal phono stage of an Audio Analogue Verdi Cento, the TT-2 makes a very persuasive case for itself. The first impression is of an extremely low-noise floor. With the deck earthed correctly, there is almost no background noise at any volume level and no hum whatsoever. The two motors allow the platter to spin up to speed almost instantly and the perceived pitch stability is excellent.

Sonically, the TT-2 is a muscular and powerful performer. It manages to sound effortless across a wide variety of music and is possessed of excellent pace and timing. Up tempo recordings are delivered with real urgency and this is

underpinned with a tight and potent bass that starts and stops with aplomb and underpins the performance. Slower and calmer recordings still benefit from this innate timing without sounding forced or hurried.

While the twin motor design is specifically intended to combat oscillation, like the multiple motor Voyd designs from the 80s and 90s (which Audio Note went on to build themselves), there is a sense that the twin motors also bring something to the sound as well. There is a pace and energy that the Audio Note has that adds considerably to the performance as a whole. There is also a technical argument that multiple pulleys would combat oscillation as effectively as multiple motors, but whether the deck would still possess this beguiling energy is unclear.

Further up the frequency range, the combination of deck, arm and cartridge combine to give an open and airy sound with strong tonality and good detail retrieval. The soundstage is not as wide as a Michell Gyrodec and even after extended running in, we found the IQII to be slightly bright, but not unworkably so and nothing that thoughtful phono stage matching wouldn't accommodate.

Musicality is a difficult concept to pin down exactly, but the Audio Note has it in spades. It generally manages to get toes tapping and heads nodding and leave you enjoying the music rather than analysing it. This is not to say that there is any lack of detail or focus, but the presentation as a whole is more important than the constituent parts.

Vocals are generally excellent and there is a real sense of the space a recording was made in. Towards the end of our listening session, we substituted another moving-magnet cartridge in the form of a Clearaudio Virtuoso and not only was this simple to do (thanks to the Arm One), we found that the slight brightness was tamed without affecting the substantial low end and rhythmic ability, which are clearly innate to the deck and arm.

**Musical enjoyment**

The TT-2 Deluxe is a very fine turntable and one that impressed us considerably. Due to its very distinctive design, Audio Note equipment can often work best in the context of an all-Audio Note system. While we don't doubt that this turntable would sound excellent in this context, it works equally well outside of this as well. You could be one of the most passionate advocates of solid-state imaginable and still find the superb timing and wonderfully open presentation to your liking. Separate to the entire package, the Arm One is a very welcome addition to the ranks of sub-£1,000 tonearms. This is a beautifully built and very well thought out design that should work well with a variety of cartridges and turntables.

There are many turntables at this price point that offer much more visual drama than the TT-2, but few of them can match it for sheer musical enjoyment. The Audio Note, therefore, is a winner. ●



**THE MOST CLOSELY matched product in terms of pricing to the Audio Note we have seen recently is the much heftier Pro-Ject RPM 10.1 (HFC 348). The Pro-Ject is an altogether more imposing deck and has exceptional tracking ability, but it lacks some of the life and energy of the Audio Note.**

**Our 2011 award-winning Michell Gyrodec SE is less expensive as a basic turntable and offers some of the same pace and excitement as the Audio Note, but cannot match it for bass extension. The Michell is able to accept a variety of arms, including, of course the Audio Note ones.**

**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Powerful and engaging sound
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Sensitive to footfall; manual speed change only
- BUILD QUALITY** ★★★★★ **WE SAY:** A wonderful turntable with great sound and considerable flexibility, thanks to an excellent tonearm
- FEATURES** ★★★★★

**OVERALL**



# TOTEM

ACOUSTIC



Shown: Totem Rainmaker

**breathing real life and space into the music and movies you love**

**Ceritech Audio**  
Wales 0844 736 5719

**Studio AV**  
Eton 01753 631000

**Audio Council**  
Manchester 0161 491 6090

**O'Brien HIFI**  
London 020 8946 1528

**Rayleigh HIFI**  
Rayleigh 01268 779762  
Chelmsford 01245 265245  
Southend 01702 435255

**Loud & Clear**  
Glasgow 0141 221 0221  
Edinburgh 0131 555 3963

**Moorgate Acoustics**  
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twenty-23



twenty-21



twenty-22



twenty-24

**musicality**(n.) the property of sounding like music

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# 20 gives plenty

Icon Audio has taken its cue from the Leak Stereo 20 for its latest entry into the budget valve market, says **Jason Kennedy**

**B**eside the Quad II, the Leak Stereo 20 (ST20) is one of the most sought after British valve amps of yore. Introduced in the mid-fifties by H J Leak, it sold in substantial numbers for over a decade, but today even unrestored examples cost more than Icon is asking here.

The Stereo 20PP's circuit is based on the original ST20 and uses the same output valves in a push-pull configuration. It only delivers 15 watts per channel, but as any glass audio enthusiast will tell you, it's not how much power you have, but how you use it that counts.

## Major influence

The Stereo 20PP is not a copy of a Leak ST20, which had valve-rectification and a slightly different line-up of double triodes – all 12AX7s (ECC83), rather than the two on either side of a 12AU7 (ECC82) in the 20PP. However, the company has used a very similar circuit in this amp's front end, along with EL84

pentode output valves in an ultralinear configuration for the output stage and this gives it the right to cite the ST20 as a major influence. With the popularity of triode-output amps in recent times, this more efficient Class A/B topology has been overlooked, so it's good to see it making a comeback.

The amp's plus points include the use of point-to-point wiring rather than a PCB, which is generally considered a good thing.

## Headphone benefit

We don't know of any other established brands that offer a valve amp at this price, so it would appear to be pretty good value. You can, of course, get far more power for your money from a solid-state alternative like the similarly priced Rega Brio-R, (HFC 352), which has the luxury of a remote control and runs significantly cooler.

It looks pretty smart with its acrylic valve cover and shiny black paintwork, although the quality of the socketry on the back panel is

## DETAILS

**PRODUCT:**  
Icon Audio Stereo 20PP

**ORIGIN:**  
China

**TYPE:**  
Integrated valve amplifier

**WEIGHT:**  
10kg

**DIMENSIONS:**  
(WxHxD)  
310x200x270mm

**FEATURES:**  
• Power output:  
15w/8ohm

• Line inputs: 3

• Ultralinear push-pull

• EL84 pentode output valves

• Headphone output

• Optional triode operation

**DISTRIBUTOR:**  
Icon Audio

**TELEPHONE:**  
0116 2440593

**WEBSITE:**  
iconaudio.com

more indicative of the asking price. The amp has three line inputs and a record output, alongside small three-way speaker terminals. On/off switching is on the side at the back and there is a headphone output on the front.

## Excellent pace

With a mere 15 watts on tap you theoretically need an unusually sensitive speaker to get any level out of this amp. Fortunately, the nature of clipping in these amps is very relaxed and, in practice, it can drive real-world speakers to decent levels without sounding uncomfortable.

Its power limitation is most apparent in the bass, where things seem distinctly rolled-off compared to the Brio-R, for instance. Treble is also a little restrained, but the musical goods are delivered in a very appealing fashion by the rest of the band. Here it has excellent pace and can produce a surprisingly deep soundstage. Image height is limited as a result of the smoothed treble, but you can hear right into recordings nonetheless.

What it does well is to focus entirely on the music, with a fluidity and coherence that even expensive transistor amps struggle to deliver. And, as is usually the case with valves, it's also good at tone, enriching the timbre of voices and instruments in a very appealing manner.

## Sweet sound

The Rega Brio gives you more energy and vitality, along with a distinctly wider bandwidth, but doesn't have such a sweet midband. The 20PP will sound best with any speaker that has a better-than-average ease of drive, but if your room isn't huge its push-pull nature means that it can cope with most sensible designs.

We found it immensely musical, if not hugely revealing, but at this price there is always a trade-off and it's one that has been well-judged in this homage to a British classic. ●



## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY

★★★★★

**LIKE:** A taste of valve fluidity, pace and musicality, at a very affordable price

#### VALUE FOR MONEY

★★★★★

**DISLIKE:** Runs hot and has limited bandwidth

#### BUILD QUALITY

★★★☆☆

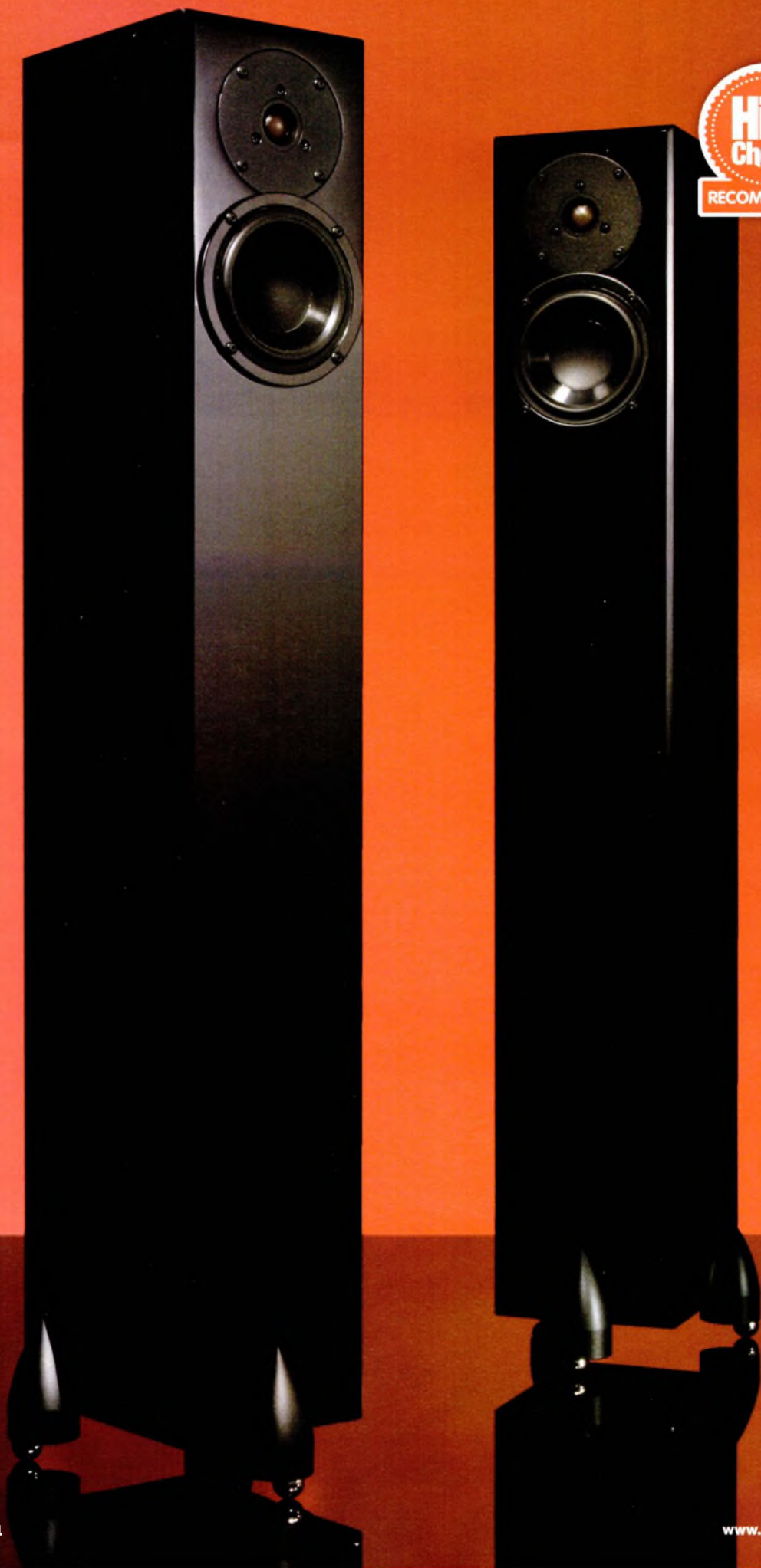
**WE SAY:** Focuses on the heart of the music at the expense of the tonal extremes

#### FEATURES

★★★☆☆

#### OVERALL

★★★★★



# Arro takes flight

Totem's super-slim new Arro is a beautifully made speaker. **Paul Messenger** gets close up and personal with the Canadian rocker

**W**ell established Canadian manufacturer Totem takes its name from – and tends to name its models after – elements of that country's First Nations culture, though quite where Arro comes from remains a little obscure. Perhaps it simply reflects the fact that the speaker itself is unusually straight and slim, albeit devoid of point or flights. Whatever, few serious speakers manage to look more discreet and self-effacing, especially in the highly reflective (and very fashionable) high-gloss black of our review samples.

The various high-gloss options sit at the £2,025 end of the price range, costing a very hefty premium over the regular veneered examples. However, these versions are also alleged to offer a worthwhile performance advantage (a claim we were unable to verify).

The very real difficulties of making an exceptionally discreet and compact floorstander, that retains adequate physical stability, are dealt with in some detail in *Talking Point* opposite. The short version is that the small supplied plinth does

help a little, but adding optional (not supplied) mass is really required if stability is an important issue.

The alternative (and claimed superior) floor-coupling arrangement involves a Totem accessory called a Claw, which sells in packs of six (three per speaker) for £330. These chunky solid aluminium pieces – one at the front, one at each rear side – again don't do a great deal for the physical stability, but they certainly look good when installed and also hold the promise of lower enclosure coloration. A tripod is always superior to a four-spike arrangement in ensuring good floor contact and, in this case, the Claws use substantial steel ball bearings between themselves and the floor, ensuring a measure of decoupling as well as contact.

## Small is Beautiful?

Both the drive units used here are unusually small, factors that enable the front view to be exceptionally slim and which will contribute to a very wide dispersion. The tweeter has a 19mm doped-fabric dome and a relatively low frequency of fundamental resonance; part of its

faceplate is cut away so that it may be mounted as close to the bass/mid driver as possible.

The main driver has a 114mm chassis and uses a cone of unspecified sandwich construction just 75mm in diameter. This bass/mid driver is loaded by the uppermost part of the enclosure and a small reflex port, the latter tuned to around 52Hz. (There was some variation between our two samples here, one recording 50Hz and the other 54Hz for their respective port resonances.)

Neatly presented with gently softened and chamfered edges, the Arro weighs around 8kg, so it's a quite lightweight affair, presumably deliberately so because

**“The Arro justifies its price through the sheer subtlety of its all-round performance.”**

low mass leads to low-energy storage. However, the enclosure construction leads to high stiffness and Totem is particularly proud of the fact that it uses mitred joints, a technique that considerably increases the surface area and hence the strength of the joints. Another unusual technique is the use of a borosilicate (glass) lining as a form of enclosure damping.

Gentle crossover filter slopes indicate that the Arro uses a minimalist network. This is hard-wired and fed from two pairs of terminals, so may be bi-wired or bi-amped if the brass links are removed.

## Subjective Surprises

As with other Totem speakers previously encountered, the Arro has a few surprises up its sleeve. Despite the small enclosure and main drive unit, room measurements indicated that the Arro was best placed well clear of walls, because the port tuning frequency coincides with a prominent mode in our listening room.

Another unexpected and impressive feature is that the sound shows quite superb consistency, irrespective of the position of the listener in relation to the speakers. This is unusual for a speaker with gentle crossover slopes and consequent wide driver overlap, attesting to the considerable refinement of the crossover network.

Such a very compact speaker inevitably has some limitations in terms of bass weight and loudness capabilities, but within those constraints this is a quite outstanding

## DETAILS

### PRODUCT:

Totem Arro

### ORIGIN:

Canada

### TYPE:

Floorstanding two-way loudspeaker

### WEIGHT:

4.5-9kg

### DIMENSIONS:

(WxHxD)  
130x850x180mm

### FEATURES:

- Reflex bass loading via small rear port
- 19mm doped-fabric dome tweeter
- 114mm bass/mid driver with sandwich cone
- Two pairs of chunky multi-way terminals
- 2.4kHz hard-wired crossover
- Choice of real wood or high-gloss painted finishes
- Supplied plinth
- Optional 'Claws' (£330)

### DISTRIBUTION:

Joelit BVBA

### TELEPHONE:

07740 284459

### WEBSITE:

totemacoustic.com

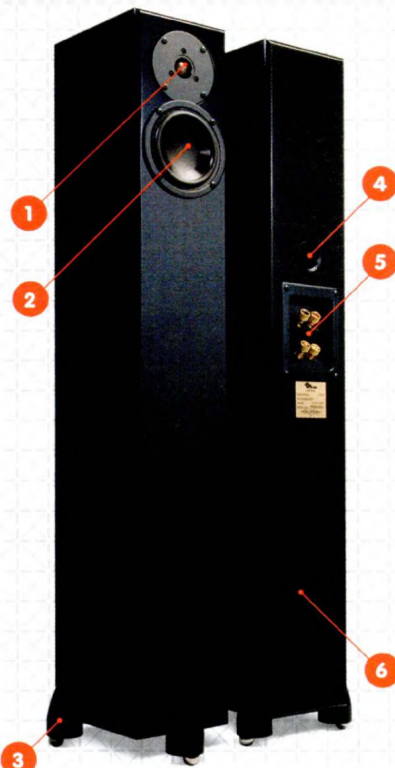


**ONE CONSEQUENCE** of making one of the least visible and most discreet serious hi-fi speakers on the planet is that it has an exceptionally small and narrow footprint, so is potentially physically very unstable. A small matching spike-equipped plinth is supplied, together with a yellow variation on the Blu-tack theme to attach it effectively but not too rigidly to the enclosure. Even using this plinth gives a far from generous footprint and feels far from stable, so the option to add dry sand to mass-load the lower section of the enclosure will be well worthwhile for long term use.



The 19mm doped-fabric dome tweeter and the bass/mid driver are located close together which complements the use of a slim cabinet enclosure

FEATURES



- 1 Low resonance tweeter has a small 19mm doped fabric dome diaphragm
- 2 Bass/mid drive unit has a very small 75mm diameter diaphragm of sandwich construction
- 3 Separate decoupled spike-equipped plinth is primarily to improve stability
- 4 Small upper port on the rear provides reflex bass loading. Lower port is for adding mass-loading
- 5 Twin terminal pairs provide for optional bi-wiring or bi-amping
- 6 Various surface finish options include veneers and several painted alternatives

HOW IT COMPARES

**THE ARRO COVERS** a wide price range, from £1,295 right up to £2,025 depending on finish. Our high-gloss black review sample sits at the top end of that range, which apparently also offers some performance advantage. It also means that it's a little more costly than an impressive collection of floorstanders that include the £1,699 per pair DALI IKON 7 Mk2, the PMC GB11 (£1,525), the Dynaudio M3/7 (£1,299), the Bowers & Wilkins CM8 (£1,250), the Rega RS7 (£1,685), the ProAc Studio 140 Mk2 (£1,690), and the Audiovector Ki3 Signature (£1890).

To justify its price premium, the Arro has several things in its favour. It's the smallest and most discreet, with the very fashionable high-gloss finish. Most importantly, it's also unusually smooth and well-balanced, which is its major advantage.

delicate and subtle low-level information comes through without obstruction, yet at the same time dynamics themselves are vigorous and realistic, albeit without quite the grip and drama of larger speakers.

Indeed, the only thing that's obviously lacking here is a measure of authority and gravitas, which is only really noticeable with certain forms of music – organ, large scale orchestral and heavy rock or dance material. Even these don't exactly upset the speaker, it's just that the Arro doesn't quite do them full justice.

However, the Arro does a superb job of simply getting out of the way and letting the sound communicate the messages that the musicians intend. While much of this is due to a performance that's unusually vice-free and neutral, one shouldn't ignore the very real bonus of the Arro's exceptional crossover integration. This not only gives a degree of coherence that's rarely encountered outside of single-driver systems, it also supplies the off-axis consistency that's an essential ingredient in creating true neutrality and superior imaging.

Aesthetic elegance

While it's certainly true that many significantly larger floorstanders are available for much lower prices, that doesn't mean that they offer a superior musical performance. In fact, the Arro justifies its not inconsiderable price through the sheer subtlety of its all-round performance, which essentially combines the very real advantages of a miniature standmount with the extra bass heft and aesthetic elegance of an ultra-compact floorstander.

It's not exactly the perfect loudspeaker – the pair matching and dynamic drama might have been better – but precious little else merits criticism. And the fact that it's such an attractive little speaker is a major bonus. ●

loudspeaker that does nearly everything else exceptionally well. The beautifully neutral, smooth and well-judged tonal balance is probably the most obvious feature, but the low enclosure coloration and fine stereo imaging are equally worth mentioning.

The bass might not be the deepest or most even around, but it remains agile and well timed, and the fact that it can provide a decent degree of punch when required makes it more convincing than the bare ingredients might tend to suggest.

Claws out

We were quite sceptical that replacing the little plinth with the

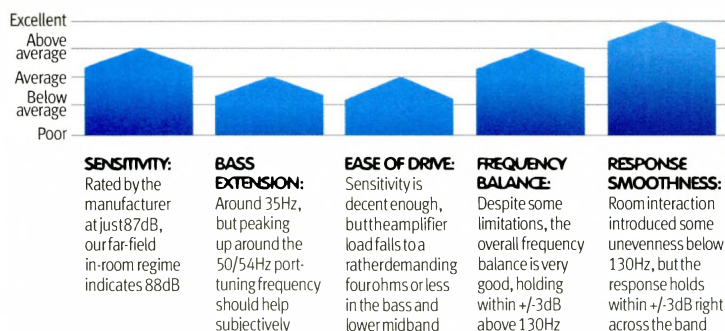
Claws would make much difference and it, therefore, came as a rather pleasant surprise to find that they really do work, successfully 'cleaning up' the sound and removing some residual 'thickening' coloration in the upper bass and lower midband.

The Arro is perfectly acceptable when used with its regular plinth, but on the end of a high-quality 500-series Naim system, the Claws certainly demonstrated a worthwhile advantage. A key strength of this speaker lies in its fine delicacy; incorporating the Claws simply improves the performance.

The bottom line is that the Arro has an excellent dynamic range, so that

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Sweet and smooth sound, with superb voice-band coherence
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Quite costly for a speaker with limited bass weight and authority
- BUILD QUALITY** ★★★★★ **WE SAY:** This very compact speaker is sonically very refined, with brilliant vocal expression and coherence
- EASE OF DRIVE** ★★★★★

OVERALL



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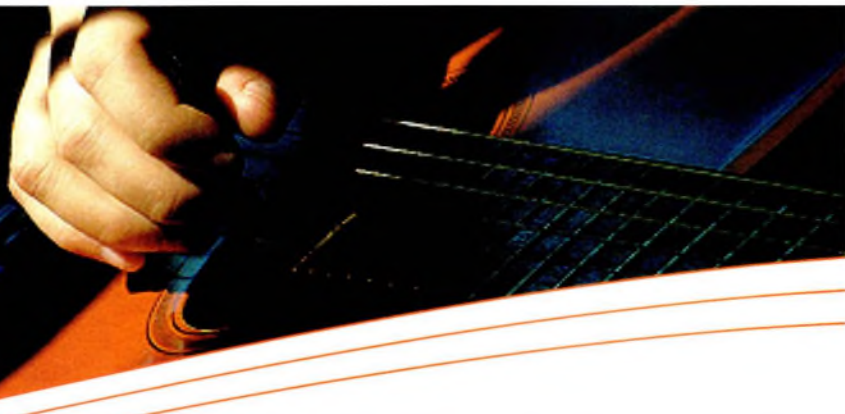
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- Hi-Fi Choice, January 2009



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- Hi-Fi Choice, November 2010 (Integrated Amplifier and CD Player)



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# Flexible friend

Audiolab's superb 8200CD gets new filter options and internal upgrades: **Richard Black** reckons its value remains unbeaten

It's just a year since we first encountered the Audiolab 8200CD (HFC 340), which we quickly came to consider one of the finest sensibly priced CD players we've had the pleasure of testing. Although there's no hint in the nomenclature that anything has changed, Audiolab has, in fact, recently put a few tweaks and upgrades into the design, so a re-test seemed in order.

As the main photograph shows, this is basically a CD player like any other. Take a squint at the back, though, and you'll see that it's not quite so normal: it has digital inputs (electrical, optical and USB), as well as the more common outputs. This makes sense. Once a manufacturer has gone to the trouble of building a nice high-quality DAC and output stage into a CD player, why not add a few sockets, some digital receiver circuitry and a couple of buttons on the remote to add all the functionality of a standalone DAC? You can use it to upgrade older digital-output sources, your home computer, your digital iPod dock etc.

## DAC's it!

That high-quality DAC, in this case, is based on a chip from ESS which claims performance at the 32-bit level. We're inclined to treat such claims with scepticism as inevitable electronic noise will limit that to a much lower figure in practice, but

the more detailed specifications from ESS certainly supports the assertion that this is one of the highest-performance DACs on the market. And it includes a feature which Audiolab has expanded in this new version – selectable digital filters.

The options offered by the original are all still there (slow roll-off, sharp roll-off, optimal transient, optimal spectrum) and have been joined by minimum phase and two subtle variants on optimal transient, suffixed DD and XD.

## In other news

Other changes are mostly in the power supply, where various components (including the mains transformer) have been replaced by higher-performance parts and the display has also been improved.

The insides of the player are impressively full, not least with meticulously regulated power supply circuits, while the back panel sports both unbalanced and balanced analogue outputs.

## Lots to like

Our original review of the 8200CD was full of praise for its energy, vitality, presence and 'togetherness'. Nothing we said back then seems to be invalid here and we continue to regard this as a particularly satisfying digital player. At the same time, it never draws undue attention to small details, always keeping them in proper proportion and putting the

## DETAILS

### PRODUCT:

Audiolab 8200CD

### ORIGIN:

UK/China

### TYPE:

CD player/DAC

### WEIGHT:

7kg

### DIMENSIONS:

(WxHxD)  
445x80x305mm

### FEATURES:

- Unbalanced (phono) and balanced (XLR) analogue out
- Digital out (electrical and optical)
- Digital in (2x electrical, 2x optical, 1x USB)
- Max. input sample rate 176.4kHz (electrical), 96kHz (optical and USB)
- Can control media player on PC/Mac via USB
- CD-Text
- DISTRIBUTION:**  
Audiolab
- TELEPHONE:**  
01480 447700
- WEBSITE:**  
audiolab.co.uk

main focus on the overall musical effect. Frankly, it's delightful.

But the different digital filter options are fascinating. We have never been quite convinced, subjectively or technically, by the merits of slow roll-off filters, including 'optimal transient' and we still reckon that 'optimal spectrum' is the most informative in the long run. Minimum phase is well worth a listen, though, having a slightly more immediate sound, though for our tastes it's just a touch bright and seems to lack the last word in imaging precision.

## Listening to algorithms

As for the various implementations of optimal transient, we found them very similar to each other, with a consistently upfront and rhythmic sound, which nevertheless does seem to change minutely from 'regular' to XD to DD. In all honesty, though, we're not sure we could consistently identify which is which and indeed in some tracks we could hear no repeatable difference at all, while our preference in other music went from one variant to another. In other words, nothing dramatic.

But we'll never criticise a manufacturer for adding flexibility, at no added cost, to an excellent product. By any reckoning this remains a stonking piece of kit, a great value CD player only enhanced by being a great value DAC. Bravo! ●

## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY



**LIKE:** Energetic sound with precise imaging and new insights into familiar tracks

#### VALUE FOR MONEY



**DISLIKE:** Rather slow seek function

#### BUILD QUALITY



**WE SAY:** A cracking CD player and DAC that looks great, does lots and sounds fantastic

#### FEATURES



#### OVERALL





# T+A's home hub

With the functionality of a server, a CD player, a tuner, a DAC and an amp, T+A's latest could free up any equipment rack, says **Richard Black**

**T**+A is one of those company's that takes care not to make the products that others are making.

Obviously in the fine details that's true of most manufacturers, but here we're talking about quite substantial differences. Music streamers are becoming quite familiar and the idea of the receiver is as old as the hills; T+A has brought these concepts together with a few other features to create an impressively flexible system that basically does everything you could want from a hi-fi system, except turning electrical signals into sound – you'll still have to buy speakers (perhaps from

T+A, which offers a few models) for that task.

## Many routes to the music

Running down list of ways in which you might access music, the receiver offers CD (there's a transport built in), FM radio and Digital radio. Now, if by that you mean DAB, then the answer's 'no'. However, unless you are among the last diehards with no internet connection, you'll surely prefer internet radio which, in most cases, offers more choice in better quality than DAB, so make that a 'yes' after all.

Naturally, since the Receiver connects to the internet via your

## ► DETAILS

**PRODUCT:**  
T+A E-Series Music Receiver

**ORIGIN:**  
Germany

**TYPE:**  
CD player/streamer/receiver

**WEIGHT:**  
10kg

**DIMENSIONS:**  
(WxHxD)  
440x120x390mm

### FEATURES:

- CD transport
- Ethernet and wireless server
- FM tuner
- USB connection to music player (inc. iPod)
- 5x digital inputs (3 electrical, 2 optical)
- Digital output (electrical)
- Headphone out (mini-jack, front panel)

**DISTRIBUTOR:**  
Acoustic Brands Limited

**TELEPHONE:**  
07917 431 280

**WEBSITE:**  
taelektroakustik.de

router, it can also get access to music stored on your computer network that's accessible to a uPnP server, so that's another source covered.

Connect up with an Ethernet cable and you can play high-res files; wireless connection is also available but doesn't guarantee higher-than-CD bitrates (though we did actually manage to play 24-bit/96kHz WAV files wirelessly).

Portable music player? Yes, there are two USB-A sockets at the rear, for USB hard discs and portable players of all kinds, including Apple models. (That's digital iPod connection, of course, being USB – analogue via USB is physically impossible so this way you know you are getting the bits, all the bits and nothing but the bits.) LP? This is the only flat 'no' – but then you can buy a variety of very decent LP preamps for under £500, some for under £100, so it's not hard to add this as an upgrade. The Receiver has three line-level analogue inputs, so you can also connect your cassette deck and open-reel recorder.

Almost superfluously, there are five digital inputs. Obviously it's great to be flexible, but we're not sure we could imagine having that many sources. Freeview box, satellite





**ONE OF THE** long-standing arguments against receivers is that the various functions can interfere with each other electronically – basically, noise generated by one bit (such as the radio tuner head) may interfere with other bits. That's certainly a valid point. Indeed, as Lothar Weimann points out in his answer (see p74) to our question about wired versus wireless LAN connection, it's still an issue. But it's becoming less of one as the years go by.

Part of the reason for this is the decreasing physical size of circuit modules, which makes them less likely to radiate unwanted radio waves. The FM head in this unit is minute and the WLAN circuitry is on a tiny circuit board.

But, perhaps, even more importantly, modern circuit-designing software allows designers to check on noise-generating potential and minimise it before even a prototype is constructed. And indeed, we were not aware of any ill effects from the Receiver's multitudinous circuit blocks during our testing.

The trouble is that we've been spoiled, as far as user interfaces are concerned, by the absolutely delightful Logitech Squeezebox (HFC 351) with its full-colour touch screen. Having seen what's possible we're much more inclined to be intolerant of awkward controls and unclear labelling. This Receiver isn't bad and it did (just) pass the test of basic operation without reference to the manual, but we could imagine it done better, especially at this price.

Build quality is very good, with the satin-finish aluminium top and front being no surprise; you may raise an eyebrow at the use of plastic for the side panels, but this is, we reckon, rather a shrewd move. It's a very nice-looking plastic, for a start, and it doesn't mark easily, a strong point in

**“The concept is a winner and the performance never less than decent.”**

its favour compared with wood, for instance. Underneath the unit, feet are eschewed in favour of felt-covered ridges, which help the unit sit very securely on any surface. Sockets at the rear are very well protected by a substantial overhang from the top cover. Actually, that makes them basically impossible to access from the top, but we imagine most users of a device like this won't be plugging and unplugging equipment all the time.

### Digital equality

With so many options available, we tried to give each one a fair turn, but seemed to end up spending rather more time with computer-stored

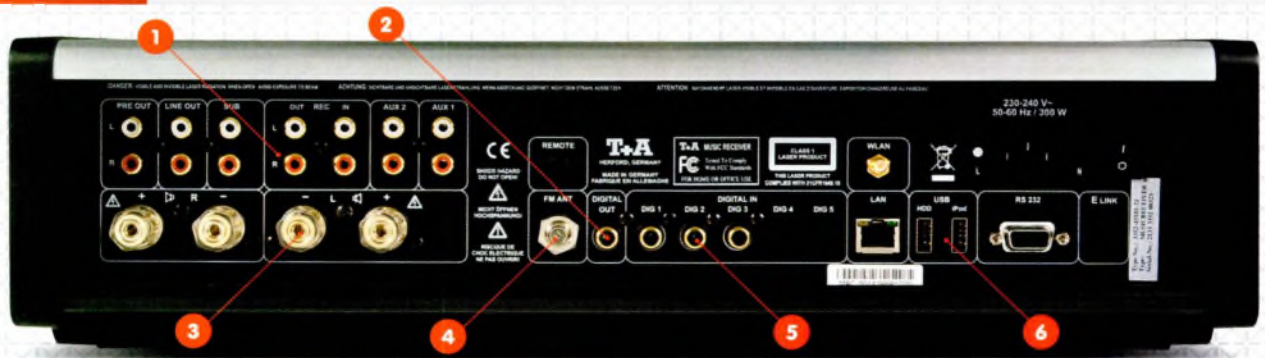
receiver, DVD player, DAT, MiniDisc? Only the most encyclopaedic gear-head will ever run out here. There are also various ways of getting outputs, apart from the speaker terminals. There are 'recording' and 'line' outputs, which are basically the same thing, plus 'pre', which tracks the volume control.

### In control

It would be hard to control this lot without a fairly sophisticated user

interface and, accordingly, there's a large graphics display on the front of the Receiver, that shows up to three lines of text with the active line shown in larger type, plus various bits of ancillary information. That's good, but we have reservations about how everything is controlled. Both front-panel and remote are rather confusing, with buttons requiring short or long presses for various functions and labelling that isn't always as clear as one might wish. 'SRC'? 'SCL'?

## CONNECTIONS



1 Line-level analogue inputs and outputs

2 Digital output

3 Speaker outputs

4 FM antenna connection on US-style F socket

5 Plentiful digital outputs

6 USB sockets for all kinds of devices

HIDDEN TECH



- 1 Toroidal mains transformer for power amp section
- 2 Switch-mode power supply for digital and control sections
- 3 Analogue preamp board, with power amp board hidden underneath
- 4 FM tuner section
- 5 Digital input receiver and DAC circuits
- 6 Microprocessor and control units

files. It's not that they sounded dramatically clearer, nor that there was more choice that way, it's just yet another illustration of how the fully connected life is making us all alarmingly lazy. That said, we'll get up and change CDs happily enough if they sound better!

But they don't, in this case at least. Indeed, there's no reason why they should, all else being equal. We store all our music in lossless format, so a properly functional digital connection should deliver them to the DAC at the heart of a unit in identical form to that read off CDs. Maybe there's the occasional hint of bias towards one flavour (Ethernet, Wireless LAN, digital input, CD) or another, but in every case when we thought we spotted something it was so small and intangible that we ended up regarding them all as equal. The only one that seemed slightly below par

was the optical digital input, which for some reason struck us as a touch subdued in the detail department, but even there it was pretty marginal.

Detail would tend to be where one notices any change in sound, because this unit's just so darn good at it. By any standards, its powers of analysis are prodigious and it can get right inside familiar recordings and bring out things one didn't know were there.

There's something of a downside, though, in that the sound can sometimes seem a little clinical and detached. Searching for the root cause of that, we realised that the integration between bass and higher frequencies is not quite perfect. In turn, that's down to a very slightly lazy quality to bass, which doesn't quite have the energy and attack of midrange and treble. It's not something one comes across very often and it's not major, but it does

QUESTION TIME

**WE SPOKE TO** Lothar Weimann, head of R&D at T+A

**HFC:** There are plenty of off-the-shelf Class D amp modules available. Why did T+A decide to build its own?

**LW:** Simply because we could not find an off-the-shelf amp that really met all our requirements, so eight years ago we developed our own Class-D technology. Our approach differs in many ways from the Class-D mainstream. The distortion spectrum of our amps is very similar to a good analogue amp. We also use a traditional toroidal transformer power supply instead of switch-mode PSUs, because transformers don't show hard current limiting.

**HFC:** Why is there no USB socket to connect to a computer?

**LW:** We prefer S/PDIF for digital audio signals because of better noise and interference isolation between computer and audio equipment. When needed, an external USB/S/PDIF dongle can be used.

**HFC:** Apart from hi-res files, are there any advantages to wired LAN connection that would justify the trouble of running wires around the place?

**LW:** When using a wired LAN connection we switch off all the RF components in our devices resulting in less high-frequency interference. Running a W-LAN means more work for the processor, resulting in less idle states and in even more digital interference. A wired LAN means higher performance, higher bandwidth and higher reliability – so this is why we recommend it.

have some effect on one's perception of a whole musical event.

All the same, we found plenty to like in this unit's presentation. As is often the way, it seems more at home with some musical styles than others and we found it most successful with the highly structured world of classical music, but also very convincing in big-scale rock. Some folk music seemed at the other extreme and it didn't do very much for heavily processed contemporary pop music either. At best, though, the Receiver created some very lifelike symphonic and operatic sounds, as well as truly epic-scale glam and prog rock.

Incidentally, FM reception is really rather special. The Receiver needs a pretty strong radio signal but, given that, it has very clean and clear sound that recalls some of the better FM tuners we've reviewed over the years. All the same, we'd prefer internet connection for many major stations.

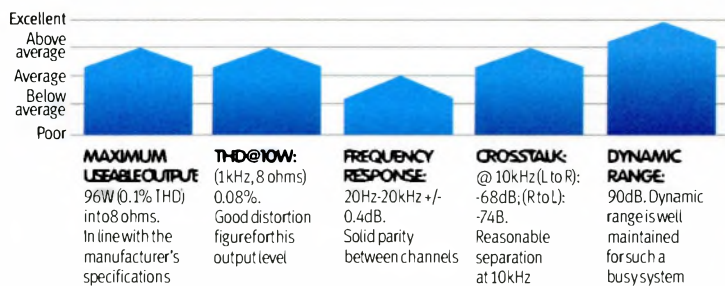
The sum of its parts

Summing up a unit like this is bound to be hard, principally because of the lack of comparisons. If you tried to get together separate CD player, server and radio sources and put them together with an amp of similar rating, you'd have trouble assembling anything of comparable sonic attainment, and it would obviously waste a lot more space in your home and probably require more remote controls.

On that basis, value is very good, but we still have some reservations, looking at the issue of control and ergonomics as well as listening to that slightly disjointed bass. In the end, though, the mere concept is quite a winner and performance is never less than decent, so we'll give the E-Series Music Receiver a warm welcome, with compliments to T+A for a job well done. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

**OUR VERDICT**

**SOUND QUALITY** ★★★★★ **LIKE:** Excellent bass extension; clean midrange and treble

**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Bass doesn't always have the attack of midrange and treble

**BUILD QUALITY** ★★★★★ **WE SAY:** Few single units offer as many features.

**FEATURES** ★★★★★ Attractive on both practical and sonic grounds

**OVERALL** ★★★★★

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# Potent Cocktail?

Newcomer Cocktail Audio has a high-value music server that's also high on features.

**Jason Kennedy** remains shaken, however

**T**he Cocktail X10 is positioned to take on the Brennan JB7, but adds a raft of extra features and considerably greater hard-drive sizes from 500GB to 2TB. It's a compact unit that can rip CDs in a variety of formats including WAV and FLAC. It also streams both wired and wirelessly (with an optional £29 dongle) and can use this connection to stream net radio and music from drives on the network. Alternatively, two USB inputs allow for a simpler set up and to top it all it's an amplifier with a single line input and a 60-watt maker's rating.

## Heavily festooned

The Cocktail's 3.5-inch LCD screen looks as if it's touch-sensitive, but the presence of buttons on the case top indicates otherwise; control is achieved with a heavily festooned handset that takes some familiarisation because there are so many features.

Ripping to the onboard drive – which can be changed by the user –

is pretty straightforward, so long as the unit can find the appropriate metadata. You can put titles in yourself, but it's a slow process. We like the variety of formats it can rip to and the fact that you can choose to do this slowly for quality or quickly for convenience. The net radio is also good, with access to an almost limitless number of stations and an easy system for presetting them to favourites – just one button-press. We're less enthused about the drone of the hard drive, however, which is disappointingly noisy.

## Two terabytes

So how does the distributor Selwyn Audio do it for the price? Most obviously it avoids the cost of metal casework. The X10 is a distinctly insubstantial device – the heaviest part is probably the mains transformer that sits in the powerline. However, you can get 2TB of storage for £429, less than the price of 500GB in a Brennan JB7, so it's good value for a FLAC solution.

The back panel has plenty of connections, but RCA phono sockets

## DETAILS

**PRODUCT:** CocktailAudio X10  
**ORIGIN:** Korea  
**TYPE:** Music server system  
**DIMENSIONS:** (WxHxD) 180x98x147mm  
**WEIGHT:** 1.4kg  
**FEATURES:**  
• **Storage:** 500GB (1TB, 2TB options)  
• **Formats:** MP3, FLAC, WAV, WMA, AAC, M4A, PCM, OGG, M3U, PLS  
• **Display:** 3.5-inch TFT LCD  
• **Specified power:** 60 watts  
• **Includes:** net radio, wired and wireless streaming, iPhone/Android control  
**DISTRIBUTOR:** Selwyn Electronics  
**TELEPHONE:** 01732 765157  
**WEBSITE:** cocktailaudio.com

are not among them. Line out is via 3.5mm mini-jack and digital out via TOSLINK. The latter is the path to audio quality, if you have a separate DAC, but this unit is really designed to be standalone and so the springclip speaker terminals need to be used.

Set up is reasonably straightforward, both wired and wireless connections require only a password for the LAN to get going. It's possible to get metadata without a web connection using the FreeDB database, but this will require updating if you rip new releases.

## Totally captivated

Once we had got used to the operating quirks of the Cocktail, we listened to its line output which is volume controlled. Being a mini-jack cable, options are limited, but the result is engaging and sufficiently revealing to keep you entertained, if not totally captivated. It's not in the same league as a Squeezebox Touch and we'd be surprised if it outperformed the Brennan's line output, but given the features doesn't do a bad job.

Things are rather less rosy when using the X10's own amp, which lets the side down with an uncannily thin balance and strangely old-fashioned sound. As this is the way that the Cocktail is most likely to be used then its something of an issue.

## Drone drawback

We wouldn't expect a unit of this price to produce great sound, but the amp really does let down an otherwise capable design. If this were its only shortcoming, you could hook it up to an amp or DAC to get pretty entertaining results; it does after all play 24-bit/96kHz files and has plenty of storage space for the money. But the drone of the drive is a big drawback and one that continues in standby. Less critical is an apparent inability to play AAC streams on net radio and an inconsistent approach to displaying artwork. ●



## Hi-Fi Choice

### OUR VERDICT

**SOUND QUALITY**  
★★★★☆ **LIKE:** Lots of drive space for the money, digital and line out sound

**VALUE FOR MONEY**  
★★★★☆ **DISLIKE:** Constant droning noise, poor onboard amp, plastic case

**BUILD QUALITY**  
★★★☆☆ **WE SAY:** Impressive storage space, but it's a basic amplifier and noise is a negative

**FEATURES**  
★★★★★

### OVERALL



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# Denon gets on stream

Denon has entered the network audio player market with an inexpensive, iPod-friendly player. **Malcolm Steward** streams his tunes

**T**he Denon DNP-720AE is quite a late arrival at the network player party, but it compensates for its tardiness by bringing with it a genuinely useful gift: Apple Airplay, to cater for those who keep their music library in iTunes and that is an extraordinarily large group of people.

Despite the number of services and features it offers, the appearance of the player is delightfully simple. The fascia contains only an on/off button, a push button for input selection, a rotary cursor control, which will be familiar to iPod users, and a centrally mounted, three-line, Organic Electroluminescence Display.

## Slight Restrictions

In terms of features, the DNP-720AE is not as thoroughly equipped as its Denon and Marantz stable mate, the Marantz NA7004. For example, the DAC in the DNP-720AE is not available to external components and it is restricted to playing 24-bit/96kHz files and below; the NA7004 DAC will connect to other sources and work up to 24-bit/192kHz.

The DNP-720AE can handle MP3, WMA, AAC, FLAC up to 24-bit/96kHz and WAV files, so it covers the main popular file formats at the moment. It, like the NA7004, gives users UPnP/DLNA access to network music stores on NAS drives, HDD servers and computers, internet radio, and Last.fm and Napster services where available. It also offers AM/FM

(RDS) radio and can play music from an iPod/iPad or iPhone through its USB port, or wirelessly by means of Airplay. It uses the same port to play music directly from a USB drive or memory stick.

## Other options

Users can control the DNP-720AE with the front panel display and buttons, the remote control handset supplied with the unit, or with our favourite method, the Denon Remote App for the iGadgets. The latter gives by far the best access to your listings and makes finding and playing a particular track much easier and quicker than the other options.

The DLNA- and Wi-Fi-certified unit is attractive to behold and built to the standard one expects of a player at this price. Denon says it has minimised the internal circuitry and shortened the signal paths to deliver optimised sound quality. Two outputs are available: an analogue RCA connection and a digital TOSLINK output.

## Reassuringly rhythmical

The DNP-720AE sounds lively and pacy with acceptable detailing on the 16-bit/44kHz Luka Bloom album, *Acoustic Motorbike*. It gives a similarly enjoyable performance on Shawn Colvin's easy-going, but upbeat album, *A Few Small Repairs*, sounding confidently tuneful and reassuringly rhythmical. Sound-staging is realistically portrayed with reasonable front-to-back depth

## DETAILS

**PRODUCT:** Denon DNP-720AE

**ORIGIN:** China

**TYPE:** Network audio player

**WEIGHT:** 2.9 kg

**DIMENSIONS:** (WxHxD): 434x704x300mm

- FEATURES:**
- Network set-up wizard
  - Connections for FM and AM aerials
  - Internet radio configuration through radiodenon.com (vTuner)
  - Five-stage dimmable display
  - Party mode: one source and four player components work together
- DISTRIBUTOR:** Denon UK
- TELEPHONE:** 02890 279830
- WEBSITE:** denon.co.uk

evident. The performance all-round improves noticeably when we switch to 24-bit/96kHz material.

However, on more demanding music, the Denon appears a little handicapped by its seemingly inadequate power supply. Some instruments, such as John Cale's piano on the *Fragments of a Rainy Season* album, for example, sound watery and lacklustre with scarce low-end weight and substance.

It certainly seems to lack sufficient muscle to cope with the orchestral and percussive demands of Varèse' *Ameriques* and *Ecuatorial*. It manages low-end information better here than we expected, but lacks conviction and authority though the mid and upper frequency range on this challenging recording.

## Curate's egg

The DNP-720AE seems to be a curate's egg that would most likely be best suited to someone getting started with a networked or computer-based audio system. It will play CD-resolution and 24-bit/96kHz rips, along with internet radio. Anyone wanting more performance might want to look at, say, sister company, Marantz's NA7004.

Be sure to shop around carefully, though, as the lower end of the networked audio market is becoming ridiculously (in the literal sense of the word) competitive. ●

## Hi-Fi Choice

### OUR VERDICT

**SOUND QUALITY**  
★★★★

**VALUE FOR MONEY**  
★★★★

**BUILD QUALITY**  
★★★

**FEATURES**  
★★★★

**OVERALL**

★★★★

**LIKE:** The elegant simplicity of the unit is appealing

**DISLIKE:** Performance should be more consistent and predictable

**WE SAY:** Performance can be good, or not so good, depending purely upon the music you play



# Get your hits out



This system is the most affordable route into the exclusive Meridian club. **Jason Kennedy** looks at the company's everyman solution

**M**eridian Audio is a high-end company with a difference, its products are largely dependent on being used within a complete Meridian system in order for them to

be able to do everything in an extensive list of features.

The new DSP3200 is the least expensive active speaker in the range and it has been designed to be exclusively used with one of the

## ▶ DETAILS

**PRODUCT:**  
Meridian Audio Core 200/DSP3200

**ORIGIN:** UK

**TYPE:**  
Processor preamp and active speakers

**WEIGHT:**  
DSP3200 8.5kg  
AudioCore 200 2.7kg

**DIMENSIONS:**  
Audio Core 200 (WxHxD)  
280x91x280mm  
DSP3200 (WxHxD)  
244x320x246mm

**FEATURES:**  
(Audio Core 200)  
• Digital inputs: 2x coaxial, 2x mini-optical, USB,  
• Analogue inputs: 2x RCA phono, 2x mini-jack, i80

company's control units, be that a preamp/processor, CD player or a Sooloos music server. It has the same proportions as the mid-treble part of the range-topping DSP8000, but contains completely different drivers and electronics. It's the latter that mark this out as not merely an active speaker, but a DSP-controlled design where everything is done in the digital domain. The Audio Core 200 pre/processor is the most affordable entry point to Meridian control. It's effectively a preamplifier, albeit one with analogue, digital and dock inputs and outputs that are dedicated to Meridian active speakers.

## Room-correcting system

The DSP3200 speaker has more functionality than almost any other active design we've reviewed.





It gives end users enormous flexibility when it comes to installing the speaker in the modern home, where there are always factors that undermine optimal positioning.

Other manufacturers make room-correction processors that combine with passive loudspeakers, but this introduces an extra variable over the Meridian model, because the processor has to compensate for the non-linearities in the speaker and in the room. In many ways the Audio Core 200 and DSP3200 form a room-correcting system. They don't measure the response of the room and try to compensate for its irregularities, but the amount of set up variation they offer allows the user to tailor the final balance to a similar degree.

The Audio Core 200 can be used to adjust the DSP3200's balance, so

**“It’s a well thought-out solution with considerable technological clout.”**

that it will work either in free space, against a wall, on a bookshelf or even in a corner where bass is naturally amplified. And if you prefer there is the option of adjusting tonal balance with a Baxendale-style tilt control, which offers considerably more subtlety than the usual bass and treble approach.

Another common problem is that you can't always sit in the optimal stereo sweet spot. The Meridian approach is to use a bit of level change with a lot of time delay, fractionally holding back the output of the nearest

**DETAILS**

- **Outputs:** Meridian SpeakerLink, headphone mini-jack (DSP3200)
- **2-way sealed enclosure**
- **Drivers:** bass – 165mm polypropylene, mid/treble – 85mm aluminium cone
- DISTRIBUTOR:** Meridian Audio
- TELEPHONE:** 01480 445678
- WEBSITE:** meridian-audio.com

speaker to create the effect of both speakers being the same distance away.

The DSP3100, which preceded this speaker, took a different approach to putting Meridian technology into a relatively affordable active speaker, it was housed in a less-expensive, conventionally shaped box, albeit with aluminium side panels. But it was equipped with S/PDIF digital inputs alongside the SpeakerLink system. There was also an analogue version (M3100), with a balanced input. For the DSP3200, Meridian has stuck with its preferred cabinet design, but omitted non-key features such as an S/PDIF input, display and infrared remote interface of the 3100. The Audio Core 200 is, therefore, essential for use with this speaker because it supplies signal via Meridian's SpeakerLink system of

## Q&A...

We spoke to Meridian's director of business Roland Morcom.



**HFC:** Why use a mid/treble and woofer arrangement rather than the tried and tested tweeter and mid/bass in the DSP3200?

**RM:** Primarily this is because we wanted to keep the crossover point out of the speech band. By using one driver to cover the range that the ear is most sensitive to, we have managed to build a speaker that is completely even through the critical midband. Meridian first developed this technique for the F80 portable where we wanted mid and treble to be totally coherent, in that product there is a subwoofer in the back of the unit.

**Why use CAT6 for signal?**

SpeakerLink lets us send balanced digital audio up to 96kHz, two channels and a communications network. With a single connector we can get all the data and signal to the speaker.

**Why do you think that active systems are not as popular as they might be given the advantages of the approach?**

Doing this I meet two types of people, those who love the equipment, possibly more than they love the music that they use the equipment to listen to, and those who really love the music and would rather the equipment wasn't really there. I think the active speaker appeals much more to the second type than to the first.

**How do these two components operate with regard to DSP?**

We're able to tell the loudspeaker through its DSP where it is and what we want it to do. We do this through the SpeakerLink connection and we can tell it how to adjust its filters to suit its position. We also tell the speakers how far apart they are. We're aware that with a compact system the whole thing might go on a four-foot-wide shelf, but you still want a good wide stereo image, so we tell them how far apart they are and then we have a width control. It's frequency based, but it will identify the difference and accentuate it. It's an additive low-frequency width control.

## HIDDEN TECH



1 165mm polypropylene bass driver

2 85mm aluminium cone for midrange and treble

3 Heat sinking for two 75-watt amplifiers within the speaker

4 Mains and SpeakerLink connections hidden underneath



**IT IS 40 YEARS** since Meridian's founders, Bob Stuart and Allen Boothroyd, started working together on audio electronics. Their first collaboration was the iconic Lescon pre/power system, which has remained a design classic ever since.

They also worked on another stylish and mechanically ambitious pre and power amplifier called Orpheus. This gave some hint as to the way that Meridian products of today operate by having 'desk toberone' shaped controls that could be rolled away when a particular source wasn't required.

To celebrate its ruby anniversary, Meridian has released a limited-edition version of its 808 CD player and DSP8000 digital active loudspeakers, complete with installation by a senior Meridian engineer.

CAT6 cable on RJ45 plugs. The Core 200 controls the speaker's features via a simple remote control and front panel buttons that allow you to access the positioning and width-control options. The inputs include two 3.5mm mini-jack sockets that accept both analogue and optical digital inputs. There is also a mini-jack headphone output on the back and a mini-DIN input dedicated to the i80 iPod dock. Analogue inputs are converted to digital and whole integer upsampled to a maximum of 96kHz.

### Optimising digital signals

The Audio Core 200 doesn't merely convert and upsample incoming signals, it also uses Meridian's apodising filter to 'clean up' the sound (as the specs put it). Essentially, it eliminates ringing in brickwall filters, which is definitely a good thing. This unit is designed to make the most out of all digital signals be they from a CD transport, a music file on the computer or something as prosaic as a YouTube stream. It's a real world processor that aims to get as much music as it can out of any signal, whatever the quality.

The iPod dock may not offer a digital output, but it allows the Audio Core 200 to display metadata, which means

that you can search and play from the listening seat with the remote, its logic takes a bit of familiarisation but is probably child's play.

It's surprisingly lightweight, this is partly because its switching power supply sits in a wall wart plug, but also because it has a relatively small, but beautifully executed moulded-resin case, with a deep, piano-black finish. Build is clearly first class and design of a standard rarely encountered in this business.

The DSP3200 is also a superbly put together product, its made of pressure laminated, birch ply panels sourced from slow growing, high-altitude trees, because this variety is more stable. The white lacquer is so perfect that you'd never guess that there's any wood underneath and yet acts to make the cabinet that bit more rigid.

Inside the box there are two 75-watt power amps, one for the polypropylene bass driver and one for an aluminium cone mid/treble unit. This is, therefore, a full-range unit coupled with a woofer, rather than a tweeter and mid/bass pairing usually found in two-ways – the crossover point is at 400Hz.

### Free space

The DSP3200 speaker has a matching stand which is, as is the

**CONNECTIONS**



- 1 USB B ports for digital input and upgrades
- 2 Analogue input on RCA phono sockets
- 3 i80 iPod dock mini-DIN socket
- 4 3.5mm headphone mini-jack
- 5 Mini-jacks for 3.5mm analogue inputs or optical digital connections
- 6 S/PDIF digital coax inputs
- 7 SpeakerLink input for connection to other Meridian components
- 8 SpeakerLink outputs for left and right channels

Meridian style, carefully designed for maximum domestic acceptability, yet manages to be practical as well; in this case a single polished leg supports the top plate and hides both signal and mains cables, which connect to the speakers base and thus remain out of view.

We bolted the speakers onto these stands, hooked up with the supplied 10m lengths of CAT6 and were virtually there. It's a simple system that can be expanded with various Meridian Sooloos components to cater for up to a dozen sources, but for the purposes of the review we used a Leema Antila CD player's digital output, an Apple iMac and an iPod Touch.

Setting up the speakers is more flexible than usual, thanks to the DSP3200 positioning options, but if you have no limitations then free space is the way to go because it allows for natural imaging without the need to use DSP. We did try out the 'width' feature, however, and it makes a distinct difference to the end result, so it's easy to see that in a compromised speaker position you

would not have to put up with restricted soundstage scale. In standard set-up this is a highly revealing system that digs out detail like few others, it is extremely good at low-level resolution and manages to unearth fine sounds that more expensive amplifier and speaker combinations fail to reveal. This is the advantage of keeping the signal in the digital domain for as long as possible – right through the crossover and up to the power amplifier – and using amplifiers that have a direct connection to the drive units.

While 75 watts may not sound like a great deal, remember that this is per driver, so in practice you have 150 watts a side. It's not an obviously pacy sound, but there's no getting away from the depth of bass that's on offer and the alacrity with which it can be manipulated. It's probably why this system is so revealing of things like phase (spatial and sonic modulations which we've rarely encountered before) and bass power.

We hooked up the i80 iPod dock to test the system's skills at brushing up



**MERIDIAN IS ALL about system integration and the Audio Core 200 and DSP3200 are designed to form the front of as big a system as you require. You can add a Meridian CD player, for instance, or for a more contemporary approach combine the combo with a Media Core 200, which is a 500GB Sooloos digital media server that can be controlled with a Meridian's custom app for the iPad and iPhone, (cost £2,000).**

**If you want the full Sooloos touch screen experience, the Control 15 has a 17-inch display and the same amount of storage space and will set you back £4,750. This unit also has a ripping facility, so that users can upload their CD collections.**

**If you want more, there are options in the Meridian range such as the Media Core 600 (which is designed to form the heart of a multi-room system), it can supply up to six systems with its 2TB of RAID backed up HDD storage.**

less than spectacular MP3 material. While there is still a big difference between high and low-res bit rates, even the lowliest are very listenable. One interesting example is a voice and sax piece by Jack Kerouac and Zoot Sims, as the speaker's lack of a crossover in the midband makes for very low coloration which gives voices a depth of character that's rare.

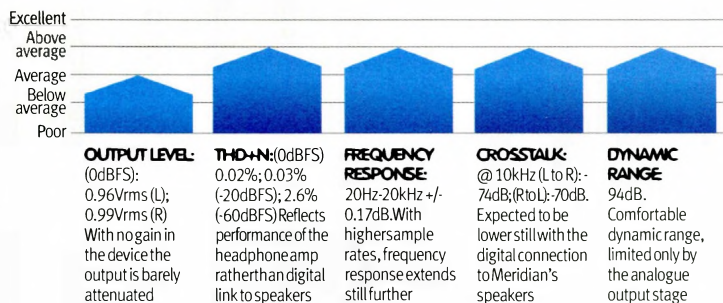
**Icing on the cake**

Meridian is not your run-of-the-mill hi-fi manufacturer, it's out to bring good sound quality to people who want to enjoy music with the minimum of wires and frippery. That it can do this in a very attractive package that delivers a highly resolved sound is impressive indeed.

The fact that these components cannot be mixed and matched is a major reason why it does this so successfully. It's a well thought-out solution to the music lover's needs and the fact that it's a British company with considerable technological clout is the icing on the cake. ●

**TECH LABS**

**RESULTS AT A GLANCE**



**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Excellent detail, beautiful finish and surprisingly powerful
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** iPod interface takes a bit of getting used to
- BUILD QUALITY** ★★★★★ **WE SAY:** A well thought-out system that should win Meridian a lot of fans, even if it doesn't fit into the standard separates model
- FEATURES** ★★★★★

**OVERALL**



# 1956



**SIMON BERKOVITCH**

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

**WHAT DO YOU THINK?**

Did rock and roll leave you all shook up or is it now just yesterday's news? Email us now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)

Hair bequiffed and lip curled, **Simon Berkovitch** rocks way back to 1956, the year someone had the good sense to unleash the great beast Rock and roll and put the likes of Dean Martin and Doris Day out to pasture. "One, two, three o'clock, four o'clock rock"...

**S**pinning the radio dial back an epic 55 years – to January 27, 1956, to be precise – a generation of listeners are just about to have their ears returned forever. Elvis Presley's single *Heartbreak Hotel* erupts over the airwaves and many listeners' perception of pop music is revolutionised in just two minutes and eight seconds.

Rock and roll has arrived and nearly six decades later, the waves of that original detonation still reverberate, detectable in any mutant strain of 21st century music that wears its credentials of rebellion on its – naturally, black leather – sleeve. Out of all those touched by this new musical movement, it's perhaps Lou Reed, former leader of legendary 60s art-rockers The Velvet Underground, who best articulates the shock of the new: "If I hadn't heard rock and roll on the radio, I would have had no idea that there was life on this planet," he exclaimed in a 1994 interview. The new, exciting music was

**"The new exciting music was a call to arms to disenchanting youth everywhere and also the soundtrack to their generational rebellion."**

a call to arms to disenchanting youth everywhere and also the soundtrack to their generational rebellion – something that was already in the air with the rise of mean and moody actors like James Dean, one of the stars of the same year's epic film *Giant*.

**Long live The King**

The just-turned-21 Presley – henceforth referred to by the ultimate musical brand name, Elvis – definitely wasn't the first artist to make rock and roll (see *The Origin of the Species* on p85), or indeed the first artist to get rock and roll to the top of the American

pop charts – that accolade goes to Bill Haley and the Comets, with *Rock Around The Clock*, from the hit movie *The Blackboard Jungle*, holding the US number one position for two months in 1955 and number one in the UK both in 1955 and 1956 – but he is certainly the most significant. Kiss-curl'd Bill just didn't have Elvis' sex appeal or star quality – and most importantly, he didn't have *that* voice. As six words howled out of the radio static – "Well, since my baby left me" – popular music changed forever.

Elvis was to be the poster boy for the musical movement and the first rock and roller to cross over into the mainstream – and the first to be seduced and ultimately diluted by commercial success. But to measure Elvis' impact on the mainstream, one only has to look at his meteoric rise in 1956, the most important year of his career.

The day after the release of what was to be his first number one hit single, Elvis makes

his first national television debut on *The Dorsey Brothers Stage Show*, enjoying exposure to a massive audience. His first RCA record, *Heartbreak Hotel*, had raced up the charts neck-and-neck with former Sun label mate Carl Perkins' classic single *Blue Suede Shoes*, as they plunge a flag into the top two positions on the charts in the name of rock and roll.

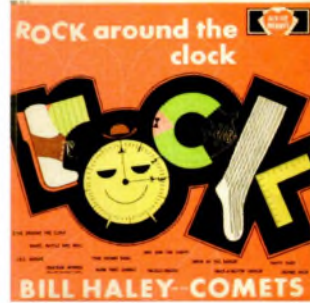
Just a few months later in April, having already conducted a screen test, Paramount Pictures sign the artist to a three-picture deal. In June, Elvis makes his infamous appearance on *The Milton Berle Show*, outraging and



thrilling the audience in equal numbers with his 'suggestive hip movements' during a performance of *Hound Dog*. September marks his appearance on *The Ed Sullivan Show*, reaching millions of American homes and earning him the crown of the first rock and roll megastar. By mid-December, 1956, Elvis has broken the record for the highest number of concurrent singles by one artist, holding an incredible nine positions on the Billboard Hot 100 chart.

'The King' holds this record until 1964, when the next wave of popular music arrives in the shape of The Fab Four – Elvis fans to a man – holding an astonishing 14 positions on the chart, simultaneously. If the 60s belonged to Britain, it's indisputable America owned the 50s, with three little words summing up its dominance over popular music: rock and roll.

Fittingly – and financially telling – the year concludes with another first at Sun Studios – the first supergroup. Forget *Cream*, *Blind Faith* or *Emerson, Lake and Palmer*: the combination of Jerry Lee Lewis, Carl Perkins,



**▶ ROCK AROUND THE CLOCK**

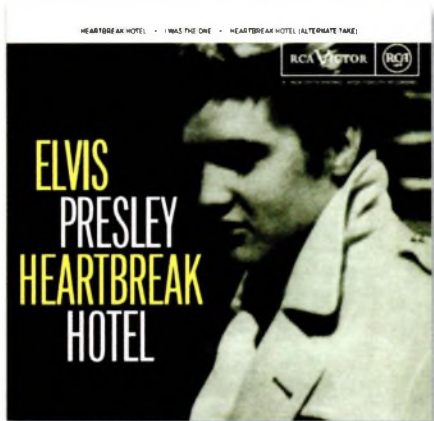
Rock and roll goes head-to-head with light entertainment for dominance of 1956's UK singles' charts. We declare a draw...

- Bill Haley and his Comets: Rock Around the Clock
- Tennessee Ernie Ford: Sixteen Tons
- Dean Martin: Memories Are Made of This
- The Dream Weavers: It's Almost Tomorrow
- Kay Starr with the Hugo Winterhalter Orchestra: Rock and Roll Waltz
- Winifred Atwell: The Poor People of Paris
- Ronnie Hilton: No Other Love
- Pat Boone: I'll Be Home
- Frankie Lymon and The Teenagers: Why Do Fools Fall in Love
- Doris Day: Whatever Will Be, Will Be (Que Sera, Sera)
- Anne Shelton: Lay Down Your Arms
- Frankie Laine: A Woman in Love
- Johnnie Ray: Just Walking in the Rain



**▶ THE ORIGIN OF THE SPECIES**

**From 1938 to 1956 in 100 words**  
 Rock and roll may have been a revelation to white audiences in 1956, but, incredibly, the term itself stretches as far back as 1938. Trixie Smith's 78rpm recording of *My Daddy Rocks Me With One Steady Roll* is arguably the first to allude to the phrase – with its lascivious delivery and lewd lyrics, the template for outrageous 50s' rock and roll is right here.  
 The genre itself, initially played by young, black artists, first appeared in the late 1940s and was influenced by jump blues, boogie-woogie, gospel and even country, as the music evolved and was increasingly played by white musicians.



Johnny Cash and Elvis – eventually released under the moniker *The Million Dollar Quartet* – is the ultimate rock and roll all-star cast.

### Feedback to the future

Although 1956 was Elvis' year, another significant musical development in the genre was underway. It's arguable that Elvis' RCA recordings just don't have that glorious energy of the Sun cuts – that rock and roll is at its most powerful in its rawest state – but The Johnny Burnette Rock 'n' Roll Trio were busy prototyping the sound of the future: distortion. The trio's wild *The Train Kept A-Rollin'* lays claim to be the first to feature elements of electric guitar feedback, predating the 60s histrionics of The Who and The Jimi Hendrix Experience by some considerable years.

For conservative America – and the UK for that matter – this sexualised, beat-driven music surely came from Satan's turntable itself – a view highlighted by three events in 1956. If Elvis' groin thrusting during *Hound Dog* on national television wasn't enough to have right wingers reaching for the holy water and crucifixes, then Gene Vincent's antics and Screamin' Jay Hawkins' greatest single would surely do the trick. Roll over Jim Morrison: leather-clad rocker Gene Vincent is convicted of public obscenity and fined \$10,000 for singing the erotic *Woman Love* on stage in Virginia. And stone classic *I Put A Spell On You* by Screamin' Jay Hawkins sells over a million copies, but faces a complete radio ban due to its – get this – 'cannibalistic nature'.



Still, becoming rock's first underground hit doesn't do the Screamin' One's hip credentials much harm. By 1956's close, rock 'n' roll music even warrants a mention in the year-end Encyclopaedia Britannica music review, which refers to it in crude, racist terms as 'jungle music'. But despite frightened criticism, musically, the genre was taking firm hold over the imagination of American youth – one indication of its snowballing popularity is the first regularly scheduled, nationally broadcast rock and roll show, *Rock 'n Roll Dance Party*, with Alan Freed as host, making its debut on the CBS Radio Network that March.

### Scores for tea

The seismic impact of raw rock and roll, with its roots in black American music, on post-war Britain in 1956 can't be imagined from a 21st-century perspective; by a generation of music fans weaned on iTunes and the instant availability of practically 'everything' in musical history thanks to the internet. This was a year in which

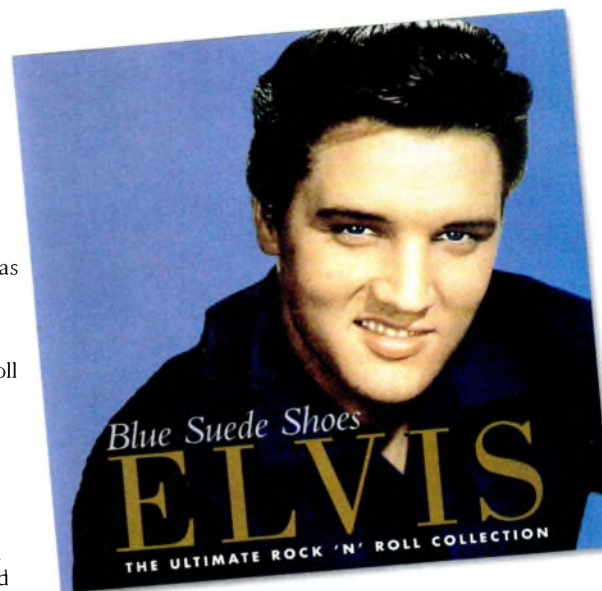
**“Gene Vincent is convicted of public obscenity and fined \$10,000 for singing the erotic *Woman Love*.”**

Granada TV was just launching and double yellow lines first appeared.

The rebellion-free nature of Britain also extends to the album charts: the UK's number one albums are conservative to say the least – at least for the first part of 1956. In the earlier part of the year, Frank Sinatra's *Songs For Swinging' Lovers* reaches the top spot alongside the soundtracks to light entertainment fare such as *Carousel*, *Oklahoma!* and *The King and I*.

Equally frightening is the arrival of the first Eurovision Song Contest in Switzerland, with the host nation declared winner with Lys Assia singing *Refrain* – a song arguably more likely to corrupt the minds of the nation's youth than good old rock and roll.

The shape of things to come, however, arrives later on in the year: the spirit of rock



and roll dominates the top of the charts with Bill Haley and his Comets *Rock 'n Roll Stage Shows* (October – December) and Elvis Presley *Rock 'n Roll* (December – February, 1957). The singles charts (see *Rock Around the Clock* on p85) also show that teenagers were putting hands in pockets to snap up the joys of Bill Haley. All these releases will surely have prompted most of the first wave of UK rockers – Billy Fury, Cliff Richard and Adam Faith, to name but three – to pick up their guitars, reach for the Brylcreem and practice curling the upper lip. Elvis finally tops the UK's singles' charts in 1957 with *All Shook Up* and there's now no stemming the tide of rock and rollers in Blighty.

### The beginning of the end

But, as Elvis was being crowned The King of rock and roll, the death-knell for the genre was, perhaps, already being sounded. Many fans of the new music – unable to see Elvis in person as he never toured the UK – would have welcomed the announcement that he was to pursue a film career; few would have anticipated the desperate fall from musical grace that these celluloid handcuffs would precipitate. One could also argue that the game is also up when the exploitation moviemakers smell fresh carrion – the rise of the cheaply made 'rocksploitation' film also began this year.

The biggest and best of these is 1956's *The Girl Can't Help It*, starring the pneumatic Jane Mansfield and featuring memorable performances from Gene Vincent, Eddie Cochran, Fats Domino, The Platters and Little Richard. But the only way here was down – to the depths of the Graham Bond Organisation's (featuring organist Bond and future Cream players Jack Bruce and Ginger Baker) appearance in woeful 1965 'youth' flick *Gonks Go Beat*.

Just like R 'n' B, mod, freakbeat, psychedelia, glam, prog, punk rock, new wave, and acid house, rock and roll was the call to arms that UK popular music desperately needed, delivered by the unlikely torch-bearer of a former truck driver from Memphis, Tennessee. ●

# The Si 3 Range - Beauty Born of Performance



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**90** **Brahms**  
Piano Concerto  
No 1



**91** **Gillian Welch**  
The Harrow and  
the Harvest

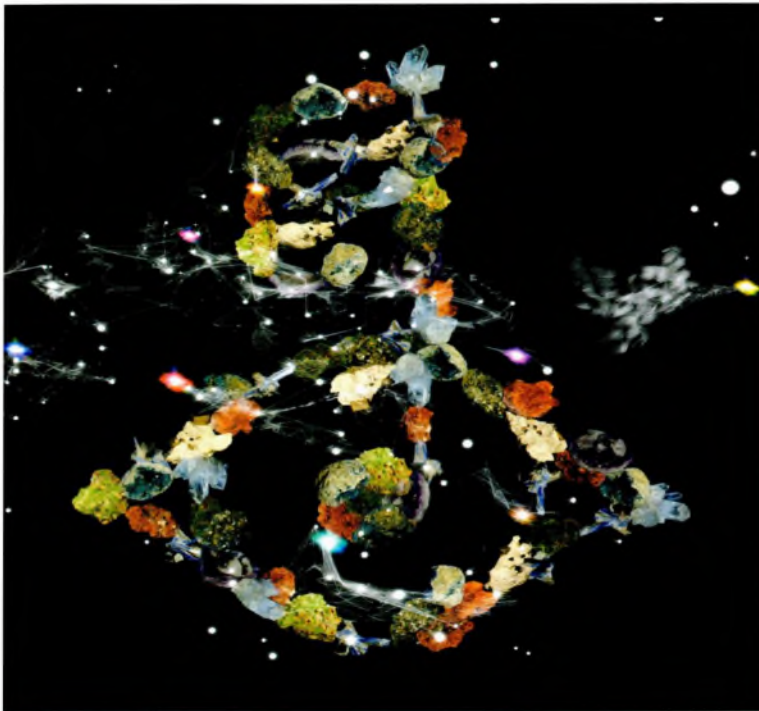


**91** **Buena Vista  
Social Club**  
Buena Vista  
Social Club

# Music reviews

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

## ALBUM OF THE MONTH



**Björk**  
Biophilia

indian.co.uk

★★★★★

CD

**One Little Indian**

**THE LATEST FROM BJÖRK** isn't just collection of brilliantly brittle tunes graced by the Icelandic maestro's distinctive vocal tones, it's a multimedia concept album about life, love and nature that uses music, soundscapes, visual art and video to get its message across.

Introduced by the sonorous, yet comforting tones of David Attenborough, highlights include *Virus*, which describes the symbiotic relationship between a virus and its host like a destructive love affair over a gently undulating backing from the gameleste, an instrument designed by Björk which does indeed sound like a mix of Javanese gamelan and celeste. *Moon's* overdubbed vocal harmonies grace starkly

plucked harp-like arpeggios and *Crystalline's* spiky, tinkly tones reflect a grossly speeded-up interpretation of the growth of its subject matter.

Closer in spirit to the eclectic experimentalism of *Medulla* than the quirky pop of *Volta*, it's a fascinating album full of odd twists and turns, but with a love of music and nature, at its heart.

While it can certainly be enjoyed as an audio-only experience, Björk has also given it a visual element – if you have an iPad that is. She pulled together app designers like assembling a band, bringing them together in Reykjavik to kick around ideas to create individual apps for each of the songs. They all look different, but each has an animated score, and

**“It's a fascinating album with a love of music and nature at its heart.”**

allows you to rearrange and, in some cases, even rewrite the music you're hearing. *Crystalline*, for instance, includes a game, the ability to edit and recreate the original tune, lyrics, an essay, animations and a karaoke version.

There are also remixing tools that allow you to make new versions of the songs, visualizations, scores and no small amount of science, all of them linked through a menu system depicted as a 3D universe. These are apps that aren't just superficial adjuncts to a song, but an integral part of them. It's like an album with extensively detailed cover lines popped up into 3D and Technicolor and offers an intriguing pointer for the future.

To create the sounds Björk commissioned a range of instruments that mix the ultra-modern with the traditional to sometimes bizarre, but always fascinating effect. There's a series of gravity harps, three-metre-long pendulums with a cylindrical harp on the end. As they swing back and forth, each set of strings rotates, presenting specific notes to the players.

The use of real (if only recently invented) instruments helps to give the album a heft that it might not otherwise have had if she'd relied solely on electronic instruments. You'll need a system that can deliver a lot of subtlety in the treble region, as well as one that won't shy away from a hefty low end at times.

It's an album that demands a lot in terms of your attention and your equipment, but also one that offers rich rewards. **DO**  
**Standout tracks:** Moon; Crystalline; Virus





## Nirvana Nevermind

universal.com

★★★★

Universal

4-CDs plus DVD deluxe edition

**IT WAS THE RECORD** that launched grunge into the mainstream as the sound of the nineties – chaotic, nihilistic, abrasive and yet infectious and with great melodies bursting out of the sludgy, punk-distorted noise.

In short, Kurt Cobain and his Seattle band gave artistic voice to inarticulate teenage rage more eloquently than anyone since Johnny Rotten, in a lineage that can be traced back through Pete Townshend's *My Generation* and all the way to Eddie Cochran's *Summertime Blues*.

So does *Nevermind*'s influence on a generation justify its expansion to an £80 five-disc deluxe set? Probably not. But if you were 16 in 1991 and Nirvana changed your life, you will surely find it irresistible.

The 'extras' include demos, BBC session tracks and – most interestingly of all – an early Butch Vig mix of the album that sounds even more distorted and dirtier than the grunge masterpiece it eventually became. **NW**

**Standout tracks:** Territorial Pissings; Breed; Smells Like Teen Spirit; Drain You



## Miles Davis

Tutu Deluxe Edition

warnerclassicsandjazz.com

★★★★

Warner Jazz

CD

### TUTU SOUNDS LIKE THE

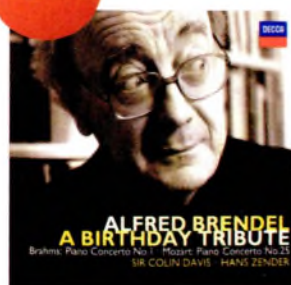
quintessential eighties jazz album, thanks to the heavy use of synths and a very distinctive production that can verge on the overbearing. It's largely the work of multi-instrumentalist Marcus Miller, although at times the massive gated drum sound and synths can drown out Davis' muted trumpet.

The second disc is a live set from the same period recorded in Nice with an octet that comprised the late sax player Bob Berg and Robben Ford on guitar among others.

There's no doubt that *Tutu* is an impressive album, but in some respects the sound gets in the way of the music, Miller's touch proved a little too heavy-handed by comparison with the album that followed, *Amanda*. **JK**

**Standout track:** Tutu

HOT PICK



## Brahms

Piano Concerto No 1  
Alfred Brendel (piano),  
Bavarian Radio Orch.

decca.com

★★★★★

Decca

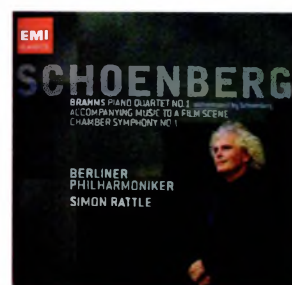
2-CDs

### BRENDEL DISOWNED HIS

1987 Philips studio recording of Brahms' first piano concerto, because the solo instrument was rather backwardly balanced. Hence this live release from 1985. Tempi are slower in all three movements, compared to the studio version with Abbado and the Berlin Philharmonic and the piano more forwardly placed.

The second CD contains a live performance of Mozart's Piano Concerto No 25, with Hans Zender conducting the orchestra of SWR. The disc concludes with live 2002 performances of Beethoven's Op 110 piano sonata and a Schubert impromptu. Throughout, the sound is open and clear, with fairly minimal audience noise. **JH**

**Standout track:** Track 1



## Schoenberg

Piano Quartet No 1  
Op 25. Sir Simon Rattle,  
Berlin Philharmonic

emi.com

★★★★★

EMI

2-CDs

**RATTLE HAS A BIT** of a soft-spot for Schoenberg's sumptuous and, at times, gloriously vulgar orchestration of Brahms' first Piano Quartet. This version has a rich, warm sound and the playing is spirited and ripely romantic. It's a dense work, with thick textures that requires a hi-fi system with excellent definition at middle and low-registers to maintain clarity.

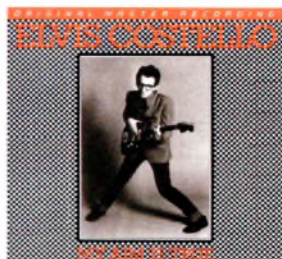
Despite living in LA for the last part of his life, Schoenberg never wrote a movie score. *His Accompanying Music To A Film Scene* (written in 1930), is about as close as he got.

The disc ends with the popular Chamber Symphony – given here in its rarely-heard 1935 arrangement for full orchestra. **JH**

**Standout track:** Track 1

## AUDIOPHILE VINYL

### Elvis Costello My Aim Is True mofi.com



★★★★ Stiff/Mobile Fidelity

180g vinyl

**COSTELLO'S 1977 DEBUT**, which he described as "an overnight success after seven years", was recorded while he was holding

down a day job in data entry. Production was by Nick Lowe and he's backed by Huey Lewis's old band Clover.

Contemporary single *Watching the Detectives*, where he's backed by the considerably slicker sounding Attractions, missed out on the original album release, but it's a welcome addition here.

*Alison*, in particular, is a real standout. A bittersweet love song, it allows a rare sense of the romantic to seep through, something that Costello usually managed to restrain.

Mofi's enthusiasm for boosting the bottom end has a rather dramatic effect on *Miracle Man*, which is a little bogged down by bass and the reggae beat of *Watching The Detectives* threatens to turn into a dub track. But the original is quite a lean-sounding album and if this pressing goes a little too far to counteract that, it doesn't get in the way of some very fine material. **JK**

**Standout tracks:** Alison; Watching The Detectives; (The Angels Wanna Wear My) Red Shoes



HOT PICK



### Gillian Welch

The Harrow and the Harvest

aconyrecords.com

★★★★★ **Acony/Warner**  
CD

**IT'S BEEN EIGHT YEARS** since Gillian Welch and long-term partner David Rawling's last album, *Soul Journey*. They've now backed away from that albums' rock band leanings in favour of their earlier acoustic sound, driven by guitars, banjo, harmonica and handclaps. The bluegrass element of her early work being largely left behind except in her voice, which is still aches with a passionate yearning on these tense, perfectly crafted songs.

The sound is dripping with warmth and intimacy. It's the simple sound of two people in a room, delivering a selection of beautifully, if simply, written songs and offers a timeless quality that gives the impression that these new songs have been around for many years. **DO**  
**Standout tracks:** The Way It Will Be; Silver Dagger, Tennessee

#### BLU-RAY DVD

### Sheryl Crow Miles From Memphis



★★★★★ **Eagle Rock**  
Blu-ray LPCM stereo, Dolby Digital 5.1, DTS HD Master Audio

**SHEZZA THE SOUL GIRL:** that's the premise behind the album of a very similar name that preceded this concert from 2010 at the Pantages



### Drive By Truckers

Greatest Hits 1998-2009

newwestrecords.com

★★★★★ **New West**  
CD

**OVER EIGHT ALBUMS** since their 1998 debut *Gangstabilly*, the Truckers have perfected an immaculate, rootsy fusion of Lynyrd Skynyrd-style southern guitar boogie with the alt-country/Americana aesthetic, later developed by Uncle Tupelo and their followers.

Their trump card has always been their three brilliant writers: Patterson Hood, Mike Cooley and Jason Isbell, with each turning out top-quality and highly contrasting material. It's a fine introduction to one of the most invigorating American bands of the last decade, whose music fizzles with the belief that, however dark it gets, the redemptive power of rock 'n' roll will see us through. **NW**

**Standout tracks:** Ronnie & Neil; Let There Be Rock; Carl Perkins' Cadillac; The Righteous Path; Uncle Frank



### Slade

Sladest

salvo-music.co.uk

★★★★★ **Salvo**  
CD

#### IT'S A SIGN OF SLADE'S

unfashionability that, despite featuring no fewer than five number one singles, their 1973 chart-topping album *Sladest* has not been reissued on CD since 1997.

A bunch of working-class Wolverhampton rockers, they abandoned their early skinhead look and pranced around on *Top Of The Pops*, looking utterly ridiculous in satin and sequins. But there was nothing effete or androgynous about their music, which continued to kick as hard as a pair of steel-toe-capped Doc Martens.

Slade's crunching sound suggests they could be as heavy as Black Sabbath and had songs as catchy as anything T-Rex could conjure. **NW**  
**Standout tracks:** Cum On Feel The Noize; Look Wot You Dun; Mama Weer All Crazee Now; Coz I Luv You

## HIGH-RESOLUTION DOWNLOADS

### Radiohead

King of Limbs

7digital.com

★★★★★

Ticker Tape Ltd

24-bit/44.1kHz



**RADIOHEAD'S** eighth studio album was self-released in February 2011, initially as a download.

This new 24-bit deluxe version is a 24-bit/44kHz FLAC release of eight tracks, while upping the quality from standard CD's 16-bit. The music is not what anyone would call 'commercial' and, if at times, it comes unnervingly close to self-parody, it always makes for entertaining listening.

This 24-bit recording, especially through its dexterous handling of textures and playing nuances, rewards repeated listening and demonstrates that this album has sufficient merit to stand alongside the band's earlier, widely lauded, perhaps more accessible, albums. **MS**  
**Standout tracks:** Codex; Give Up The Ghost

### Buena Vista Social Club

Buena Vista Social Club

hdtracks.com

★★★★★

Nonesuch Records

24-bit/96kHz stereo

HOT PICK



**IT'S NOT ALWAYS** a recipe for success when a musicologist – and slide guitarist Ry Cooder is

nothing less – brings together a host of inspired veteran musicians to celebrate a club that had closed its doors 50 years before. This recording turned into a major-league, award-winning success, primarily because it was abundantly clear just how much the musicians loved playing.

The recording revived Cuban music and interest in Cuban musicians internationally, and this remastered 24-bit/96kHz archive showcases their skills better than any other. The sound is vibrantly natural, blessed with vivid tonal colour and the music communicates in a wholly effortless fashion. **MS**  
**Standout tracks:** Chan Chan; Pueblo Nuevo

Theatre in Hollywood. It's a strange premise for one so steeped in Americana, but when you hear her sing the Jacksons' *I Want You Back*, it's clear that she loves the music that she grew up so close to.

She's supported by a band dubbed The Thieves, which was put together by the two guitarists who produced the album: Doyle Bramhall II and Chris Bruce. The line-up includes two brass players, backing vocalists and keyboards, with Crow adding guitar and keys, even grand piano for the solo finale.

This performance reveals her talent for entertaining a crowd with spoken word interludes, varied pacing and instrumentation. The sound is a little dense at times, but nothing that a musical DAC can't sort out.

Of the new material, the largely acoustic *Redemption Day* is a standout, but the classics remain hard to beat thanks to some very nice Telecaster work on *Can't Cry Anymore* and *Strong Enough*. It's better than expected. **JK**  
**Standout tracks:** Can't Cry Anymore; Redemption Day; I Want You Back

# The Definitive statement

With its impressive range of products, Definitive Audio doesn't do anything by halves. **Ed Selley** gets a taste of the high end

**A** quiet side street in the peaceful town of Long Eaton in Nottinghamshire might not be the first place you think of when it comes to finding audio nirvana. But, tucked away in a neat, light industrial estate, Definitive Audio would be a fine place to start looking. The company is an unusual combination of dealer, distributor and manufacturer, but the results of this activity can lay claim to being the home of some of the finest systems on sale in Europe.

Founded by Kevin Scott in 1987, Definitive Audio was originally a more conventional dealer based out of a residential property a few miles from its current location. In the early 1990s Kevin founded Living Voice, a company set up to produce horn-type loudspeakers. Although both parts of the business were originally kept separate, as Living Voice expanded to include box designs, they were brought closer together. In more recent years, Definitive Audio has taken on the distribution of a number of brands, both for national and exclusive purposes.

Now supported by his wife Lynn, Kevin builds high-sensitivity systems, that are intended to capture the spirit of a recording whatever it happens to be. Virtually everything that it stocks is valve-based and the focus is on the high end, which results in higher system prices than the UK average. Definitive Audio routinely sell systems between £30,000 and £50,000 and as we'll see, it can go rather higher than that.

## THE EXPERTS



**DEFINITIVE AUDIO**  
7, HARRINGTON MILLS, LEOPOLD ST, LONG EATON,  
NOTTINGHAM, NOTTINGHAMSHIRE NG10 4QE  
0115 973 3222 [DEFINITIVEAUDIO.CO.UK](http://DEFINITIVEAUDIO.CO.UK)

[LIVINGVOICE.CO.UK](http://LIVINGVOICE.CO.UK), [CEC-INTERNATIONAL.COM](http://CEC-INTERNATIONAL.COM),  
[NEWAUDIOFRONTIERS.COM](http://NEWAUDIOFRONTIERS.COM), [AUDIONOTE.CO.IP](http://AUDIONOTE.CO.IP),  
[RESOLUTIONAUDIO.COM](http://RESOLUTIONAUDIO.COM), [ARTAUDIO.CO.UK](http://ARTAUDIO.CO.UK)



**BUGGE WESSELTOFT**  
NEW  
CONCEPTION  
OF JAZZ  
CD



**CHRISTIANNE STOLTJN**  
SCHUBERT/  
BERG/WOLF  
LIEDER  
CD



**YOUNGER BROTHER**  
VACCINE  
CD

## SYSTEM 1 – BELT DRIVE BLAST

**T**he opening system is not the least expensive in the Definitive Audio portfolio, but it has a power output that makes it suitable for use in most rooms. This is the classic trio of integrated amp, CD player and speakers, but with a Definitive twist.

The C.E.C. TL53Z is distributed by Definitive Audio and was reviewed by us in *HFC 333*. Unlike almost every other CD player in existence, the C.E.C. uses a belt to rotate the mechanism. This results in an extremely quiet and smooth device. Extensive jitter reduction and twin Burr-Brown DACs are further indicators of strong performance. The half-width chassis is easy to accommodate and it is a handsome unit to boot.

## Living legend

The amplifier has also been featured by us, in this instance in the *The Collection* (2010). Italian company New Audio Frontiers is also distributed by Definitive Audio and the Legend integrated is one of Kevin's favourites. This 15-watt design uses four KT66 valves in a push-pull configuration and looks fabulous. Although it isn't quite as small as the C.E.C., it is still a relatively compact (if heavy) design and features niceties such as a remote control for extra convenience.

The final part of the system is the entry point to Living Voice ownership. The £4,200 Avatar is a two-and-a-half-way floorstander, designed to present an easy electrical load to the valve amplifiers with which it is usually partnered. It features a pair of 6.5-inch doped-paper drivers, with a Scanspeak silk-domed tweeter. The resulting system is compact and attractive, but can it deliver a ten grand performance?

## Speed and agility

In short, yes. From the moment you power this system up and revel in the fact that at idle it is totally silent with not a trace of hum or noise, it is clear that the quality of components goes a long way to justifying the cost. Putting on Bugge Wesseltoft's *New Conception of Jazz*, it becomes clear that you won't hear this system in silent mode very often. The combination powers through the deep bass lines of the disc with



incredible speed and agility. Bass is visceral and has physical punch to it, but the speed at which it starts and stops is simply excellent.

Above this low-end energy, the tonality with voices and instruments is superb. Brass instruments have a lifelike blare and the slightest inflection or pause for breath is captured perfectly. At the same time, there is nothing hugely analytical about how this system goes about its business. It simply seems like the most natural thing in the world that every last detail should be made clear to you.

Switching to the spellbinding Christianne Stotijn and you, her

fabulous vocals and the accompanying musicians seem to shut out the rest of the world. The placement of artists and the details of their performance are staggeringly easy to follow.

For an 'entry-level' system, this is far from cheap, but it is so effortlessly musical and accomplished that it makes a totally persuasive case for itself nonetheless. It has no perceived weaknesses that would have you yearning to upgrade. We could have easily devoted a whole day ploughing through Definitive Audio's extensive music collection, but there were other systems to hear.

**1 C.E.C. TL53Z**  
**£1,750**

[cec-international.com](http://cec-international.com)

**2 NEW AUDIO FRONTIERS**  
**LEGEND**  
**£4,500**

[newaudiofrontiers.com](http://newaudiofrontiers.com)

**3 LIVING VOICE AVATAR**  
**£4,200**

[livingvoice.co.uk](http://livingvoice.co.uk)

**TOTAL SYSTEM PRICE:**  
**£10,450**



**SYSTEM 2 – ARTISTIC LICENCE**

**O**ur next system has superficially identical speakers to the first, so why the £3,000 price jump? Kevin explains that the Living Voice range, whilst dimensionally identical to the Avatar, differ in their internal bracing, tweeter, front panel and internal components. This version still mounts the crossover inside the speaker but a further performance upgrade is available by placing them externally.

**Chrome finish**

For power, we switch to the locally produced Art Audio Argento 300B parallel single-ended amp. As well as looking stunning in its chrome finish, this also showcases another Definitive Audio service – internal modifications and improvements. Each unit arrives sixty per cent complete before undergoing substantial improvement and revision to the internals. This includes moving the power supply off-board and completely re-wiring the unit with Kondo cabling. Also fitted is a high-quality volume pot that allows the system to function as a single-source integrated.

That single source is another surprise. The Resolution Audio Opus 21 was a firm favourite of ours prior to the release of the Cantata. Kevin continues to prefer the older

two-box design over the newer single-box design and to this end has secured his own supply of them for the foreseeable future. As such, we have doubled the price, given ourselves an extra seven watts and changed to 300Bs, but what does this do for the sound?

**Different order**

Sticking with Christianne Stotijn, perhaps the most immediate difference is the increase in delicacy that this system has over the less expensive one. There is still a tremendous sense of pace, timing and sheer impact to the proceedings, but the air and space that the performance now has is of a different order to before. This is a combination that is extremely relaxed about the business of being exceptional. So effortless is the performance, that it is easy to forget how dynamic this system actually is.

Switching to more up-tempo material proves beyond doubt that this system times with the best. There is very little from the acknowledged solid-state masters of pace, rhythm and timing that this system cannot match and, in return, they can teach it nothing about naturalness. Equally, it never forces a sense of pace onto recordings that do not require it. One minute you can be

pounding along to a rock act in a stadium, the next listening to an unamplified human voice and both will simply sound right.

Above all, at no stage is there any sign of the traditional valve stereotypes. The sound is neither warm nor bloated. There is also no harshness, but this is never at the expense of the dynamics, presence and realism of the performance. Towards the end of the session, Kevin introduces a Mactone X18 preamp, which allows for additional sources to be connected and incredibly opens the performance up still further. Time spent with the two opening systems makes it hard to believe that there is that much more to be had from going further up the Definitive Audio price list, but that was before we heard system three...

**1 RESOLUTION AUDIO OPUS 21 CD PLAYER**  
**£2,000**  
resolutionaudio.com

**2 ART AUDIO ARGENTO POWER AMP**  
**£14,500**  
artaudio.co.uk

**3 LIVING VOICE IBX R2**  
**£7,200**  
livingvoice.co.uk

**TOTAL SYSTEM PRICE:**  
**£23,700**



**SYSTEM 3 – THE STUFF OF DREAMS**

**S**o why is there no price given for the Vox Olympians that graced *The Collection* back in 2009? Kevin explains that as no two pairs are the same, there is little point trying to price them. Since we last saw the Vox Olympians, construction has been taken over by cabinet makers Struik & Hamerslag and the only thing better than its splendid name is the quality of its work. Depending on the choice of bass management, veneer and inlays, your Vox Olympians could push the price of this system towards the price of a nice flat in Kensington. But who wants to live in Kensington?

**Perfect partners**

Aside from these astonishing five-way horns with their enormous partnering Vox Elysium bass horns, the electronics are equally impressive. The source is a combination of flagship C.E.C. TLOX transport, using the same belt drive principles as the 53Z from earlier, but engineered at an altogether more serious level. This is partnered with a Kondo KSL DAC. Kondo is a Japanese concern whose attention to detail towards its product makes them the perfect partners for Kevin's ultimate loudspeaker. No component is chosen without being exhaustively tested and listened to. Everything is bespoke and nothing is 'good enough'.

Kondo also produces the amplification. The Ongaku is an integrated amplifier built around a pair of whopping 211 signal triodes. In this case it is operating solely as a power amp and fronted by the M77 preamp. The units are understated, elegant and beautifully built. All well and good, but what on earth does it sound like?

**Tangibly real**

We often describe a product as sounding as if the performer is present when you close your eyes. This system is so tangibly real, so visceral, so live, that closing your eyes is often the easiest way of overcoming the conflict of information between eye and ear. The scale of the performance is breathtaking. The Ongaku and Vox Olympian are able to produce pretty much any volume level you could possibly desire with dynamics and detail to die for.

It should not be too surprising that the system can sound astonishing with something like Christianne Stot'jn, but give it the electronic hash of Younger Brother's *Vaccine* and it still sounds completely real and utterly believable. It takes the greatness of the piece and completely ignores the limitations of the recording, creating a dynamic range where other systems will simply give up. There is simply nothing else we have listened to that has these singular talents.

Another unforgettable aspect of this system is the soundstage. The control the Vox Olympians have over both the horizontal and the vertical is absolute, and grows and shrinks perfectly with the demands of the piece. Even more extraordinary is the sense of depth it creates, which aides the incredible sense of realism.

You cannot ignore the price, which it is worth pointing out does not include the price of the Kondo cabling throughout, or the incredible G8-equipment table, which is more expensive than system two on its own.

This is a system that is beyond the reach of most people in the country. It is important to stress, however, that the performance is genuinely of a different order to more 'conventional' hi-fi. It isn't for show and there is no unnecessary ostentation or fripperies. It is simply the cost of doing something as well as it can possibly be done.

**1 KONDO KSL DAC AND C.E.C. TLOX TRANSPORT**  
£28,750 AND £17,500  
[audionote.co.jp/cec-international.com](http://audionote.co.jp/cec-international.com)

**2 KONDO M77 PREAMP**  
£36,950

**3 KONDO ONGAKU INTEGRATED AMP**  
£74,000

**4 LIVING VOICE VOX OLYMPIAN EPOA**  
[livingvoice.co.uk](http://livingvoice.co.uk)

**TOTAL ELECTRONICS PRICE:**  
£157,200



**The Definitive philosophy of systems that get to the heart of music is tricky to explain, but listen to any of these systems and it makes perfect sense. Beyond on paper specifications, we heard equipment that simply brings you out in a smile and that never fails to sound enjoyable. The final system is**

**almost the ultimate expression of hi-fi as a domestic exercise, but done in a way where nothing is done for show or effect, only for the sound.**

**In many ways, the most impressive system of the day was the first one. We cannot remember hearing a system at the price, that was so effortlessly**

**enjoyable to listen to with such a wide variety of music, despite there being no shortage of competition at this price point. You can come to Definitive to buy the ultimate hi-fi system. What is more significant is that you can also go there to buy something spellbinding at an attainable price. ●**

# 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 [letters@hifichoice.co.uk](mailto:letters@hifichoice.co.uk) or write to: **Hi-Fi Choice Q&A, My Hobby Store Ltd, Hadlow House, 9 High Street, Green Street Green, Orpington, Kent BR6 6BG**

## 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.



**MALCOLM STEWARD**  
**EXPERTISE:** COMPUTER AUDIO

**WITH DECADES OF** experience in audiophile journalism, Malcolm now combines his legendary status as an ex-editor and writer on all things hi-fi, with his unquestionable expertise on streaming, networking and computer audio.



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

**ANOTHER EDITOR**, Jason opted to become a freelance contributor when he relinquished the helm of HFC after 17 years on the magazine. A hi-fi addict since his twenties, Jason fell for the beauty of vinyl and has never looked back.

### 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 need to connect a digital-to-analogue convertor to my mixing desk, which is XLR only. I can use adaptors, but are there any sub-£300 DACs with XLR outputs that I can connect directly?

*Paul Miles, via email*

**A** XLR connections are not that common on DACs under £500, but the good news is that our award-nominated Matrix Mini I DAC (HFC 352) is suitably equipped and offers

excellent performance. Cambridge Audio's highly regarded DacMagic (HFC 316) is getting on a bit these days, but still has XLR outputs, useful connections and much to recommend it performance-wise for a mere £230.



### Simply super

**Q** I've been the happy owner of a Naim SUPERNAIT, CD5i and a pair of Spondor S5Es for two years now. The Spondor's predate the Naim and I have been thinking for a while that the amp has more to give.

I am, therefore, looking to upgrade my speakers to take advantage of this. Since I bought the S5Es I have moved house to a property with a suspended floor. As such, I feel that standmount speakers might offer me more flexibility in tuning my bass response.

I have a budget of £2,500 and I am looking for some speakers that will do justice to a wide variety of music, as I have tried to categorise what I listen to and have failed miserably.

*Matt Longman, via email*

**A** If you have enjoyed the Spondor sound, we would direct you towards the fantastic Spondor SP2/3R2 (a nominee in the speakers over £1,000 category in our 2011 Awards – HFC 352). This is a great all-rounder that copes admirably with all types of music. It isn't a small speaker, though, so if you can try it out at home first then it has to be worth considering.

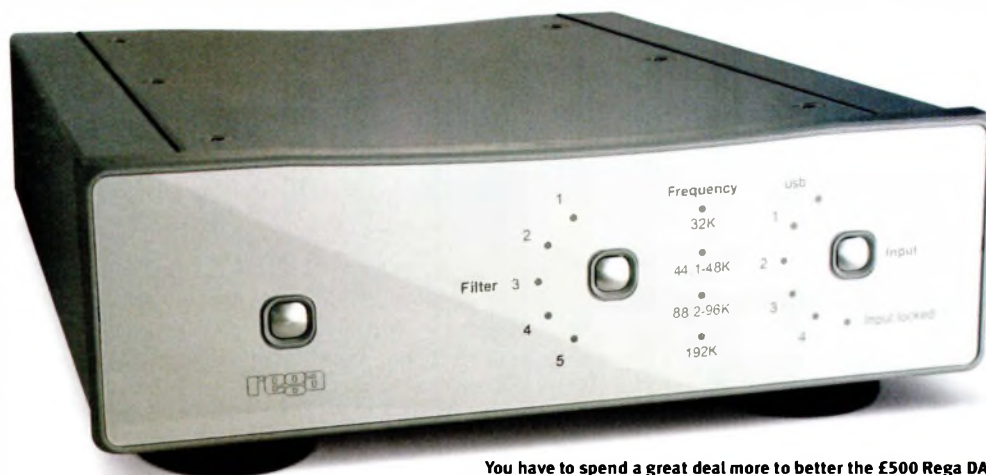
If the issues you are having with bass response in the room are especially problematic, we would suggest you consider the all-new Bowers & Wilkins PM1 (HFC 352). This is a supremely talented small-size speaker that has a very flat response and, thanks to small size and careful design, is perfect for lively environments like the one you describe. Your budget would also allow you to purchase the matching stands (£400 per pair).

We suspect that this could be a very handsome, sonically effective and well-built combination, indeed.



**Bowers & Wilkins PM1: ideal for rooms with problem bass**





You have to spend a great deal more to better the £500 Rega DAC

**Speak up**

**Q** My current system consists of a Squeezebox Classic, Velleman K8020 valve preamplifier, Quad II amp (sympathetically modified), Dynaudio Audience 82 speakers, Rega Couple interconnects and Kimber speaker cable. The room dimensions are six metres by twelve metres by three metres high.

I acquired all of this system from relatives, except the Dynaudio speakers that I bought a few years back (ex-display for £900) and, more to the point, it all sounds just right. But I am looking to upgrade the Squeezebox Classic to a Touch, to hopefully future-proof and support the higher resolution formats when more material becomes available.

However, I'd appreciate your opinion as to whether a Musical Fidelity V-DAC would be much of an upgrade to the Touch's onboard DAC, or do I need to spend £500 plus? I don't think I'll ever invest in a Naim or Linn equivalent streamer, as I've heard the Squeezebox Touch – via the DAC of an Audio Aero Capitole MKII CD player – and it beats any CD player I've ever heard, including the Naim CDX2 with XPS.

So I know what it's capable of, but right now I don't have a couple of thousand to spend on a DAC.

**Leigh Evans, via email**

**A** Our Blind-listening Group Test in HFC 351 showed, the Squeezebox Touch is a more than adequate performer via the analogue outputs and our panel of experts certainly didn't identify it as being inferior to the other participants in the test.

*This being the case, we are not sure that adding a V-DAC or any of the other true-budget DACs will lead to a great step forward in performance. The M1 DAC is likely to be a more convincing alternative, but if you are moving towards £400, you really need to appropriate the additional £98 that will secure you a Rega DAC. At just under £500, we honestly feel that you need to spend as much again to make a meaningful transition. The connection set is good, it is beautifully built and it sounds fantastic, too.*

**Stuck in a vacuum**

**Q** I have been a long time fan of valve amps, but I have been 'making do' with an Exposure 3010, while my children were at an age where a hot valve looked like a fun thing to touch! Now that this period has passed, I am looking at valves once again.

During the time I have owned the Exposure, I purchased a pair of Monopulse 62S speakers, partly on the strength of your *Ultimate Group Test* (HFC 314), and a great dealer demonstration). My main

**Icon Audio's Stereo 60 can drive most speakers well**



source is a Michell Tecnodec with Roksan Nima arm, Ortofon Rondo Blue and Pro-ject Tube Box phono. I also own a Marantz SA7001, but this sees much less use. I love the pace and energy that the Exposure brings to my music, but want a little more of the warmth and space that a good valve amplifier can bring to the performance.

With a budget of up to £2,000 and with the intention of making a straight swap (one amp in and one out, keeping all my other equipment in place), what are my options? I'm not a full-on rocker, but I listen to enough up-tempo rhythm and blues material to want something more than a soft 'jazz-only' type device.

**Tom Whelan, via email**

**A** The Monopulse is a fine speaker with many great qualities, but it is not very sensitive. This rules out the less powerful single-ended designs that we have reviewed, however excellent their performance might be.

The six amps we tested in the valve amp *Blind-Listening Group Test* (HFC 346) had at least 30 watts each and would be a good place to start looking.

*Our personal choice for pairing with the Monopulses would be the Icon Audio Stereo 60. This combines a healthy 70 watts-plus output with excellent vitality and life to it. The combination of this output and the qualities of the Monopulse should make for an entertaining system.*

*If your listening levels are not that high, you may also want to consider the Prima Luna Prologue II (Blind-Listening Group Test winner in HFC 346), as this has an extra level of refinement that makes for a rewarding long-term listen.*

**Sounds Quite**

**Q** I have bought myself a Naim UnitiQute for my office. I have a full Naim system in the lounge (with an NDX that shares material with the UnitiQute), but I'm always in competition with 'Britain's got strictly X-Factor' etc, so I've bought the UnitiQute as a backup.

At the moment I am using a very elderly pair of Mordaunt-Short MS20is, that have been stored in the roof for nearly a decade. The results are listenable, but I know the Naim has more to give and the rear ports of the speakers are prone to booming. As such, I am looking for a pair of standmount speakers that will work well in a small space and relatively close to the wall. I don't really want to spend more than £1,000 on them.

I'm a soul and jazz fan by preference and so absolute bass extension is less important than good tonality and clarity.

**Martin Elmore, via email**

**A** The Naim is a small unit, but we found it to be powerful enough to mean that you aren't limited in your choice of speakers.



The Amphon Helium 410 is ideal for tight spaces

You don't specify exactly how large the room is, but we think that there are two strong options to consider. The first is our Awards-nominated XTZ 99.26 (HFC 348). This is a relatively large speaker, but thanks to the clever adjustable crossover and foam bungs for bass management, it can be made to work well in relatively small spaces. It is not the most sensitive design we have tested, but it has a talent with vocals and instruments that is unusual for a sub-£1,000 design.

If space is tight, then we feel that the Amphion Helium 410 (HFC 351) has to be a worthwhile consideration. This is a very small speaker, indeed, but we found that it offers superb clarity and insight into recordings and we obtained excellent results from it in multiple placements. Like the XTZ, it is not the most sensitive of speakers but we cannot see the Naim struggling to drive it.

## Singing Simplex

**Q** Having got back into vinyl in a big way, I am seriously considering upgrading my turntable. I listened to the Well Tempered Amadeus at a recent dealer demonstration and was really impressed by it.

I cannot stretch to the Amadeus, but the Simplex that you reviewed in your July issue (HFC 347) would be something I could afford.

What other turntables would you consider at the same £1,500 price point? Then what cartridge and phono stage would you suggest for roughly £500 to partner the Well Tempered or another deck? Finally, do you think the Simplex is easy to live with day-to-day?

Obviously my Rega is simplicity itself and I am aware that the Simplex will be more complex than that, but does that curious looking arm stay set up?

**Alan Leader, via email**



The Well Tempered Simplex looks unusual but is very easy to use



The Classé CP-800 mounts a serious challenge to network streamers

**A** The Well Tempered range is different to any other turntable on the market, but while they may look a little unusual, we found that the Simplex was easy to set up and Jason Kennedy reported no issues while reviewing it.

Our Award-winning Michell Gyrodec SE can be purchased within budget (especially if you were to re-use the RB300 currently on your Rega), but we suspect that in this case, if you liked the bigger Well Tempered model, the Simplex offers a great deal of the same sonic attributes at a great price. The Ortofon Vivo Red (HFC 338) and Firestone Audio Korora (HFC 335) would also combine to good effect on the Simplex and make for a very entertaining listen.

## Akurate forecast

**Q** I was absolutely set on buying a Linn Akurate DS having trialled it against the Naim NDX and preferring it. But after reading the review of the Classé CP-800 (HFC 350), the seeds of doubt have been sown.

I am most of the way through ripping my CD collection ready for streaming. So, in your view would I be better off buying the Linn and attaching it to my current Chord Electronics system, or ditching my Chord preamp and using the Classé, most likely with a Macbook Pro?

I listen to a huge range of music and if I change the preamp, there is no immediate chance of me changing the power amp at the same time.

**Jason Doyle, via email**

**A** This is a indeed a dilemma. Since we reviewed it in HFC 350, the CP-800 has gone on to win both our Innovation and Product of the Year Awards (HFC 352). We genuinely think that it is one of the most revolutionary products released in the last ten years and that the USB input is an engineering masterclass. Nonetheless, the Linn is hugely talented, offers internet radio services and would keep your existing pre and power combination untouched.

We would strongly advocate a home demonstration of the CP-800 to see if it works well with the Chord power amp. If it does, we are going to stick our necks out and recommend it over the Linn. It really is that good!

## Small wonder

**Q** My system currently comprises a Cyrus 6 integrated amp and Cyrus 6 CD player, with KEF XQ20 loudspeakers. I am looking to upgrade this system, but I am torn on how to go about it.

I am pretty sure that I want to move into streaming and dispense with my CD player and the new Cyrus streaming products have certainly interested me. For example, the Stream XP with an

8P power amp would be a neat replacement for my current system.

HFC 351 has two reviews that have me considering a different upgrade though. This would be a combination of the Bel Canto C5i and a Cyrus Stream X connected directly to the digital input. The slightly greater flexibility of the Bel Canto over the all-Cyrus pairing and the equally small form factor are extremely appealing, as I would not need to increase the amount of space I have to devote to electronics.

Which of these two systems would you consider to be the most suitable? I am intending to keep the KEFs for at least another year and generally listen to rock and soul recordings.

**Toby Bellman, via email**

**A** The Cyrus streaming products have impressed us with their ease of set up and performance. The lack of an analogue line input is only going to be an issue if you have anything extra to connect. In this case, however, we feel the Bel Canto with the Stream X would be our preferred choice.

The C5i sounds fabulous and is beautifully built. We think that this combination would still have some of the same excitement of Cyrus electronics. Its naturalness and excellent detail-retrieval meant that we had no hesitation in nominating it in the Amplifier category of this year's Awards (HFC 352). The Class D design is very energy-efficient as well.



Bel Canto's C5i is compact and energy-efficient

REAL STORES • REAL PEOPLE • REAL PRODUCTS • REAL VALUE



## NOW AVAILABLE AT SEVENOAKS

**FURUTECH ADL GT40**  
USB DAC with Phono Stage

**GRADO SR325is**  
Headphones

**GENEVA MODEL M**  
iPod Speaker System

**GRAHAM SLEE NOVO**  
Headphone Amplifier



## STORES NATIONWIDE

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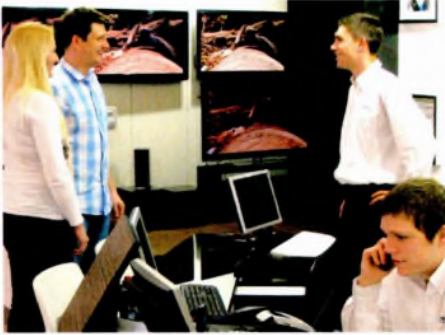
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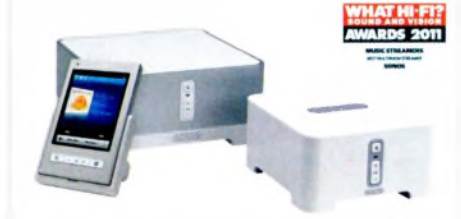
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world, all in true hi-fi quality. With the n-remote you can quickly find specific albums, artists or tracks and it makes browsing your network music library a real pleasure. With its sleek body, full colour screen and two-way control, the n-remote is just one of the features that make the new Cyrus streaming music players very special.



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# Minitest

Making the 'right connection' is paramount to good audio. **Richard Black** tests 'serious' options

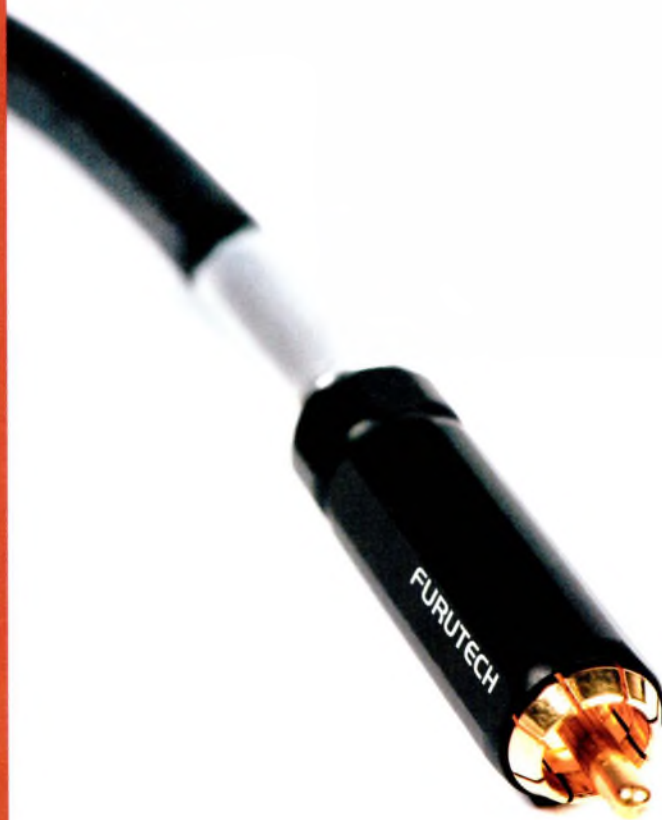
## Furutech Alpha-Line Plus

PRICE: £210 CONTACT: 01276 501392  
WEBSITE: FURUTECH.COM

**FURUTECH WAS ONE OF THE FIRST COMPANIES** to espouse 'Ohno Continuous Casting' (OCC) copper, which has exceptionally long crystals and, therefore, fewer crystal boundaries than normal electrical-grade copper. In addition, particular care is paid to the copper after it has been turned into wire, including cryogenic treatment and demagnetisation. While the final benefits are open to question, it does demonstrably improve (minutely) the conductivity of copper. The latter is more arguable, though, since copper is not remotely magnetic in the first place and at the level of purity of the PC-OCC copper used here, it's hard to imagine what magnetic impurities could be contributing. Construction is pseudo-balanced, with two conductors under a common screen; dielectric loss is a little high, however, due to the cotton filler used between the polythene-insulated cores.

We found this a relatively characterful cable, with a hint of subjective bass lift and a very slightly restrained, but nonetheless tuneful and informative, treble. None of that is a problem, but we were slightly concerned by a small degree of laziness in rhythmic material (this can sometimes be a problem with slightly bassy sound). Detail is good, though, and we enjoyed the imaging, which has some very nice depth to it.

**VERDICT** SLIGHTLY BASS-RICH balance has its appeal, but there seems to be some sacrifice in rhythmic precision. Images have unusually good depth



## Kimber Hero

PRICE: £180 CONTACT: 08453 451550  
WEBSITE: KIMBER.COM



**A RELATIVELY NEW ADDITION** to Kimber's range, Hero employs some familiar Kimber features, including the famous woven construction, although unlike some older cables this one is 'Gyro-Quadratic', with four conductors instead of three. They're concealed beneath a nylon braid, making up a cable that is moderately springy but easy to handle. The basic termination is Kimber's own 'Ultraplate' phono plugs, which are simple but well made. For a slightly eyebrow-raising premium of £197 you can have WBT phonos, while a balanced version with XLR connectors is also available. As usual for Kimber, conductors are made of 'hyper-pure' copper, stranded with differing thicknesses of wire and insulated in fluorocarbon materials.

This cable stands to make a very good initial impression. There's an almost tangible snap to strongly rhythmic music and anything with a drum kit in it, for instance, fares very well. Just occasionally, with sources like a classical symphony orchestra, we felt that the lowest bass may be a touch on the light side, but otherwise it is very well-balanced with the rest of the band and has both precision and tuning nicely mastered. Up in the treble there's plenty of sparkle and while it may not be as overt as some, it's all there for the hearing with a minimum of listener effort. Imaging is extended and stable.

**VERDICT** ENERGY AND RHYTHMIC drive are the key features here, but there is also plenty to admire in terms of detail, while tonal balance is excellent



## Oyaide Across 750

PRICE: £204 CONTACT: 01332 342233  
WEBSITE: OYAIDE.COM

**OYAIDE HAILS FROM JAPAN** and is distributed in the UK by Black Rhodium. It makes much of the technologies it has applied to improve electrical conduction between metal surfaces in contact and while, as so often in audio, the precise benefits are hard to quantify, it makes interesting reading.

This cable is on the face of it a simple design, similar to semi-airspaced 75-ohm aerial downlead, but it includes several distinguishing features, including a rather ingenious design of insulator, which is intended to damp mechanical vibrations rapidly. The copper used is PC-OCC (supplied by Furukawa) and both core and screen are stranded. It is terminated in Rhodium-plated plugs.

We found ourselves a little perplexed by this cable. It has a good basic performance with no obvious flaws in terms of detail, tonality or impact and yet we never quite clicked with it. Trying it in various applications between various makes of source and amplification components didn't change that significantly. In the end, we felt that it is just a touch shy in terms of the finest detail and as a result requires that little bit more effort from the listener to keep fully in touch with the music. Otherwise the sound is very pleasing, with particularly well-integrated bass that lacks nothing in terms of weight. Treble is well-extended, but can sometimes seem a little dry, a common companion to a slight lack of detail.

**VERDICT** **DESPITE GOOD BASS** and energetic presentation, this cable seems to lack the last work in detail and as a result doesn't quite convince overall

★★★★★



## van den Hul The River

PRICE: £175 (0.8M) CONTACT: 01235 511166  
WEBSITE: VANDENHUL.COM



Never a company to stand still, van den Hul has added a whole new range of cables to its catalogue, based around the '3T' or True Transmission Technology. If you've ever taken an interest in the company's cables, you'll know that they often feature non-metallic conductors, which Mr van den Hul reckons sound better than metal ones despite their lower conductivity. As a close second best, he claims, one can more practically use a mixture of carbon fibre and metal conductors and 3T does just that. The metal is an amorphous alloy, the point about amorphous metals being that they don't have normal crystal boundaries. The cable is assembled as coaxial design, with the 3T technology in the central core, while the screen is made of silver-plated copper. As usual it's jacketed overall in 'Hulliflex', which is a halogen-free, rubbery material, coloured in this case a rather fetching light blue.

We're always loath to ascribe aspects of sound quality to a single facet of a design, but the fact is that this, our first 3T cable, made a particularly strong impression on us from the outset, producing a sound that's astonishingly rich in little details, but at the same time delightfully well-integrated so that the overall picture is never lost or subdued. Tonal balance is excellent and bass very clearly extended. Rhythm can seem a little restrained at times, but one's foot soon gets tapping nevertheless. ●

**VERDICT** **A VERY WELL-ROUNDED** cable that's particularly strong on detail without compromising other areas of performance

★★★★★



Naturally, cable manufacturers would like you to use their brand of products throughout your system. To the extent that cable characteristics are surprisingly consistent between

applications, that makes some sense, but if you have a typical audiophile's system it may not be the ideal answer. It's certainly possible to overdo the business of trying to 'tune' a system

using cables, but there remains much to be said for matching each cable to its particular application. With many dealers offering 'try it at home' schemes, this needn't be a risky path to follow.

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**TAG MCLAREN** PA10 preamp (black). Excellent, near mint condition with low usage and original box. Includes MM/MC phono stage built in. (£850) £275. **07854 658 281** (London).

**SUGDEN** A21a Mk2 integrated amp, Pure Class A without the pain of valves. Silky-smooth and bristling with detail. Eight months old, boxed as new, finished in graphite. £1,150. **07847 501865** or email [dazzert@hotmail.com](mailto:dazzert@hotmail.com) (West Yorks).

**ATACAMA** Equinox, two hi-fi bases £50 (each) and one AV base £100. Graphite stand and anthracite glass in good condition. **01253 729944** or email [AtacamaStands@tesco.net](mailto:AtacamaStands@tesco.net) (Lancashire).

**MONITOR AUDIO** (bronze) BR5 speaker package, walnut finish, boxed with instructions and in good condition £650 (pick up only). **07534457859** (West Yorkshire).

**SONY** ST-S311 FM/AM tuner, mint condition (black). Owned from new with original box and instructions, AM loop aerial etc. upgraded power lead. £350. **01766 781211** (Porthmadog).

**BOWERS & WILKINS** 800 Matrix loudspeakers (black), mint condition with Krell bass alignment filter amp, Class A (£15,000 and £1,950) £1,850. Outstanding sound and dynamics. **03531 2014427** or email [booning4@hotmail.com](mailto:booning4@hotmail.com) **003531 2014427** (Ireland).

**BERNING** EA-230, the perfect valve power amplifier for electrostatic loudspeakers, VGC, very rare and sought after, with circuit diagram. £800, or exchange for DNM PA3DeltaS power amp. [elsfan@yahoo.com](mailto:elsfan@yahoo.com)

**MARANTZ** PM-11 S1 Premium Series reference integrated amplifier. Boxed and mint (£2,500) £1,295. Marantz SA-11 S1 Premium Series reference CD/SACD player. Boxed and mint. Both in perfect working order. (Cost £2,500) asking £849. **07858 201062** or email [fullswop@gmail.com](mailto:fullswop@gmail.com) (Northants).

**SONY** TC-K 611 Dolby cassette deck, three motors, power door, fully loaded three heads, adjustable bias etc. Hardly used, excellent condition (black) £49. **01766 781211** (Porthmadog).

**SPENDOR** S8e speakers, purchased early 2006 (maple) and in superb condition, £900. Buyer collects. Original boxes, packing and instruction manual included. **01305 263069** (West Dorset).

**PLINIUS** integrated amplifier 9200 and CD-101 Anniversary Edition manufactured in 2010. Only 75 pairs in the world. 200 watts per channel



A £500 saving on a Cyrus 8 XPd is a good thing

into 8 ohms. CD-player with balanced XLR output. Both are used, but are in mint condition and still with limited warranty. (£8,400) £6,000. Buyer collects. Email: [stmchan@gmail.com](mailto:stmchan@gmail.com) (Docklands, London).

**ROTEL** RA-05 amp and RCD-06 CD player with KEF IQ5 floorstanders. All in excellent condition. £200 each or £550 for the system. **01404 891728** or [Alanwrussell@tiscali.co.uk](mailto:Alanwrussell@tiscali.co.uk) (East Devon).

**CYRUS** 7.5 preamp, one Smartpower and PSX-R power supply (black). Good condition £600 ovno **07842 643684** (Tyne & Wear).

**GALE** 401 speaker, fully reconditioned by specialist with stands and boxes; £475. **01825 722936** (Sussex).

**CYRUS** 6XP amplifier in silver (2010 model). As new £595. **01323 440597** (Eastbourne).

**MARANTZ** CD6002 CD player in mint condition, perfect working order with remote; £150. **02476467679** (West Midlands).

**PROAC** Future One in ebony, £2,000. Krell KSA50S, boxed and mint open to offers. Linn Karik CD player boxed and mint £280. **07584 838673** (Wigan).

**VIENNA** Schonberg Series speakers (silver) £1,800, Vienna Webern single speaker (silver) £250, Pioneer receiver VSX-AX5i-S £700, Pioneer DVD player

DV-868AVI £300. **01522 868163** (Lincoln).

**CYRUS** 8 XPd amp with digital inputs £1,050, PSX-R £250, CD8 SE (2009 version) £600. All are brushed black, unmarked, boxed, free p&p. **07884 002911** or email [ishmael386-inet@yahoo.co.uk](mailto:ishmael386-inet@yahoo.co.uk) (Halifax).

**WHARFEDALE** 10-6 floorstanders with spikes, instruction manual and boxes. Can be bi-wired. Purchased in 2010, only four hours use, £295 ono. **01278 789432** (Somerset).

**MELODY** M380 valve power amp, mint condition, boxed. Two years old £850. Quad QC Twenty Four, new, boxed £475. Heed Quasar MC phono stage, mint £150. **07729 620621** (Worcs).

**BOWERS & WILKINS** ASW4000 THX subwoofer (satin black), with 15-inch Rohacell driver and 450-watt amp. Not for the faint-hearted, this sub is big at 80kg, with an even bigger sound. Only £600. [dazzert@hotmail.com](mailto:dazzert@hotmail.com) **07847 501865** (West Yorks).

**KEF** Reference 4 monitor speakers. Superb bass and near-electrostatic soundstaging make these involving speakers a bargain. New and pristine (£3,200) £950. **07506 749099** or **01132 843770** (Leeds).

**SUGDEN** A21a L Mk2 integrated amp. Pure Class A without the pain of valves. Silky smooth and bristling

**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!



with detail. Eight months old, boxed as new finished in graphite. Reluctant sale £1,150ono **dazzert@hotmail.com 07847 501865 (West Yorks).**

**CYRUS 8-POWER** £425 (brushed black). Genuinely mint condition, original packaging with accessories and manual. Purchased in 2010, price for collection, postage at extra cost. **07873 228770 or email grant-h74@hotmail.co.uk (Herts).**

**ARCAM**, CD93T (black), £275. A85 amp (black), £250. PMC TB2 + speakers, £275. Chord Indigo plus interconnects 1m, as new, £350. All equipment boxed with manuals. **02392 257626 or 07970012450 or email richardsh@sky.com (Portsmouth).**

**PRO-JECT** Debut 3 SE with Clearaudio MM cartridge. As new condition and working perfectly. £150. **07722 248001 or email doug.taylor@virgin.net (Lincolnshire).**

**MARANTZ** PM4001 integrated amplifier, mint condition, three years old, perfect working order, £125. Also Monitor Audio Bronze BR2 speakers, mint condition, three years old, perfect working order, £150 **024764 67679 or email johncléments45@sky.com (West Midlands).**

**AUDIO RESEARCH** CD7 CD player, with power supply modification. As new condition with original packaging. (£8,000) £4,200. **01462 670786 or email jr812@hotmail.com (North Herts).**

**CYRUS** 8vs integrated amplifier, black, super condition £399. **0115 9288006 (Notts).**

**STELLO** CDT200 CD transport in silver, immaculate condition. AES/EBU, RCA, BNC, optical digital output. One owner. Original packaging, remote and mains lead. Rarely available. (£1,500) £525 ono. **07725 072878 (Leics).**

**NAKAMICHI** CA-7E control amplifier plus remote. Mint, built-in phono stage (MC/MM). Excellent sound. Fully serviced July 2011 at B&W. £1,000ono. Buyer collects. **07908 870023 (Bucks).**

**ARCAM** FMJ A18 amplifier, black, excellent condition, Manual. (£600) £300. Arcam FMJ CD17 player, black, excellent condition, manual. (£600) £300. **01606 79032 (Mid Cheshire).**

**SUGDEN** Mystro integrated amplifier. Purchased in Feb 2011 and lightly used since. Complete with box and manual and can be posted, £800. **01782 785734 (Staffordshire).**

**LEEMAACOUSTICS** Pyxis reference preamp in black. Fully balanced, internal DAC and phono stage with tone controls. Redundancy forces sale, £3,200. **01226 745529 (Barnsley).**

**TEAC** D-T1 multi DAC, VRDS T1 CD transport both boxed with manuals. V-8030 cassette deck with remote. Offers to collect. **01977 695385 (W.Yorks).**

**WANTED:** Full-width Technics CD player in silver. Please phone with details. **01777 838617 (Notts).**

**CELESTION** A1 speakers in black with stands, £290. Marantz CD63MKII in black, £100. QED Silver Anniversary, 2x4 metre biwire runs £35. **01159 894340 (Notts).**

**ARCAM** A85 integrated amp in excellent condition. MM/MC phono stage, box and manual, £195ono. Linn LP12 armboard in perfect condition £10 plus P&P. **07941 174804 (Heathrow).**

**MIT** AVT3 speaker cable, 2x3 metre pair, £160. MIT AVI interconnect 1m £70. Both mint and available as a set for £200. **0161 4323852 (Cheshire).**

**ROKSAN** Radius 5 turntable with Rega RB600 arm and Goldring GX22 cartridge, £750. Exposure 2010S CD player, £210. Both in superb condition. **01484 477426 (W.Yorks).**

**AVI** Biggatron standmount speakers (cherry). Good condition with Partington stands. Bowers & Wilkins 684 floorstanders (cherry). Excellent condition £550. **07982 794884 (Essex).**

**ARCAM** R-DAC. Only three months old, as new, boxed with all accessories, instruction booklet and receipt. £175 inc p&p. **01964**

**613177 or email dave.drew@talktalk.net (East Yorkshire).**

**ROGUE AUDIO** ST90 amplifier (£2,650) £1,095. New, only a few hours use. High-quality transparent power, includes upgrade Svetlana KT88s. **020 8653 0778 or email johnkalli01@googlemail.com (London).**

**SUGDEN** CD Master £650, Sugden Headmaster headphone/preamp £400, Trichord Dino phono stage, Dino+ power supply and Dino power lead £250. All items are in excellent condition and come complete with boxes, packaging and instructions. **01305 263069 (West Dorset).**

**ROKSAN** Radius 5 turntable, clear acrylic £475. Clearaudio Nano phono stage £99. **07702 014763 (Bristol).**

**EUPHYA** Alliance Symbiose 320 amplifier (French manufacture) includes separate power supply, 80 watts. Silver casing mixture of non-magnetic metal and Perspex. (£3,450) £1,250. **07805 199598 (W Sussex).**

**CHORD** Electronics DAC 64 for sale (black finish). Several years old, but very low actual usage; mint condition and looks absolutely brand new. Supplied in original box with manual. Buyer collects - £630. **07905 312191.**

**CYRUS** 8 XPD QX amplifier (black), light use after

service, £1,100. PSX-R power supply (black) £275. Cyrus 8SE CD player (2009 model), barely used (black) £700. **07884 002911 or email ishmael386-inet@yahoo.co.uk (Halifax).**

**NAIM** NAC 202 preamp plus Napsco power supply. Excellent condition. First owner. Boxed and including all accessories. Four years old. £1,200. **+0045 60910090 or email jafrikas@jubii.dk (Denmark).**

**LINN** LP12 (grooved rosewood) Lingo / Naim aro arm, excellent condition £1,000. **01554 891010 (Carmarthen).**

**REGA** RS1 speakers (black) £250, Partington Dreadnought speaker stands £130. **01452 385457 (Gloucs).**

**NAIM** CD5XS CD player, two years old in superb condition. Boxed with manual and remote, bargain at £895. **07914 985733 (Derbyshire).**

**WANTED** Sony JB930 or 940 minidisc deck. **01445 781498 (Northern Scotland).**

**CYRUS** 8vs amp (black). Superb condition with box and remote, £350. **01159 288006 (Notts).**

**MONTORAUDIO** RS1 speakers, new condition, boxed £175. Rotel RT935 AM/FM tuner with Chord interconnect, £60. **01943 467859 (W Yorks).**

**KIMBER** D-60 Digital 1m coaxial interconnect, RCA plugs with case £180, Russ Andrews Superclamp Ultra (unwanted prize) £25, Genelec 1029A active monitors, hardly used. (£700) £295. **01902 884694. (Wolverhampton).**

**PRIMARE** i30 integrated amp and CD31 CD player (black). Good condition, supplied with manuals and remote (not boxed) and Atlas Navigator XLR interconnects. Sold as a pair, but would consider splitting. £1,500. **07748 986963 (Hants).**

**LINN** Lingo 2, excellent condition £425. Linn Trampolin £90. Funk Achromat, turntable mat, 5mm (as new) £55. Linn felt mat £7. Will negotiate on p&p. **01582 867139 (Beds).**

**LYNGDORF** W210, pair of corner woofers in maple finish and excellent condition, £1,200. **01253 729944 or email lyngdorfw210@tesco.net (Lancashire).**

**ARCAM** Alpha 7 FM/AM tuner, good condition with original box and handbook £30. **01252 548012 (Hants).**

**ROKSAN** Kandy LIII stereo integrated amplifier, 30 months old, hardly used and in perfect condition. Usual Roksan features 120 watts, phono stage, remote, rock-solid build etc. (£650) £295. **01896 823388 (Northumberland).**

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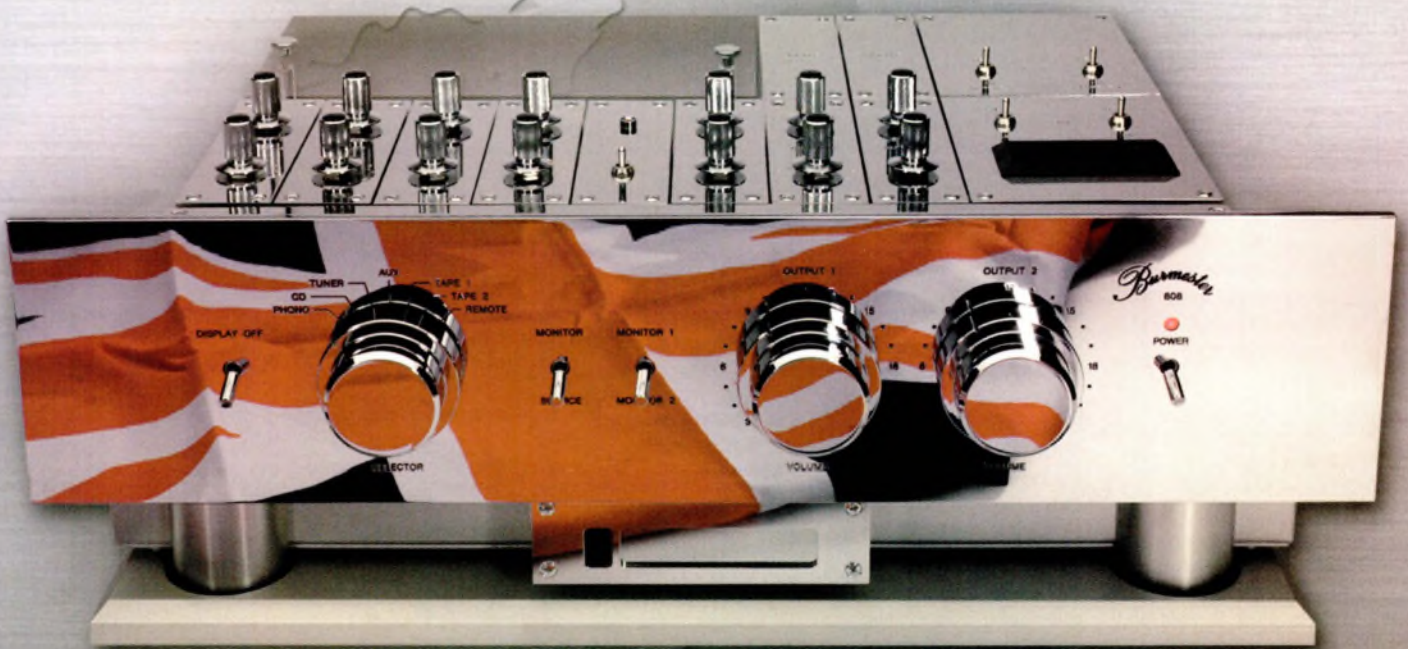
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# Hi-Fi Choice

## 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 (see *How We Test* p38).

All the equipment we rate most highly is contained within the following pages, from CD and vinyl to the latest

disc players, amplifiers, tuners and loudspeakers.

### 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 Guide (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

### 111 \_ Phono cartridges

The best in both magnetic and moving coil cartridges

### 113 \_ Radio tuners

Surf the airwaves with any one of these carefully selected tuners

### 113 \_ Headphones

Badge-winning headphones for your personal listening pleasure

### 117 \_ Streamers/servers

Our favourite next-gen hi-fi, from streaming clients to full-on servers

### 117 \_ DACs

Digital-to-analogue convertors are once again revolutionising quality



## AMPLIFIERS

### 115 \_ Stereo amplifiers

Our pick of the world's best one-box integrated amplifiers

### 115 \_ Pre/power amps

For those occasions when two boxes seem better than one



## CABLES

### 117 \_ Interconnects

Cables can provide a useful tweak to your system, check out our choices

### 117 \_ Speaker cables

Priced per metre, these are our top recommendations for taming speakers



## LOUDSPEAKERS

### 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

### 129 \_ Dealer directory

For all your hi-fi wants, check our index of independent hi-fi dealerships



**BADGES KEY:** RECOMMENDED = ● | EDITOR'S CHOICE = ● | GROUP TEST WINNER = ● | BEST BUY = ●

## CD players



Any one of these fine players will make sweet music for years to come

### Up to £1,000

Badge	Product	Price	Comments	SACD compatible	ELEC digital output	OPT digital output	CD-RW compatible	BAL analogue out	Headphone socket	CD text	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 650BD</b>	400	Musical, precise, involving and with great energy at a superb price									340
●	<b>Creek Evolution 2</b>	680	Smart and desirable-looking player with lots of detail present in performance									350
●	<b>Exposure 2010S2</b>	710	Paired with the 2010S2 amp, this CD player is a fine performer with plenty of detail									344
●	<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>Musical Fidelity M1 CDT</b>	600	Reviewed in combination with the M1 DAC, this CD transport holds its own against the competition									346
●	<b>Oppo BDP-95EU</b>	999	This universal player is revealing, transparent and musically involving									347
●	<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	SACD compatible	ELEC digital output	OPT digital output	CD-RW compatible	BAL analogue out	Headphone socket	CD text	Variable output	Issue number
●	<b>AMR CD-777</b>	3,195	Extremely natural and engaging sound that brings analogue to the digital world									332
●	<b>Arcam CD37</b>	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution									340
●	<b>Audio Analogue Maestro</b>	2,250	Boasts refined highs and good image quality with a fine sense of timing									348
●	<b>Audio Note Zero CD/II</b>	1,742	Reviewed as part of a system, this really is a CD player for those who don't like CD									348
●	<b>Ayon CD-075</b>	1,890	Open and fluent player; excellent pace with all kinds of music									351
●	<b>Creek Destiny</b>	1,400	This player presents the music and nothing but the music and is thoroughly recommended									328
●	<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>Krell Cipher</b>	12,255	Vivid, highly detailed sound – SACD has rarely sounded so good									350
●	<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 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									348
●	<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>Shanling CD-T2000</b>	1,895	Great sound, good looks, superb build and unbeatable price									350
●	<b>Unison Research Unico CDE</b>	2,475	Has an engaging and musical sound with strong tonal realism									348

**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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## Turtables



The best record players money can buy

Badge	Product	Price	Comments	Speeds	Switchable speed change Suspension subchassis	Supplied with arm Supplied with cart	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	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	33/45	●	opt opt	319
●	<b>Michell Gyro SE</b>	1,150	Excellent timing really propels a very good performance. Plenty of detail and insight, too	33/45	●	● ● ●	345
●	<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 RPM 10.1 Evolution</b>	2,000	This turntable is a good combination of high mass and effective suspension	33/45	●	● ● ●	348
●	<b>Pro-Ject Xperience 2 Pack</b>	775	Holds its own against all competition (arm included)	33/45	●	● ● ●	345
●	<b>Pro-Ject 6 Perspex</b>	1,280	Plenty of detail and good rhythmic qualities (arm included)	33/45/78	●	● ● ●	338
●	<b>Rega RP3</b>	475	Turntable with the uncanny ability to get to the heart of the music	33/45	●	● ● ●	351
●	<b>SRM Tech Arena</b>	650	A welcome addition to the affordable end of the market, this is an engaging turntable	33/45	●	● ● ●	349
●	<b>Townshend Rock 7</b>	1,750	Very well-defined bass; good detail; well judged rhythm and pace (reviewed with Excalibur arm)	33/45	●	● ● ●	345
●	<b>Well Tempered Simplex</b>	1,495	Superb timing makes this one of the most entertaining turntables in its price range	33/45	●	● ● ●	347

## Phono cartridges



MM and MC recommendations

Badge	Product	Price	Comments	MM	MC	Issue number
●	<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 2M Red</b>	80	A little fussy about set up, but sound is admirably balanced and full of unforced detail	●	●	345
●	<b>Ortofon Vivo Red</b>	200	Never less than musically convincing, this all-in-one cartridge is remarkably capable	●	●	338
●	<b>Ortofon Cadenza Red</b>	750	There's much to admire in this cartridge's fine detail and unfussy presentation	●	●	330
●	<b>Shure M97xE</b>	82	A budget cartridge, but bass and midrange are to high-end standards and treble is just as assured	●	●	345

## 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>Primare R32</b>	850	If you are into vinyl for the music, then this is one of the most revealing examples on the market	●	●	●	●	345
●	<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

**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





**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	Wavebands	Presets	Sig. Strength Meter	RDS	Remote control	Rot. tuning knob	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+AT1210R</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	DAB, FM	100	●	●	●	●	319
●	<b>Onkyo T-455DAB</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	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	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	Open / Closed back	Circumaural	Supra-aural	Electrostatic	Weight (grams)	3.5mm jack adaptor	Issue number
●	<b>AKG 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 GS1000i</b>	1,100	A superb transducer, capable of astonishingly high performance standards	●	●	●	●		●	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>Jamo wEAR In30</b>	80	In-ear headphone sound is beguilingly musical and very detailed across the board	●	●	●	●		●	348
●	<b>Klipsch Image X10i</b>	229	Natural sound and fit; lightweight and unobtrusive in-ear headphones	●	●	●	●	10	●	342
●	<b>Sennheiser CX880i</b>	83	This in-ear headphone is excellent for the price and the results overall are most impressive	●	●	●	●		●	348
●	<b>Sennheiser HD380</b>	140	This model offers good sound and is a worthy alternative to in-ear monitors	●	●	●	●		●	327
●	<b>Unique Melody Miracle</b>	775	Great build and sound, the custom-moulded Miracles are one of our favourite in-ears	●	●	●	●		●	346

**SPECS KEY** **ELECTROSTATIC** Uses electrostatic film instead of more common cone or dome dynamics. **SUPRA-AURAL** Earpads sit on ear rather than around it. **CIRCUMAURAL** Earpads rest on the head around the ears. **OPEN BACK** Vented capsules let sound in and out. **CLOSED BACK (●)** Sealed capsules. **WEIGHT** In grams. **3.5MM JACK ADAPTOR** Allows connection to personal stereos, computers etc.

## HFC TOP PICKS



### Bowers & Wilkins P5 £250

The P5 is a no-brainer for iPhone users but this well built and attractive design should be able to win friends from outside the Apple camp as well



### PURE Sensia £250

PURE's ground-breaking touch-screen DAB radio has changed the way we interact with radio forever and sets the standard for innovation



### Beyerdynamic T1 £880

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**BADGES KEY:** RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

## Amplifiers

Our pick of the best one-box amps out there



**Up to £1,000**

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	<b>AudioLab 8200A</b>	730	Has detailed sound with good extension and unusually assured midrange	6				60	349
●	<b>Cambridge Audio 840A v2</b>	800	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)	8	●	●		120	327
●	<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>NuForce Icon 2</b>	235	Detail and imaging make few, if any, concessions to full-size amps at twice the price	2		●	●	24	352
●	<b>Pro-ject Stereo Box S</b>	199	Engagingly energetic amp with more than passable analytical skills	2		●		18	352
●	<b>Rega Brio-R</b>	398	Fights well above its weight in terms of timing and musicality	4	MM	●		50	352

**Above £1,000**

●	<b>Audio Analogue Verdi Cento</b>	1,600	A capable and strong performer with many likeable features	5	MM/MC	●		70	352
●	<b>Audio Note iZero</b>	1,548	A fine performer that provides a catalyst for the Zero system CD player and loudspeakers	4				8	348
●	<b>Bel Canto C5i</b>	1,799	This integrated amp/DAC produces a very energetic sound with plenty of detail	2	MM			60	351
●	<b>Consonance Cyber 10 Sig</b>	1,595	Gorgeous tube amp delivering high-end performance at a realistic price	5				11	345
●	<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 EC15 Mk II</b>	2,750	Big, characterful and beautifully built amp, with equally big and unforced sound	6				120	349
●	<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>Icon Audio Stereo 60 Mk 3</b>	1,700	An energetic valve amp that offers high power and delivers it with confidence	4			●	65	346
●	<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>Moon I3.3</b>	3,000	Lively and lifelike with a good sense of rhythm and generally good performance	4	opt	●	●	10	349
●	<b>Pathos Ethos</b>	3,250	A highly capable two-channel amp that offers great sound, plus a versatile equipment interface	6	●			100	348
●	<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>PrimaLuna Prologue Two</b>	1,820	This valve amp has many fine qualities that will endear it to many audiophiles	4		●	●	30	346
●	<b>Primare I32</b>	2,200	Gorgeous sound, while the prospect of future upgrades is truly mouth-watering	3				120	344
●	<b>Rega Elicit</b>	1,595	A very good bass, while imaging and detail provide an involving and enjoyable listen	5	opt	●		80	349
●	<b>Unison Research S6</b>	2,990	This valve amp creates a big spacious soundstage with ample depth and width	5				35	347

## Pre/power amplifiers

Separate boxes can bring clear advantages



**Up to £2,000**

Badge	Product	Price	Comments	Pre-amp	Line inputs	Phono input	Remote control	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	●	●	●	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	●	●	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	●	●	6	opt	100	323
●	<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 Audio CP-800</b>	4,450	A future-proof and well-built preamp with an excellent USB DAC and range of features	●		6		350	
●	<b>Cyrus Stream XP</b>	2,000	An easy to use streaming DAC/preamp with a great combination of sound quality and features	●		5	●	346	
●	<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>Onkyo P-3000R/M-5000R</b>	4,200	Superb sounding combination with excellent build, flexibility and connection options	●	●	6	MM	80	345
●	<b>Quad Elite Pre/Mono</b>	1,500	Clear and well-focused bass, plus a sound with a high degree of simple honesty	●	●	6	MM/MC	150	349
●	<b>Trilogy 909/990</b>	10,390	Extremely musical valve-based pairing with hybrid power and beautiful finish	●	●	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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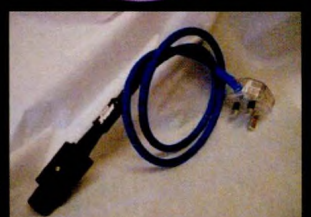
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## Streamers/music servers

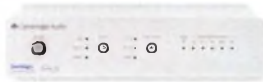


Streaming and music servers are opening up a new dimension in listening pleasure

Badge	Product	Price	Comments	Internal drive	Internet radio	USB	Balanced output	Digital output	Issue number
●	<b>Cambridge Audio Sonata MP30</b>	400	A fully featured streamer that sounds remarkably open and works well wirelessly	●	●	●	●	●	349
●	<b>Logitech Squeezebox Touch</b>	240	Possibly the best user interface we've seen on any dedicated digital audio player	●	●	●	●	●	351
●	<b>Marantz NA7004</b>	600	Easy to use, the NA7004 makes getting into streaming simple and all for a great price, too	●	●	●	●	●	351
●	<b>Naim ND5 XS</b>	1,925	A 'starter' product, its performance actually comes close to that of a reference-level streamer	●	●	●	●	●	35
●	<b>Rotel RDG-1520</b>	795	A great product for those unaccustomed to internet-based audio	●	●	●	●	●	351

**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 output **DIGITAL OUTPUT** Fitted with a digital output

## DACs



Digital-to-analogue converters are back and the price has come right down

Badge	Product	Price	Comments	Coaxial input	Optical input	USB	Wireless	Sampling rate (Hz)	Headphone socket	Volume control	Issue number
●	<b>Antelope Audio Zodiac Plus</b>	1,895	Remarkable resolving capabilities and more inputs than the majority of DACs	●	●	●	●	192	●	●	345
●	<b>Benchmark DAC1</b>	950	Very clean sound with plenty of detail and also good rhythmic drive	●	●	●	●	192	●	●	341
●	<b>Cambridge Audio DacMagic</b>	230	Detail and imaging are very good and a decent feature count only adds to the appeal	●	●	●	●	96	●	●	331
●	<b>Electrocompaniet PD1</b>	1,250	Great sound and superb build, the PD1 allows you to access music on your computer hard drive	●	●	●	●	192	●	●	350
●	<b>furutech GT40</b>	395	The perfect 'missing link' between analogue and the home computer	●	●	●	●	96	●	●	342
●	<b>Matrix Mini-i</b>	260	Agile, lively and detailed sound with clear and full-bodied bass	●	●	●	●	192	●	●	349
●	<b>M2 Tech Young DAC</b>	1,200	For affordable ultra-high resolution, this DAC has detailed sound and is full of life and vibrancy	●	●	●	●	96	●	●	350
●	<b>NuForce DAC9</b>	1,095	A very capable DAC with good input and output provision	●	●	●	●	192	●	●	350
●	<b>Rega DAC</b>	498	A little stunner, combining genuinely high-end sound with a good feature set	●	●	●	●	44	●	●	346
●	<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	●	●	●	●	192	●	●	341

**SPECS KEY** **COAXIAL INPUTS** Fitted with a coaxial input **OPTICAL INPUTS** Fitted with an optical input **USB** Fitted with a USB input **WIRELESS** Able to receive material wirelessly **SAMPLING RATES** Maximum sampling rate of the DAC **BALANCED OUTPUTS** Fitted with a balanced output **HEADPHONE SOCKET** Can operate as a headphone amp **VOLUME CONTROL** Can be connected directly to an active speaker or power amp.

## Cables



Cables really can make a difference, especially our top recommendations

Analogue interconnects				Stranded	Solid core	Copper	Silver	Digital cable type	Issue number
Badge	Product	Price	Comments						
●	<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	●	●	●	●		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 Bi-Wire</b>	14	Bi-wire cable which is full of sonic virtues. It's highly practical, too	●	●	●	●		339
●	<b>Kimber 4PR</b>	65	Many high-end virtues at a budget price, including a well-judged bass and sweet extended treble	●	●	●	●		349
●	<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 Stream</b>	6	Packs a punch when needed and the detail is good	●	●	●	●		349

**SPECS KEY** **STRANDED** Cable has a number of (usually) twisted strands to conduct the signal. **SOLID CORE** Cable has one or more individually insulated strands to conduct the signal. **COPPER** Material used to form the conducting element of the cable. **SILVER** Alternative material used to form the conducting element of the cable. **DIGITAL CABLE TYPE** E – electrical, O – optical. Cables are one metre length unless otherwise stated.

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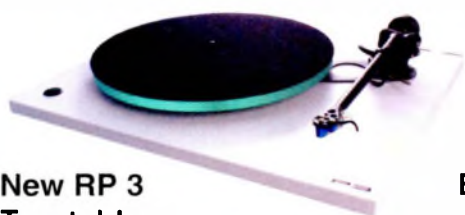
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## Stereo speakers

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 free-space	Issue number
●	<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>Acoustic Energy Neo V2</b>	700	Lots of box, this speaker produces a coherent and engaging sound	20.3,120,30	●	A	●	●	348
●	<b>Amphion Helium 410</b>	600	Speaker combines exceptional clarity and timing with a solid build	13.2,25,9,22	A	60	●	●	351
●	<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>Boston Acoustics A 360</b>	720	A very cohesive and entertaining speaker with a wonderfully musical and tonally even performance	34.5,106,27,4	●	A	●	●	349
●	<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>Cambridge Audio S30</b>	130	At its best with energetic, rhythmic music, this bookshelf speaker has class-leading bass	16,22,6,23,5	●	●	●	●	347
●	<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>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>Elipson Planet L</b>	600	Well built and clever design, this is a fine-sounding speaker with many likeable qualities	40.5,42.3,42.8	A	48	●	●	350
●	<b>Epos Epic 5</b>	750	Excellent aesthetic and lively, involving sound, this is a superb performer	28.6,98,38	A	●	●	●	347
●	<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 L890</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	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 BX5</b>	500	Attractive and compact design with fast and engaging sound	21.5,86.8,24.8	●	A-	●	●	345
●	<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 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 2010</b>	115	The sheer cleanliness of this speaker's sound is astonishing	15,23,4,20,3	●	●	●	●	347
●	<b>Q Acoustics 1020i</b>	140	Outstanding value, t smooth well-balanced and lively sound makes a fine communicator	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>Roth Audio OL10</b>	100	An even-handed bookshelf loudspeaker with very good upper-bass energy	15.3,199,178	●	●	●	●	347
●	<b>Tannoy Revolution DC6T</b>	820	Good-looking and compact floorstander with a beautifully judged overall balance	20.2,95,25,3	●	A	●	●	346
●	<b>Teufel T500</b>	568	Good value, solid build and an extended warranty	19.5,105,32,5	●	A-	●	●	340
●	<b>Triangle Color</b>	899	Excellent build, with strong and evenhanded sonics	18.8,96.5,27,5	●	A	●	●	349
●	<b>Wharfedale Diamond 10.0</b>	130	A strikingly energetic bookshelf speaker that's notably communicative with voices	14.5,23,6,16,5	●	●	●	●	347
●	<b>XTZ 99.26</b>	670	Astonishing value for money, this is a very talented performer with well-recorded music	24.4,39,9,35,2	●	●	●	●	348

### 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	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>Audio Note Zero AZ-Two</b>	1,294	A sensitive and immediate-sounding speaker and tested as part of the Zero system	25,90,30	A	●	●	●	348
●	<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 PM1</b>	1,995	This standmount boasts fine imaging, superb neutrality and dynamic range	19x33x25	A	40	●	●	352
●	<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>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>DALI IKON 7 MkII</b>	1,669	With a wide dynamic range, this speaker offers high performance at a realistic price	20x117x36.4	●	A	●	●	348
●	<b>Dynaudio DM3/7</b>	1,299	Sound has a fine overall balance and impressive bass weight	20,4,96,27,5	●	A	●	●	345
●	<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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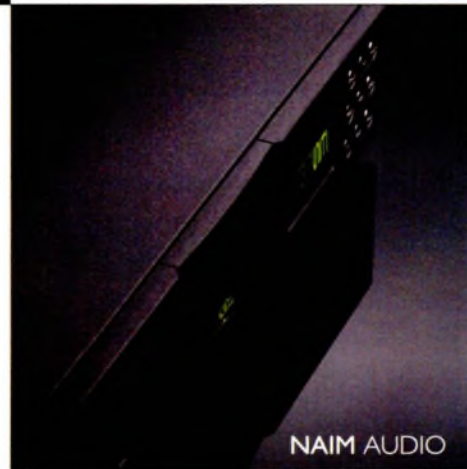
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## Stereo speakers (continued)

Shapes and sizes for every budget

Badge	Product	Price	Comments	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	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	44,118,9,7	●	A	30	●	●	317
●	<b>KEF Blade</b>	20,000	With its wide dynamics and good imaging, this is a stylish performer	36,3,159,54	●	A	40	●	●	351
●	<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	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	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 Gold GX200</b>	2,300	A stylish speaker free from boxiness with wide dynamic range	17,99,30	●	A	25	●	●	349
●	<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	23,37,5,34			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	29,1,56,5,42,5	●	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	●	●	347
●	<b>PMC FB1i</b>	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	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>Quadral Aurum Altan VIII</b>	1,570	This speaker has a warmth that belies its size and a very laid-back character	22,2,40,5,34,6	●	A	52	●	●	350
●	<b>ProAc Studio 140 Mk2</b>	1,690	Headroom and high sensitivity are an encouragement to play it loud	19,104,28	●	A		●	●	347
●	<b>Rega RS7</b>	1,685	Lively and transparent with superior dynamic range	24,6,98,8,34,6	●	A	-	●	●	347
●	<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	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	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	16,85,24,2	●	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	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	30,5,125,30,5	●	A	25	●	●	327

**SPECS KEY** **SIZE W,H,D (CM)** Width, height and depth of one cabinet in centimetres. **FLOORSTANDER** Speakers that don't require stands. **EASE OF DRIVE** How much power the amplifier needs (approximately) to drive the loudspeaker effectively. **A+** 25 watts plus **A** 50 watts plus **A-** 100 watts plus **ACT** Active – the speaker has its own in-built amplifier. **BASS FROM** How low the speaker goes – the smaller the number the deeper the bass. **FREE SPACE** The speakers work best away from wall(s). **CLOSE TO WALL** The speakers will work best when up against a wall (but avoid corners).

## HFC TOP PICKS

**Castle Knight 2 £400**

The Knight 2 continues in the great Castle tradition of excellent finish and solid build and climbs to the top of the pile with excellent sonic performance

**Focal Chorus 826W LE £1,879**

Focal has taken the 826 and turbocharged it, keeping the virtues of the stock model but with increased energy, excitement and detail

**PMC fact.8 £4,600**

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## 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	MDF 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	MDF 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		Metal 311
	<b>Custom Design XL4</b>	380	Simple construction pays off in smart looks. Sound contribution is minimal		60,42	4	Glass 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	Glass 302
●	<b>Hi-Fi Racks Podium</b>	500	A keenly priced piece of high-class furniture that also happens to sound great		59,5		Wood 320
●	<b>Isonoe Isolation feet</b>	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables				Alloy 327
●	<b>Magic Racks MR1</b>	600	At its best it's very effective and gives real isolation across the audio band	59			Rubber 344
●	<b>Pro-Ject Ground It</b>	255	A very simply designed isolation base, with is very effective when reducing vibration		50,40	5	MDF 351
●	<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	MDF 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	Torlyte 240
●	<b>Townshend Seismic Sink</b>	400	Pricy platform, that makes an obvious difference to any turntable's performance		50,40		Steel 351

## 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	Issue number
●	<b>Atacama Duo 6</b>	65	Maintains high standards in mid and treble, with excellent tonality and good detail		17,13	●	1 346
●	<b>Custom Design FS104</b>	190	Gets excellent results out of speakers small and large, and excels in fine detail and precise imaging			●	1 346
●	<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>Quadraspire QV60</b>	250	This stand helps maximise detail and tonal resolution				1 346
●	<b>Soundstyle Z2</b>	70	Bass can be a little imprecise, but there's plenty of detail on offer		17,13	●	1 346

**SPECS KEY HEIGHT (CM)** Height of equipment support and speaker stand (not including spikes) in centimetres. **TOP PLATE SIZE (CM)** Width by depth of the supporting platform(s). Single figures indicate a square platform (Speakers generally overhang top plates). **FILLABLE** The stand can be mass-loaded with sand and/or lead to stop ringing. **WELDED** As opposed to bolt-together construction. **NUMBER OF SHELVES** To put your kit on (different configurations are often available). **NUMBER OF LEGS** That support the stand. **SHELF TYPE** Material that shelves are made of.

### HFC TOP PICKS



#### Atacama Duo 6 £65

This value-priced loudspeaker stand adds a hint of vibrancy to the sound and there's plenty of life and energy in the midrange and treble



#### Quadraspire Sunoko Vent T £800

A clever solution to the twin problems of equipment cooling and resonance, thanks to a unique shelf design, makes this a worthy 2010 award winner



#### Townshend Seismic Sink Platform £400

Made of steel, this platform makes any turntable immune to the effects of floor-borne vibration, as well as producing noticeable improvements to CD

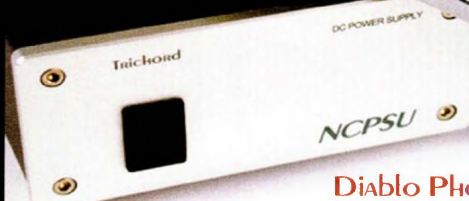
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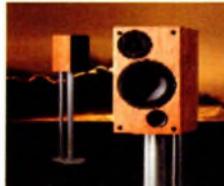
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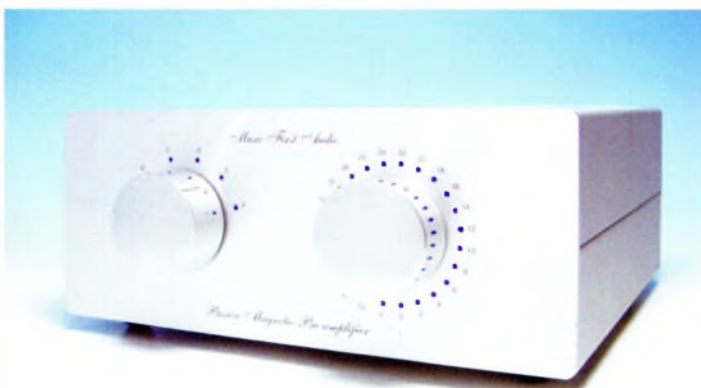
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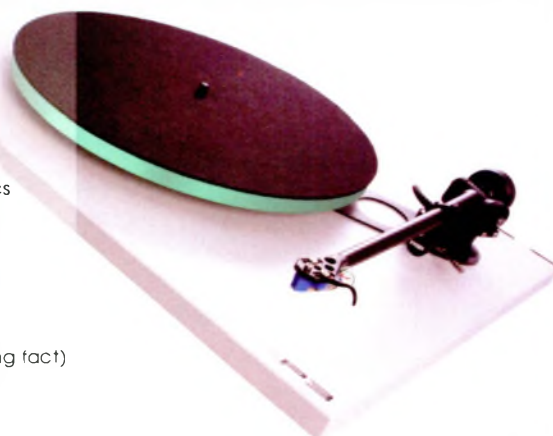
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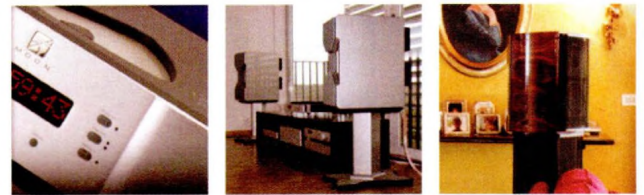
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# Fighting for FM

**Martin Pipe** considers the future of radio-listening after the great FM shutdown – whenever that is...

**T**he sound quality of a pukka FM/VHF tuner – certainly from some broadcasts, such as BBC Radio 3's live concerts – knocks DAB into a cocked hat. There may be alternatives like Internet radio and Freeview/satellite, but none offer FM's sheer convenience or availability. Retrofitting many newer cars with DAB will be difficult, owing to their integrated nature.

A few years ago, PURE launched its 'Highway' – a windscreen-mounted DAB radio with an inbuilt FM 'microtransmitter' of the type that's available as an iPod accessory. These CE-approved devices contain a single-chip stereo encoder, which frequency-modulates a crystal-controlled oscillator with an RF output power of less than 10 milliwatts. A tiny aerial gives the unit a range of a metre or so, enabling its signals to be picked up by the car radio. A new version of the Highway, the 300Di, is due shortly.

It will be some time, however, before technology allows motorists to sample internet radio, although all of the elements are already here in one form or another. Ironically, one of the proposed uses of the 20MHz currently occupied by FM broadcasting is wireless broadband, which could deliver internet radio. This was just one of the exciting new services that the previous Government was waving in the faces of traditionalists. FM broadcasting could possibly survive in the form of low-powered community stations, but nothing more. In June 2009, a Digital Britain report suggested that the established FM services could be shut down as early as 2015.

Naturally, there was uproar – adding their voices to the hi-fi brigade were drivers, anyone who didn't relish the prospect of replacing every radio in their home, and those concerned about the unrepairability and power-consumption of DAB radios. Since the report was published, there has been a change of Government. And while the current administration is also committed to the shift of radio to digital, it's being rather more thoughtful about the process.

In the words of Communications Minister Ed Vaizey, the 2015 date is now merely "an aspiration". FM would disappear only when, "the weight of public opinion" allows. To this end, the DCMS has published a Digital Action Plan.

Its latest version (number four) is dated June 2011, and acknowledges the, "industry desire to reduce the burden of dual-transmission through an early switchover". However, it states that a decision can only be made when 90 per cent of the UK has adequate DAB coverage and "50 per cent of all radio listening" is via digital.

The report outlines a considerable number of 'work plans', each of which covers areas as diverse as emergency-communications, regulation, hardware assessments, traffic-information services and radio spectrum. The final activity associated with these is scheduled for the tail-end of 2013, and the build-up to switchover 'proper' can then begin. We could be in for quite a wait.

## High-quality alternatives

Understandably, many of us would like to keep those high-quality tuners going when FM finally disappears. And so what are our options? We've already mentioned the microtransmitter – a licence-free option that's been legal since November 2006, when the Wireless Telegraphy (Exemption) regulations were modified to include them. Such a device could be driven by any line-level source, such as a CD player, digital radio-tuner, set-top box, PC or personal music-player. There are, however, higher-quality alternatives.

On the DIY front, you'll find plenty of circuits for stereo encoders and low-powered transmitters. They're aimed primarily at illegal 'pirates' and although frequently ingenious, the sound quality of these designs is variable. The Dutch magazine *Elektor* and the now sadly defunct trade publication *Television*, both published decent designs, but a lot of work is involved; the *Elektor's* components are difficult to get hold of, and no board design was ever published for *Television's* circuit.

Some respectable-looking products are available via eBay; you might come across a stereo test-generator of the type used to service FM radios – though unless you enjoy listening to sine-waves, it must make provision for 'external modulation' (i.e. audio inputs). I'll be examining some options in a future column.



A Digital Britain report suggested that the established FM services could be shut down as early as 2015 – naturally, there was an uproar



**MARTIN PIPE**

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

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