



## Turntables on test

Roksan, Michell, Pro-Ject, VPI, Clearaudio and Inspire go head-to-head from £2,000

## System boosters

Brand new sub-£300 DACs from NAD and TEAC rated



# Hi-Fi Choice

**PASSION FOR SOUND**

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

January 2012

£3.99

## Great Britons

PMC's new twenty series brings hot trickle-down tech to just £2,000

## Glorious glassware

Can the new Canor integrated valve amp put Slovakia on the hi-fi map?

## Linn's secrets revealed!

We take a look inside the heart of the factory

## Beautiful systems

AMR's CD and hybrid amp sing through WLM Diva Monitors

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specialy selected reviews including: NAD, Creek, Spendor and MAD

## Ray of light

Raysonic's sparkling valve-powered CD player



## Acoustic Energy Reference 1

Exclusive! Our verdict on the new £1,500 standmount



ONLY AVAILABLE DIRECT

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



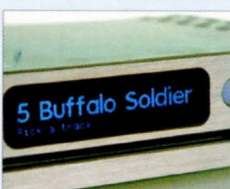
Store, browse and play up to **5000 CDs\*** - at the touch of a button!



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



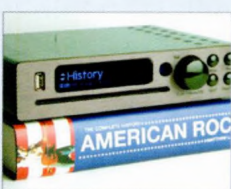
One simple button will play your entire collection at random!



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!"*

OVER 10,000 ALREADY SOLD!

Martin Brennan

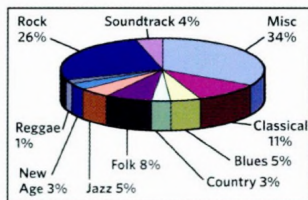


### The face behind the Brennan JB7

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.



**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

- 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,



**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. **354** January 2012



There's something about this time of year, I find, that's very suited to analogue listening; it's the warm glow of valves on a cold winter's evening and the comfort of a nicely broken-in listening chair after cueing-up a favourite LP. With this in mind, we've painstakingly assembled six of the most important turntables on the market today to see which models our blind-listening panel think will serve you best.

But, the most exciting products this month both take a more boxy form: we're first to reveal PMC's new twenty series with a scoop review of the new twenty.23 floorstander on p56.

For something quite different, we've also got the world's first review of the new Acoustic Energy Reference 1 standmount. But which is best for your Beatles and your Brahms? You'll have to read on to find out...

*Dan*

**Dan George** Editor

AVTECH MEDIA LTD HADLOW HOUSE, 9 HIGH STREET,  
GREEN STREET GREEN, ORPINGTON, KENT BR6 6BG

### 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.



Never miss an issue – turn to p34 for our latest subs offer



web site:

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



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# McIntosh®

LEGENDARY PERFORMANCE™

Since 1949, McIntosh has defined quality sound reproduction and continues to set the standard for performance, reliability and service.

Every music lover has their own personal reasons for owning McIntosh. For some it is the workmanship and tank like build quality. For others it is the prestige and history of a brand that never stops listening to it's customers.

The reasons are many, but what brings every customer together, is the need for the most accurate sound in their listening room and McIntosh delivers every time.



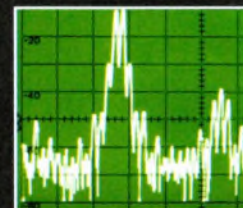
A tremendous level of detail goes into the design and construction of a McIntosh product. It can take up to two years from initiating the concept to creating the final product.



PC boards are built in McIntosh's factory in Binghamton. Two auto insertion machines are used for most boards. Unique boards are delicately crafted by hand.



McIntosh design its unique Output Autoformer® for use in many solid-state power amplifiers. The manufacturing sequence begins with coil winding techniques that have been used for 50 years.



Power Guard dynamically adjusts the input levels to avoid "clipping" while preventing harsh sounding distortion. The volume adjusts at the speed of light to prevent overdriving.



### MCD1100 CD/SACD Player

Variable volume output, Dedicated headphone amp. Five digital input source switching.



### C48 Preamplifier

Twin moving coil/moving magnet. Dedicated headphone amp. USB Input, Integrated DAC.



### C50 Preamplifier

Twin moving coil/moving magnet. Dedicated Headphone amp. USB Input, Integrated DAC.



### MCLK12 "ICONIC" Clock

Designed to either hang on the wall or to fit in an equipment rack. Illuminated digital meters for hours and minutes. A true collectors piece for all McIntosh fans.



### MC302 Power Amplifier

300wpc, Larger/Easy to read power watt meters. Ultra low distortion design.



### MC452 Quad Balanced Power Amplifier

450wpc, Most powerful McIntosh stereo amplifier, Luxurious McIntosh engineering.

\*subject to conditions

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**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**

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address: *20-22 Cadham Centre, Glenrothes  
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Open: Monday - Friday. Closed Saturday.*

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on **twitter**



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



Sentry Monitor is a fuse-less short circuit, which disengages the output stage before current exceeds safe operating level and resets automatically.



The McIntosh Blue Watt meters have become a symbol of superior quality sound. McIntosh customers appreciate both the aesthetics and the protective function.



McIntosh cuts 1/8 to 1/2 inch glass faceplates with genuine garnet dust to diminish friction and protect your investment over generations of enjoyment.



McIntosh black faceplates are painted with 12 layers to deliver a beautiful finish that is easily viewed in softly lit rooms. Each faceplate is examined for quality by dedicated McIntosh experts.

McIntosh is about music as a whole and not about what type of music you like. Whether you love Classical, Jazz, Pop, Dance, Rock or Heavy Metal, no matter how eclectic your musical tastes, McIntosh delivers the music you love as the artist intended.

### McIntosh legends

Visit the McIntosh web site ([www.mcintoshlabs.com](http://www.mcintoshlabs.com)) where you will discover a wealth of resources, including videos from legendary musicians who explain why they will never part with their much loved McIntosh systems.

### Hear the difference and join the McIntosh family

Why not give us a call on **01202 911 886** or **01592 744 779** to arrange an appointment to come and experience McIntosh - **because ordinary isn't for everyone.**

**hi-finews**  
EDITOR'S  
CHOICE



#### MC601 Monoblock Amplifier

"There was an immediate sensation apparent upon hearing this McIntosh combination, even from ice cold: that of true greatness in every sense of the word."  
Ken Kessler, Hi-Fi News, May 2011



#### MT10 Turntable

Factory preset tracking force, anti-skate and cartridge position. Two sapphire (horizontal) and two ceramic (vertical) bearings, custom tonearm, 5mV (ebony body) moving coil cartridge included.



#### MC2301 Monoblock Amplifier

300wpc. Delivers the most extraordinarily lifelike and dynamic performance ever heard from a McIntosh tube amplifier.



#### MXA60 Lifestyle System

Integrated Audio System: 75 Watt Amplifier/pre, CD/SACD Player, AM/FM Tuner and Loudspeakers (pair). Measures 22.5" long, 10.6" high, and 14.9" deep, including loudspeakers.



#### Loudspeakers XR200, XRT1K and XRT2K

McIntosh produce a formidable range of loudspeakers. Perfectly suited to both 2-channel and Home Theater, they sound as striking as they look.

\*subject to conditions

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**Never miss an issue – turn to p34 for our latest subs offer**

## Mark of Distinction

TEAC takes the fight to established contenders with a new range of components

**PRICE: £800-£2,000**  
**AVAILABLE: NOW**  
**CONTACT: 0845 130 2511**  
**WEB: TEAC.CO.UK**

**T**EAC has long been a strong player in both the compact section of the market, with the highly regarded Reference Series, and also in the high end with its sub brand Esoteric. Not content with this, the company has now announced the new Distinction series.

The brand new products are intended to close the gap between the well regarded budget components and the Esoteric range and aim themselves squarely at the highly competitive £800-£2,000 price point.

The range takes a number of styling cues from the Esoteric components

The UK range comprises two CD/SACD players and two partnering integrated amplifiers and takes a number of styling cues from the Esoteric components. The all-aluminium enclosures feature 10mm-thick front panels with a similar overall appearance to the more expensive models.

The two CD/SACD players are the £800 CD-1000 and the £1,500 CD-3000. The CD-1000 features a

Cirrus Logic CS 4398 chipset and RCA outputs. The CD-3000 is more technically interesting in that it uses a pair of the same chips in a dual-mono layout. These can also be accessed via a coaxial digital input and a USB socket, allowing the CD-3000 to operate as an external DAC. The RCA outputs are joined by balanced XLR outputs for more connectivity options. Given TEAC's considerable expertise in the field of transport mechanisms, the Distinction units are likely to be bespoke designs.

These units are joined by the £800 AI-1000 and £2,000 AI-3000 integrated amplifiers. The AI-1000 is an 85-watt design with five line inputs and an AV bypass. The AI-3000 is an altogether larger piece of equipment. At 230mm tall, 500mm deep and weighing in at over 31 kilos, this is an impressive-looking device. With an output of 200 watts into eight ohms, the AI-3000 looks able to handle any speaker it is likely to be connected to.





## DISTINCTIVE?

**TEAC FACES NO** shortage of competition from the usual suspects in the £800 to £2,000 category. At every price point there are some superb products that the Distinctions will have to go up against. The SACD capability of the CD players is useful and the huge power output of the AI-3000 should be able to make short work of most loudspeakers. We will be featuring a review of the 3000 amp and CD in next month's issue, which will see if these two live up to their promise.



# 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)

# Electronica

New Blu-ray universal from Electrocompaniet

**E**lectrocompaniet has launched the EMP 2 universal Blu-ray player. Said to offer very high performance with both audio and video, the EMP 2 supports CD, DVD-A, SACD and compressed audio formats. Both stereo and multichannel SACD playback is possible

and the built-in DAC is capable of native DSD decoding for optimal results. Output filters help maintain the phase characteristics of the signal.

In keeping with the Electrocompaniet philosophy, balanced stereo outputs are also supported. The EMP2 is DNLA

certified and capable of streaming files via an ethernet connection on the rear panel and over wireless.

On the video side, the EMP 2 uses a Qdeo video processor and supports high-definition video and is 3D-capable via a pair of HDMI 1.4a outputs.



**PRICE:** £2,490 **AVAILABLE:** NOW **CONTACT:** 020 8893 5835 **WEB:** ELECTROCOMPANIET.NO

# Pod people

**SCANDYNA** has updated its classic MiniPod loudspeaker after nearly 20 years and nearly 100,000 units sold. The new model features a new mid-bass driver that incorporates a four-way aluminium voice coil for improved efficiency. This allows for a higher crossover between the main driver and tweeter to 2,700Hz.

The Minipod II retains the same exterior design as its forebear, with a cabinet based around an

amalgamation of three spheres to form a single pressure vessel. This can be mounted on spikes, a dedicated wall bracket or placed on speaker stands. Black, red and white finishes are available with other finishes possible via special order.

**PRICE:** £550  
**AVAILABLE:** NOW  
**CONTACT:** 01189 820400  
**WEB:** SCANDYNA-SPEAKERS.COM



# By the book

Focal's XS Book designed for desktop audio

**F**ocal has launched the XS Book compact speaker system. The XS Book makes use of experience from the CMS40 professional monitor and XS 2.1 system and comprises a pair of two-way speakers powered by a 20-watt stereo amplifier.

Each speaker features a four-inch polyglass cone and an aluminium dome tweeter. Connection is made via a 3.5mm socket to any suitably equipped source.



**PRICE:** £299 **AVAILABLE:** NOW **CONTACT:** 0845 660 2680 **WEB:** FOCAL.COM

# Sunny disposition

**REGA** is putting the finishing touches to its new Apollo R CD player, which we first saw as a prototype at the Manchester show earlier this year.

The new CD is built in the same half-width casework as the award-winning DAC and Brio R integrated amplifier and features a lid mechanism derived from the flagship Isis player.

Internally, the Apollo R makes use of the Wolfson WM8742 DAC. This is partnered with a discrete output amplifier for reduced distortion. A dedicated microprocessor for the display reduces the load on the main microprocessors to improve disc-loading times and initialisation.

**PRICE:** £549  
**AVAILABLE:** NOW  
**WEB:** REGA.CO.UK

# 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.



# Neater

New IOTA standmount is Neat's smallest speaker yet

**N**eat has released its smallest ever speaker in the shape of its new IOTA. The £650 design is intended to provide high-quality reproduction in spaces where even a conventional bookshelf might be too large.

The cabinet has an internal volume of 2.6 litres and is constructed from high-grade controlled-density MDF with considerable internal bracing. This contains a 110mm mid/bass driver derived from the Motive series and for the first time is partnered with a ribbon tweeter. Neat claims this provides superb dynamic contrast and an excellent tonal colour.

The crossover is a hard wired, three element type. Low-loss air core inductors are employed, as well as high-grade polypropylene capacitors. The components are carefully chosen to very close tolerances to ensure excellent pair matching. White and black finishes will be available initially with yellow, red and blue finishes following later.

**PRICE:** £650 **AVAILABLE:** NOW  
**CONTACT:** 01279 719953 **WEB:** NEAT.CO.UK



# Total Eclipse

Eclipse's new high-end desktop system

**E**clipse has responded to the success of its TD307FAII system and created a larger version specifically for the UK market. The TD508II is based around a pair of the 508II 'time domain' speakers, that each uses a single driver, decoupled from the egg-shaped exterior for greater isolation. The die-cast foot allows for 360-degree placement, as well as wall and ceiling mounting.

The TD501 amplifier is the same design as used in the smaller TD307 speaker and features a 12-watt amplifier contained within a unique conical chassis. The system will initially be offered at an introductory price of £669, instead of £837.



**PRICE:** £669 **AVAILABLE:** NOW  
**CONTACT:** 020 7328 4499  
**WEB:** ECLIPSE-TD.NET

# Mighty Meitner

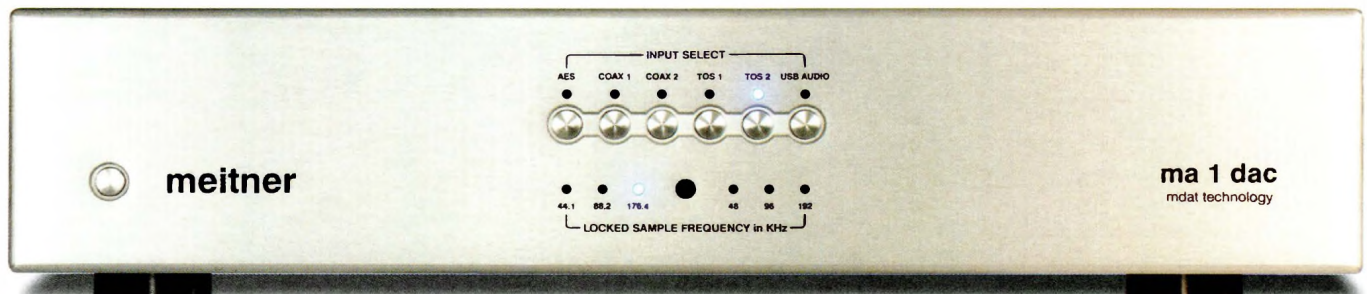
**MEITNER** is the new concern of Ed Meitner, who is largely responsible for the highly regarded EMM Labs SACD players. The MA-1 digital-to-analogue converter is built around what Meitner describes as the "world's best DAC/clock combination" of its own MDAC chipset and MCLK master clock modules.

Six inputs are supported, including an AES input and USB connection. All of them handle sampling rates of 44.1, 48, 88.2, 96, 176.4 and 192kHz.

As well as claiming extremely low levels of output jitter, the MA-1 is said to have extremely high levels of jitter rejection, thanks to the

Meitner Frequency Acquisition System (MFAST™). This instantly acquires the signal, buffers it, then completely strips out jitter.

**PRICE:** £6,750  
**AVAILABLE:** NOW  
**CONTACT:** 01562 731100  
**WEB:** MEITNER.COM



## NEWS IN BRIEF

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



•**ATLAS'S** new £75 Equator III interconnect makes use of the same Integra RCA plug design that gives it many of the performance advantages of the company's high-end Mavros and Asimi interconnects. [atlascables.com](http://atlascables.com)



•**SUPRA** has released the Quadrex bi-wire speaker cable. This is made with short pitch twisting for low inductance and low radiation. A two-metre terminated pair is £180, with longer lengths available. [supracables.co.uk](http://supracables.co.uk)



•**NAIM** has upgraded the NDX network streamer to support 24-bit/192kHz streaming. The Uniti and UnitiQute are also available with 192kHz capability for a small price premium. [naimaudio.com](http://naimaudio.com)



•**ISOTEK** has carried out improvements to its MiniSub mains conditioners. The £699 Wave and £999 Axis feature improved filtering and ISOL-8 Transmodal filter technology. [isoteksystems.com](http://isoteksystems.com)

# Clear thinking

Clearaudio announces a new tonearm and deck upgrades

**C**learaudio's new Verify tonearm incorporates many of the ideas used in the flagship Clearaudio arms and brings them down to a new lower price point. The £640 Verify makes use of magnetic bearings, which effectively suspends the arm tube in a magnetic field and means the only physical contact between the tube and the outside world is via the tonearm cable. Clearaudio claims that this effectively eliminates bearing chatter. The

armtube itself is constructed from a carbon-fibre weave for exceptional rigidity.

Clearaudio has also carried out improvements to the Performance SE turntable featured in this month's *Blind-listening Group Test* (p40). The chassis is made from a high-density fibreboard sandwiched between two layers of aluminium to better control resonance. The bearing has been upgraded and is made from a ceramic alloy with a finer polished surface than normal.



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## DESERT ISLAND DISCS

*Karen Watts*, of Bowers & Wilkins selects a sublime quartet



**ERROL GARNER**  
CONCERT BY THE SEA  
A very poor recording in an old church with an out-of-tune piano, so even more reason to be astounded that Garner's talent shines through, despite these obstacles.



**THE LONGPIGS**  
MOBILE HOME  
Recommended for when you are feeling particularly melancholic. Bitter sweet lyrics cause your stomach to knot and the hairs on the back of neck to rise.



**NITIN SAWNEY**  
PHILTRE  
Deftly combining Indian music, flamenco, western classical and hip hop, you'd expect his music to sound contrived. In fact, it sounds completely organic.



**BJORK**  
BIOPHILIA  
Bjork puts together styles and instruments that you would never dream would work, yet the results are astounding. An epic album by a creative genius.

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# Bargain hunt

It's audiojumble time again and vintage hi-fi aficionado **Martin Pipe** is our man in audio heaven

**A**udiojumble. The mere word conjures up images of what you can expect to find inside the two principal halls of the event, which is held twice a year in Tonbridge's Angel Leisure Centre. Although such suppositions wouldn't be entirely wide of the mark, there's more to the show than elderly radios and domestic hi-fi. Stall-tables are groaning under the weight of broadcasting gear,

test equipment and a staggering variety of electronic components. We also counted a few VCRs and – dare we say it – computers of various 'generations'.

Organiser John Howes is now in the audio manufacturing business. Among his lineup are single-ended triode amps and 21st-century revamps of Paul Voigt's corner speaker. Dating back to the mid-1930s, Voigt horns are revered for their unique sonic presentation.

Howes Acoustics' latest model, the giant 'Voigt Memory', would have been an impractical proposition; in the lobby, though, Music First Audio is playing vinyl and CDs through John's more manageable 'Quarter Wave' loudspeakers.

In another room, Emporium Audio's demos included the aforementioned triodes and an imposing pair of Horning Agathon floorstanders. But for many visitors, the 'true' vintage stuff and the lure of second-hand bargains is enough.

**1** Amongst the Akais, Tascams, Sonys, Revoxes and Grundigs we came across this stunning little reel-to-reel. The Nagra SN may be familiar to you courtesy of its various appearances in films of the thriller genre. Beautifully made

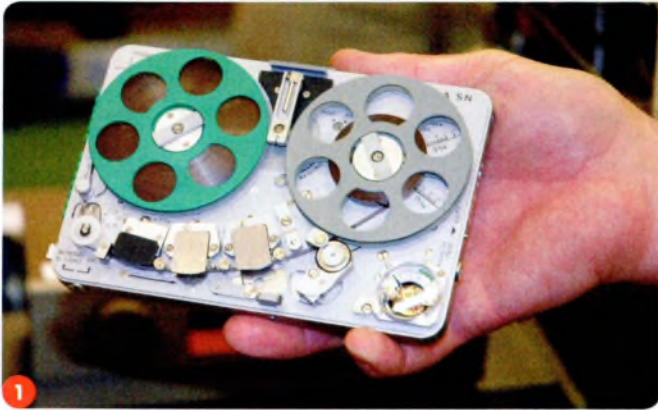
“Tables were groaning under the weight of a variety of electronic equipment.”

with Swiss precision, this mono two-speed machine records a single track onto cassette-width tape. The body of this discreet three-head recorder, which squeezes in a level meter, is machined out of a solid block of aluminum. Rewind, however, is hand-cranked. £600 was being asked for this pristine example.

**2** Audiojumble isn't just about rare esoterica. This NAD5120, a budget turntable fitted with an Ortofon cartridge, could be bought for a mere £15. A two-speed deck, the 5120 is built around a suspended subchassis – like many other belt-drive decks. Couple it with inexpensive amplifiers and speakers (we discovered a pair of Jamo Alto Signatures for £30) and you could assemble a competent vinyl-playing system for much less than £100.

We also spotted two Thorens TD160s, in great condition, going for £60 each. The caveat was that a tonearm was absent in both cases.





3 Back in 1973, Pink Floyd's multimillion-selling album *Dark Side Of The Moon* was a staple demonstration disc and to this day it can give your system a thorough workout, beginning with the bass-heavy heartbeat that opens (and for that matter closes) the album.

DSotM has been available in numerous forms since its

release (including an excellent multi-channel SACD) but purists will prefer to stick with vinyl. This recent 180g edition – complete with original artwork and access to MP3 downloads – was on sale for £20.

4 In the mid-1970s, some of the Japanese audio industry's finest minds were preoccupied

with marrying reel-to-reel quality with the convenience of a cassette. The Elcaset, as represented by this 1976-vintage EL-5, was Sony's attempt to solve the problem. Like domestic reel-to-reel, it had quarter-inch tape, four tracks and a 9.5cm speed. There was also Dolby B and a choice of tape formulations. Technics

was the only other firm to support Elcaset, which was doomed by rapid advances in cassette technology.

The EL-5 was Sony's two-head model (off-tape monitoring was only possible with the three-head EL-7). This one was being offered for £125; it came with a trio of ferric tapes, which is just as well as they're now unobtainable. ▶



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**Cabasse**



5



7



8



6



Garrard 301s are also going from strength to strength in terms of price. If you were after one to fit in your snazzy new plinth, you could be expected to shell out more than £800 for some of the decks available at the show (one of which was still in its original box).

5 For £40, you could acquire one of these plinths for a Garrard 301 and your choice of tonearm (should you wish, it's available pre-drilled for SME, Hadcock and Rega models). It was made by the NAG-Fi Hi-Fi Club, which – according to member Mike Blackmore – is going from strength to strength in membership terms.

6 Howes Acoustics' Modified Quad II takes a classic design and sprinkles it with contemporary pixie-dust – to wit, modern components and an attractive red finish.

Another company showing new valve amps at Audiojumble is Green Home Electronics, which started life renovating old equipment and thereby extending its useful life (give us

're-use' over 'recycling' any day!). This Apollon Audio Apache, shown in the main hall, is a push-pull EL34 design, capable of working in either ultralinear or triode mode. It's designed in the UK, but manufactured in China.

Currently selling for a value-for-money £600, we were told that price rises are alas

Anyone considering this massively built beast of a power amplifier needed to be strong of both arm and wallet. This one sold for £2,000.

8 We also found a Yamaha CT-7000 tuner, regarded as one of the best off-air analogue sources ever made. In excellent condition, this one could have

**“For many visitors the true ‘vintage’ stuff and the lure of second-hand bargains are enough.”**

'inevitable' thanks, in part, to the weak pound.

7 Tubes not your thing? Then how about this? – Krell's KSA-50 MkII, a highly respected Class-A solid-state design capable of delivering 50 watts per channel into an eight-ohm load.

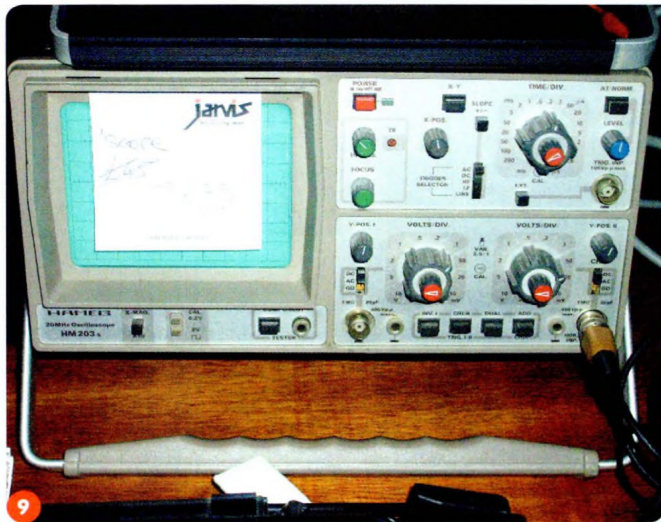
Designed (and built) in America by the legendary Dan D'Agostino, it weighs no less than 27kg – which must surely say something about the rigidity of the tables provided by the venue!

been yours for £300. It's just a pity that VHF/FM broadcasting doesn't have a long-term future in the UK.

The legendary CT-7000, circa 1974, is a compromise-free FM-only design. It was one of the first to feature switchable IF bandwidth for improving reception from distant stations – especially those close to a stronger, but unwanted one. It may be analogue throughout (no digital synthesisers, frequency readouts or presets here), but the CT-7000 gives

# SHOW REPORT

## AUDIOJUMBLE 2011, TONBRIDGE, KENT



9



10



11



12

you a well-defined bottom-end and decent soundstage – even by today’s standards.

**9** Test gear is an Audiojumble regular. This time round we counted an advanced wow-and-flutter meter for tape deck servicing (only £50!), various oscillators, Avo 8 meters galore, a number of valve-testers and numerous oscilloscopes – instruments that plot voltage against time on a screen.

Oscilloscopes allow you to ‘inspect’ signals and, amongst many other things, are ideal for spotting anomalies when building or repairing amplifiers.

This £35 Hameg model has a 20MHz bandwidth (more than

enough for audio) and is ‘dual trace’. One could be driven by the input to your amplifier and the other its output – because both traces are on screen, comparisons between the two are easy.

**10** Those with £650 burning a hole in their pockets might have taken more than a passing interest in this well looked-after pair of Tannoy Little Gold Monitors. Especially if they happen to run a little recording studio in a spare bedroom.

In production between 1989 and 1991, the Little Gold employs the famous Tannoy ‘dual-concentric’ drive unit – the sound of which is favoured by many audiophiles. Underneath this can be

seen the gold-plated ‘pegs’ responsible for tailoring the speaker’s response to the user’s requirements.

**11** A real oddity, this – a combination tape recorder and 78rpm record player. We can imagine the entertainment value of just trying to tape records with this beast.

According to the gentleman who had travelled all the way from Belgium to sell it (and a collection of other gear), this functionally-styled piece of apparatus originated from communist-era East Germany.

No-one was curious enough about the contents of the tape to pay £60 to take it off his hands.

**12** You’ll always find plenty of components at the average Audiojumble. Pricing tends to be much better than Maplin and so on and, indeed, the variety tends to be superior.

Numerous stalls were offering a bewildering variety of valves, while others specialised in capacitors. All of the types favoured by audiophiles made an appearance. Also common is incomplete equipment, often selling very cheaply, for use as spares. Parts already stripped from such ‘donor units’, such as drive motors and circuit boards, were also available.

**The next Audiojumble is likely to take place in February 2012. [audiojumble.co.uk](http://audiojumble.co.uk).** ●

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# Au revoir..

After 11 wonderful years, with nearly five in the editor's chair, **Dan George** reflects on over a decade of *HFC* as he moves on within the industry

**T**he last eleven years have just flown by. It seems like only yesterday that I was a young, eager wannabe audiophile in the Baker Street offices of *HFC*, rubbing shoulders with audio journalism's aristocracy: Paul Miller; Paul Messenger; Jimmy Hughes; Richard Black and Alvin Gold. I was an avid reader of the magazine, I'd even had a couple of letters published and I felt part of the *HFC* community. I was definitely hooked on the hi-fi game.

Back then (November 2000), Naim had just launched its CD5 and it was our cover 'star' (*HFC* 207) and just before joining the mag, I'd had lengthy Naim vs. Linn demos at Billy Vee in South East London. But believing in the 'speakers first' school of hi-fi, instead of electronics I dropped several months' take-home salary for a pair of 'previously cherished' Bowers & Wilkins' Matrix 801s, which were the size of a small fridge, just as ugly, and yet disappointingly devoid of beer and snacks. But I didn't care, they represented a commitment to audio nirvana that I spent the next decade developing.

Through the noughties the hi-fi industry, and *Hi-Fi Choice* for that matter, was experiencing enormous change. The consumer electronics industry saw digital technology drive product much faster than in previous decades. Signal processing advances put a temporary spotlight on multichannel music, promising formats came and went, and gadget magazines proliferated. How we mocked MP3 and the palm-sized players that the youth-run tech mags evangelised about!

*Hi-Fi Choice* had three different editors throughout the decade: Jason Kennedy; Tim Bower and then myself. Times were tough for hi-fi magazines and the need to react to new technologies was very real. *HFC* was open to new ideas and fresh ways of thinking in audio, and we pioneered an openness to emerging technology that others magazines resisted. For a specialist hi-fi magazine, with young-ish staff, we felt it was a mistake to ignore fresh ways of enjoying music and so we explored multichannel, DVD, 'universal' players, DAB radio and more recently streamers, servers and networked audio. But at our core was a passion for sound and we believed in pure analogue bliss as much as we did cutting-edge digital. Our job was to tell it straight to the buying public.

## Choice content

*HFC* prided itself on high production values, class-leading photography as well as the best names in audio journalism. We took immense

pride in our six-way *Blind-Listening Group Test* each month, something that is just as important today, and we endeavoured to remain honest, impartial and passionate about the subject we all cared so much about.

Today's *Hi-Fi Choice* is in rude health I'm delighted to say. Regular readers will have noticed we subtly redesigned the magazine back in 2010, an exhaustive process that took six months and involved a senior art editor and myself agonising over content, tone, design and direction until we'd honed what we believed to be a much better magazine. And the sales figures show that you like what we've done - *Hi-Fi Choice's* sales are up (year-on-year) against a backdrop of decline in the sector. For any editor, magazine or newspaper, this is the ultimate achievement and one I'm particularly proud of, especially in a climate where magazine sales across the board are in decline.

With music in my blood I'm sure I'll pop up in this great industry again and finally, I'd like to take the opportunity to thank *HFC's* staff, management and support teams for helping to make the title the success it is today. For the first time in over a decade, it looks like I'll have to take out a subscription. Now who knows what those Christmas subs offers are?

At our core was a passion for sound and we believed in pure analogue bliss as much as we did cutting-edge digital



**DAN GEORGE**  
Ex-Editor *Hi-Fi Choice*, Dan spent the best part of a decade finding the best product and the best reviewers for the magazine

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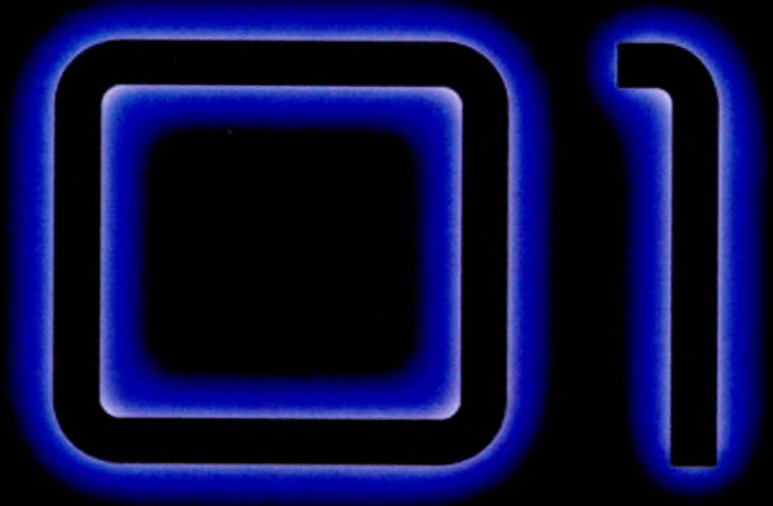


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# The myth of rigidity

Successful vinyl performance is all about sensing ‘modulation in the groove’! **Richard Black** sharpens his stylus

In an issue that once again features the delights of LP replay, here’s an apparently simple subject. Playing a vinyl disc relies on sensing the modulation in the groove as it is moved past the cartridge. It’s all about relative motion, most importantly the relative motion of the stylus and the cartridge body, since that’s what produces the output.

It’s clearly important to have the stylus securely anchored in the groove – not mistracking or otherwise rattling around. To that end, we spend ages fiddling with tracking force, geometry and so on, and the end result is usually pretty good. But what about the cartridge body? That’s attached to the tonearm and although it is free to move sideways and up and down, it’s restrained in one dimension. Indeed, it is to an extent restrained in all dimensions by inertia, the tendency of mass to resist movement. The arm serves to keep it rigidly fixed in terms of geometric alignment to the disc.

But ‘rigid’ is a strong word and one that needs a good deal of qualification. In everyday terms, we consider something rigid if its shape doesn’t change (perceptibly) under stress. That’s very much a static concept, though, and if stress is a rapidly changing quantity things look very different. Imagine a rigid metal tube, let’s say a good-quality tonearm tube, that’s supported at one end in a vice. If you lean on the free end it hardly moves at all. But what happens if you apply a sharp tap with a hammer to the free end? Not enough to wreck the thing, of course, just a little ‘ting’.

It takes a finite amount of time for the fixed end of the tube to discover that the free end has been hit. A mechanical shockwave travels along the tube at the speed of sound, which in a metal will be much higher than in air, of the order of a couple of thousand metres per second. When it gets to the fixed end, this shockwave is reflected back along the tube, inverted. So if you hit the free end downwards, the wave comes back upwards, effectively restoring the original (pre-tap) position of the free end.

And between the shockwave setting off and its reflection coming back? Well, the free end is evidently not well controlled. Indeed, it really is free. What’s more, the shockwave is liable to bounce back once again from the free end and continue flying up and down the tube, attenuated a little each time, in a classic example of mechanical resonance.

That resonance has a ‘fundamental frequency’ and that frequency is effectively the maximum

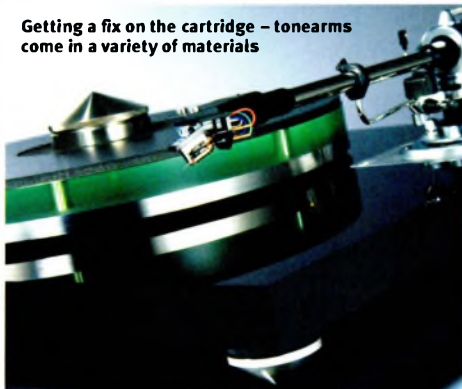
at which the tube is in any meaningful sense rigid. Above it, the tube is not exactly floppy, but it’s certainly not rigid, either. In fact, it is much like one of those suspension feet that various manufacturers sell to isolate turntables from structure-borne vibration, except that where they are designed to resonate at maybe 3 to 10Hz, the tube is likely to resonate at a few kHz.

## Staying rigid

It may not always be critical to support things rigidly, but a resonant structure is a lot worse than one that’s simply a little wobbly because it can significantly colour sound, with a character that turns a momentary impulse into a long-term ‘zing’. Luckily, it’s usually possible to damp resonances to some extent, and most arm tubes are not only stiff but damped (most often internally) so that at the ‘resonant’ frequency there is actually very little resonance, just the equivalent of a dull thud rather than the clear, lasting resonance you get when you pluck a guitar string, for instance.

Damping resonance is easier when the resonating body is lightweight and some tonearm manufacturers have taken this to extremes, making arm tubes of very light materials including balsa wood and carbon fibre composites. Similar considerations apply to loudspeakers, where cabinets are only ‘rigid’ up to a few hundred Hz. In that case, extreme solutions have included expanded polystyrene cabinets and even cabinets made entirely of carpet felt with just enough vestigial carcass to hold the shape together. In that case, the cabinet is really not rigid at all, but it’s equally wobbly at all frequencies and not perceptibly resonant at any. Engineering solutions are not always intuitively obvious!

Getting a fix on the cartridge – tonearms come in a variety of materials



It’s all about relative motion, most importantly the relative motion of the stylus and the cartridge body, since that’s what produces the output



**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?

Have you discovered the ‘perfect’ tonearm yet? Tell us what you’re using? Email us now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)

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# Collectible signatures

The Marantz CD63 and PM66 KI Signature are products that still make an impact, says **Ed Selley**

**T**he closing years of the 20th Century was a heady period for anybody choosing an amp or CD player for £300-£500 apiece. This was as keenly fought a category as any in the spectrum and the major brands fought for dominance and sales.

The products for sale were a considered step forward over their £150 budget brethren in both performance and functionality. It was also the price point where certain British brands had their entry-level offering. It seems odd, therefore, that the most fondly remembered pairing from this era was largely based on products from the price point below, but that is essentially what the Marantz CD63 and PM66 KI Signature were.

Marantz has been a potent force in affordable two-channel products for years and 1997 saw the launch of the PM66SE amplifier and 'matching' (always a relative term given the styling of Marantz products of this era) CD63SE CD player. Both were firm favourites at the £200 price point and that is where they would have stayed had it not been for the attention of one man.

Ken Ishiwata has been at Marantz for longer than I have been alive and by the late 90's he had cemented his role as Brand Ambassador. Ishiwata was sufficiently enamoured with the performance of the two-budget components that he began research into what happened when they were upgraded internally with hand-picked components, improved power supplies and greatly increased use of copper plating to improve earthing and reduce eddy currents.

The result was two components that looked the same as their 'range' brethren but where the pricing had doubled to £400 per unit. Once you picked it up and looked at the back, the price hike started to make more sense. The copper-plated rear panels and beefed-up chassis made for heavier and altogether more solid components.

## More special

This was nothing compared to the difference in sound quality. Gone was the worthy if slightly

**Marantz has always been a champion of two-channel products**



'plump' sound of the originals and in its place came something altogether more special. This was a pairing that offered spellbinding detail and presence with assured timing and considerable low end punch.

I've never been a big fan of phrases like 'giant killers', but the KI Signatures did offer a level of performance that was unexpected from units that cost £400 each and that themselves were based on units that cost half that. The dynamic duo, both individually and collectively, could do no wrong and the awards and plaudits came in droves.

For those of us in the market for products at this price, the KIs had a mystique that was hard to pin down. The performance went some way to explaining it but there was more to their allure than that. The idea that one man had tuned these units to make them as good as he could was an intriguing one but I suspect in part, it was the looks. That discrete gold KI Signature badge on the front panel of an otherwise ordinary unit told equally clued up people, "I know what I'm doing". This was the BMW M5 of '90s hi-fi; humdrum externals with extraordinary performance.

Aged 17 at the time and working holiday jobs to feed my nascent hi-fi habit, I was forced to pass on the KI's for an upgrade as £800 (and given their popularity, discounts were not on the menu) was a too high. It wasn't until 2002 that I secured a pair that had arrived at the dealer I was working at as a trade in. Five years had done little to alter how special these units were and many happy hours were passed in their company. The CD player was sold on but I believe I am still in possession of a PM66KI.

Naturally there has been a continuous stream of KI Signature product since this opening duo and many of them have received fantastic reviews in their own right. To my mind, none of them have achieved the same impact as there original plain clothes superheroes. The CD63 and PM66KI are (literally) copper bottomed classics.

The discrete gold KI Signature badge on the front panel of an otherwise ordinary unit told equally clued up people "I know what I'm doing". This was the BMW M5 of '90s hi-fi; humdrum externals with extraordinary performance



**ED SELLEY**

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

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# Hey, you, get off of my cloud

Is Spotify's dominance now being challenged? **Martin Pipe** reports on a streamed-music alternative

Last year, we brought you details of an intriguing cloud-based service known as 'FlowSongs'. It's run by PURE, a company better known for its DAB radios. Flow-compatible sets offer wi-fi connectivity, Internet/FM radio and the ability to play music held on networked storage devices. A 'Tag' control is highlighted when you're listening to the radio. Press it and a sampled snippet of the current audio is sent back to the service.

Using technology bought in from Shazam, FlowSongs attempts to identify what you're listening to. If it's successful, you can buy the track – provided that PURE has a relationship with the rights holder. The music can be downloaded, via a personal library and PURE's administrative website known as 'The Lounge', to a computer. It can also be streamed to compatible PURE radios in any Wi-fi location. That's one of the great advantages of cloud computing, which also underpins other popular services like webmail, Facebook, Flickr, Spotify and YouTube.

December 2011 will see the service's next phase – PURE Music. Although FlowSongs' 'tag-and-buy' advantages are retained (indeed it's now a free stand-alone service) you can now access a sizeable music library. Fifteen million tracks are claimed, although some artists (AC/DC and The Beatles, for example) are currently absent. The Rolling Stones, Pink Floyd and even Metallica are, however, represented. Tracks (or complete albums) can be bought, or added to a playlist. Purchases can be downloaded, as before, in the form of DRM-free 320kbps MP3 files. A smattering of content, including Radiohead's latest album, is also available in lossless FLAC format.

Playlists can be streamed, in 128kbps MP3 format, to compatible radios. Great for parties, especially if your radio feeds a hi-fi system's spare line-level input. Music can also be heard on a personal computer via The Lounge itself. PURE is offering an iPhone app, which will shortly be joined by one for the Android platform. And the company hasn't ruled out licensing its technology to third-party manufacturers. You can already purchase products that are compatible with PURE Music's obvious competitor, Spotify; among them are the Sonus music system and some Onkyo AV receivers.

## Test case

Tests reveal that the relevant PURE radios handle MP3, MP2, WMA, AAC, RealAudio and (although it's not mentioned) WAV (uncompressed PCM) content. It's essential for Internet radio, network streaming and DAB compatibility. New codecs can be added via firmware, too. AAC offers noticeably better performance for a given bitrate than the archaic MP3. It's used by iTunes, BBC iPlayer and the superb Radio 3 HD radio service. iPlayer's high-quality AAC streams are 128kbps and have the potential to sound better than UK DAB and PURE Music's 128kbps MP3 streams.

And so why doesn't PURE switch to AAC? We were told that all of its streamable audio has been pre-encoded, and re-encoding every song would be 'impractical'. It's a pity, then, that AAC wasn't chosen at the start. Note that Spotify uses the Vorbis codec at 160kbps for its free service (not yet a PURE Music option) and 320kbps to subscribers.

I'm currently investigating high-quality micropower FM transmitters to keep those tuners going when we've gone digital. If you currently have one of the cheap gadgets sold for use with MP3 players, though, here's something to try if a Flow-compatible PURE radio is available. FlowSongs will only identify music from FM or digital radio. If you have cassettes containing songs you recorded off the radio years ago and would like to buy them in a digital format, hook up your cassette deck to said transmitter. Tune in the radio, play the music and hit 'Tag'. Although FlowSongs can't always sell you a track, the service is surprisingly good at identifying it. ●

You can already purchase products that are compatible with PURE Music's obvious competitor, Spotify; among them are the Sonus music system and some Onkyo AV receivers



PURE's FlowSongs brings an added dimension to radio listening



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

WHAT DO YOU THINK?  
Does FlowSongs appeal or do you interact with radio in a more lean-back environment? Email us now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)

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### It's a Shure thing

I was interested in your choice of *Best Accessory (HFC 352 Awards 2011)*. I visit California regularly, and earlier this year, a friend who has a Shure V15 in his Garrard 401/SME turntable asked me whether I could get him a Shure M97xE as backup for when the V15 eventually expires (they are long out of production).

I usually find, however, that when I buy items in America they're at a dollar-to-pound comparison. Sure enough, most US sellers were asking around \$80, when prices in the UK were £80.

For some reason I tried *Amazon.com*, which is not normally a source I would associate with hi-fi components, but surprisingly they had the Shure for sale and for only \$55 (around £35). I purchased one for my friend, together with a spare stylus assembly (£25) and, on impulse, got myself one. For the price of a meal out, I was prepared to try one and bin it if it did not come up to scratch.

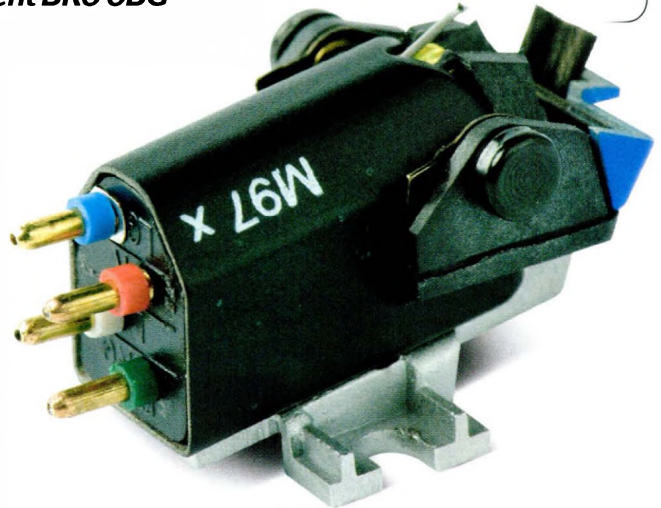
I put it into my Linn LP12/Akito last February, expecting to run it for a few weeks, before I had to go back to my more expensive cartridge. It is, however, still fitted to the Linn and will be there for the foreseeable future!

I entirely agree with your description of its performance, with the added bonus that it tracks everything perfectly. I have records that my previous cartridges have had trouble tracking, sounding 'edgy' at best or, at worst, plain mis-tracking. The Shure, however, sails through everything.

It's definitely a bargain for £90, but for the equivalent of £35, it's a steal. On my next visit to California, I will get a second cartridge or a stylus assembly as backup. By the way, Amazon still have them for sale at just over \$55.

**Stuart Turner, via email**

**HFC** We feel that the Shure is superb value for money at the asking price and that getting one for significantly less than



### Pricing of equipment between the US and the UK varies considerably

*that is an excellent news. As Shure is a US-based company, we don't find it too surprising that you can find its products for less in its native country. We would remind people, however, that buying a product from America may incur duty if shipped to a UK address.*

### Class D fan

It is very nice of you to put focus on Class D amplification and the Bel Canto C5i (which you reviewed in *HFC 351*) looks like a very interesting product.

I recently purchased a Class D amplifier, so I thought I would share my experiences, now that you encourage your readers to do so.

I live in Denmark and earlier this year replaced my old hi-fi system with a replacement. As Bang & Olufsen is a Danish company and has pioneered the Class D technology, I decided to give it a try.

Another Danish company, Acoustic Reality, build amplifiers around the ICEpower modules from B&O, so I decided to buy one of its amplifiers; the fully

balanced eAR 602 3G-WBT. Now that I was building the system from the ground up, I tried to skip the traditional hi-fi components, so instead of a preamp and a CD player, I bought the Benchmark DAC1 HDR and use my computer as the source of either CD-quality digital audio files (16-bit/44.1kHz) or high-resolution files (24-bit/96 or 88.2kHz). Avalon Acoustics Ascendant speakers completes the package

This combination has really taken me by surprise. The eAR 602 is an amazing amplifier, the clarity and resolution of the soundstage is impressive and top-of-the-line reference level. It also means, however, that the amplifier is brutally honest. If you play a bad recording you get bad sound, it doesn't mask anything or smooth out poorly recorded sound. If, however, you use reference-level recordings, it delivers high-end quality to a level where few, if any other amplifiers can match it.

This is without taking the price into consideration. Doing so, I would say that this amplifier is



**The Bel Canto CD5i: a switching amp that's also big on digital inputs**

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a true bargain and I have now completely converted to Class D. I am also confident that in the future they will be the standard to which old technology amps are compared. There are, of course, other obvious advantages, such as savings on your electricity bill.

I really do not have anything negative to say about the amplifier and recommend that anyone considering buying a new high-end amplifier should give Class D a test run. Combining it with one of the new high-resolution DACs, I really believe that high-end audio has stepped into a whole new era.

It may, however, be a long time before people appreciate these new amplification technologies.

**Martin Nielsen, via email**

**HFC** *Class D had a difficult start in life, but we think that some of the more recent designs stand easy comparison with any other amplifiers we have reviewed. Perhaps the next step is for everyone (us included) to cease describing something as 'good for Class D' and simply not whether the amplifier is good or bad. Recent experience suggests that more will fall into the former category than the latter.*

### Simple stuff

I have been subscribing to your fine periodical for many years and have been watching the gradual changes in digital formats and equipment with interest. There is one point that I noticed recently in your series of articles on storing and accessing CDs and streaming from various sites like iTunes, Napster etc (HFC 347, 348 and 349) and that is the complexity/cost of some of your set-up recommendations. I can access all the music stored on my

computer and access Napster, iTunes etc, as well as a multitude of Internet radio stations (if I wish) for a fraction of the cost with the following setup.

One standard PC with Apple iTunes; Napster – with a £10 monthly subscription (including the iPod app); one 32GB iPod touch (4th generation); one PURE i20 dock; two iPod docking leads (so I can sit on my sofa with the iPod in my hand and the leads connecting it to the i20) and a decent amp and speakers, respectively, a Naim 112X/150X and a pair of Castle Harlechs (just acquired for £225 from eBay).

All my CDs are ripped as Apple Lossless to iTunes on the PC, then synced to the iPod, as well as access to Napster via iPod, so that I can stream through a BT home hub.

No NAS drives, no network boxes and Cat 5 cables, no costly network players or software. So, how does it sound?

Well, in direct comparison to my Rega Apollo it's impossible to tell which is which, while streaming from Napster direct sounds best!

**Peter Dilworth, via email**

**HFC** *We feel that there is a huge amount to be said for using the iPod Touch in this context. As you say, there is no extended setup with a system of this nature and we know that the results from the PURE i20 can be excellent. All we would say is that, a device such as the Marantz NA7004, complete with AirPlay, would still allow for you to have the iPod Touch in your hands, without having to use the long connecting cables.*

### Back to basics

As a regular reader of *Hi-Fi Choice*, I was wondering what

the for and against arguments would be with regard to 16-bit vs. 24-bit CD players?

Over the years I have read excellent reviews of upsampling/oversampling players and equally so about 16-bit filterless non-sampling wonders from the likes of Zanden and AMR.

Now in my naivety, I would believe a 16-bit player to be the best, as that's the format of the humble CD, while oversampling/upsampling etc, brings with it some nasty side effects.

I was wondering, therefore, if you would ever consider doing a feature, such as a head-to-head shootout with the Zanden vs, say the Wadia Series 9, and then outline the benefits, advantages or disadvantages etc?

**Michael Cuthbert, via email**

**HFC** *Richard Black replies; "Up- or oversampling is not the same thing as increasing wordlength, though they often go together. In either case, though, simply saying 'upsampled' or '24-bit' actually tells us nothing about what's going on. There's much more to digital-to-analogue conversion than one little detail like that.*

*Such technological labels are as much use as the illustrations one used to find on super-cheap loudspeakers, apparently showing a textbook flat-frequency response but, in fact, serving absolutely no purpose beyond visual enlightenment.*

*"Filterless" does tell us something about a CD player, though – that it produces high levels of ultrasonic aliasing distortion. That's a questionable road to go down and we've often found that, though the results can sound superficially exciting, the sound becomes tiring over time. Digital filtering (which is what upsampling etc. is really all about) can be done badly, but most often these days it is done pretty well and the results we've had give us no cause to doubt its validity."*

### Match making

Could you please tell me what electronics were used with the Epos Epic 5 (Loudspeaker up to £1,000, HFC 352 Awards 2011)? Was it Creek Audio or even Rega, or is there a universal standard reference? ▶



Same question, same category winner (*HFC 339 Awards 2010*), the electronics chosen to accompany the Castle Knight 2? If there is a standard, could you please tell me which electronics brand is the ideal partner for the Castle series, in particular, the Knight 2 and the Knight 5?

This may even differ. As you're no doubt aware, one is a bass reflex standmount, the other a transmission line floorstander, preferring twice the power. Many thanks in advance.

**Steve Bolton, via email**

**HFC** Ed Selley reviewed the Epos Epic 5 in *HFC 347* and used an Electrocompaniet ECI3 (*HFC 324*), a Cambridge Audio 840C CD player (*HFC 315*) and Michell Gyrodec, as the source. He feels that any amp of 50 watts or above will work reasonably well with the Epic 5, as its easy to drive, with excellent tonality, solid bass and impeccable timing.

We are less sure what Dominic Todd used for his Castle review in *HFC 338*, but like the Epic 5, the Castle speaker has no obviously unpleasant quirks. Under the circumstances, we would look towards fellow IAG brand Audiolab, to provide some highly regarded and quirk-free partnering electronics.



The award-winning Epos Epic 5 loudspeaker

## LETTER OF THE MONTH

### Get in Touch



**I WOULD LIKE** to thank both *HFC* and IsoTek Systems for the System Set-Up disc that accompanied *HFC 351*. I put my system to the test as soon as I got home and after my initial set up with a tape measure, it was pleasing to find that the test disc supported what I thought sounded 'right'.

I have come a long way since my 'non-discript' AC/DC portable record player, with the mono speaker pointing toward the sky and covered by an LP.

I am now enjoying a Musical Fidelity M1 DAC; Quad CDP-2 CD; Audiolab 8000Q preamp; Quad 909 power amp and Spondor SA1 standmount.

My sons don't appreciate how far we have progressed, as they have been using digital for years via their computers. They certainly can't get their heads around all this fuss about servers and streaming. However, it doesn't matter where they start, so long as they enjoy it, while I can only speculate where we will go from here.

I have had vinyl, cassette, CD and MP3 and am now looking toward a future with servers and streaming! ●

**Alfred Perry, via email**

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Little wonder, then, that our customers frequently ask us to distil our experience, curious to know what exactly we fire up in the evening when we want to listen to music.

We've been utterly smitten by a recent addition to our portfolio, the Sonus Faber range. Visitors here are immediately drawn to the "oh, wow!" visual appeal of the Sonus Faber Futuras, shimmering creations of high-gloss wood and mirror-finish surfaces, quite possibly the most beautiful speakers ever created.

Ours are in the dazzling violin red finish (there's also a soft grey graphite), which Alan Sircom, editor of *Hi-Fi+*, described in a rave review in issue 79 as having "a glowing translucent lustre that will make you walk around and around the speakers, and not be disappointed, ever."

The sonics, astonishingly, more than live up to the appearance, lucid, beguiling, flawless. Alan again: "In a way, the best of all possible Sonus Faber worlds would be a loudspeaker that combines the small-speaker clarity of the Guarneri with the grace of the Amati and the bass energy and dynamics of the Stradivari. And, while all of these Homage loudspeakers remain in the catalogue, the Amati Futura is that best of all possible worlds. It combines the benefits of all three, and adds that uncanny sensuality and passion. This is a real game raiser!"

For those with smaller rooms, or, ahem, perhaps smaller wallets, the new Sonus Faber Guarneri Evolution standmounts have identical styling and sonics, albeit on a somewhat smaller scale.



Indeed, Sonus Faber offer a wide range of models, from the Toy and Liuto right up to the Cremona and Homage collections, to match any music lover's room or budget. All you really need is a passion for beautiful sound.

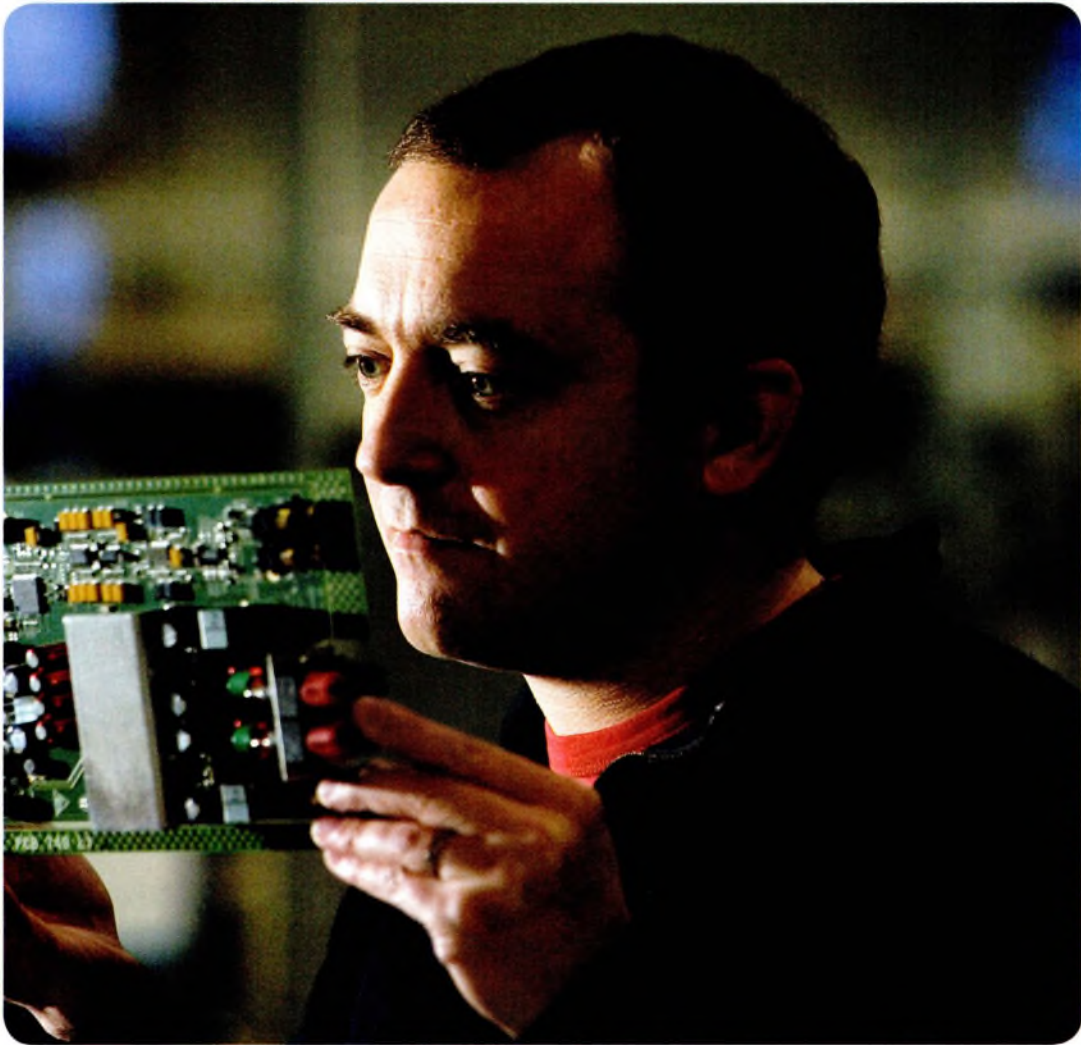
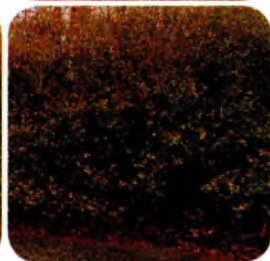
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# THE INSIDER LINN FACTORY TOUR





# In with Linn

*Hi-Fi Choice* gains exclusive access to the Linn factory and asks Gilad Tiefenbrun how components move from the drawing board to the shop floor? **Adam Hartley** investigates

**G**lasgow-based Linn know more about manufacturing processes, management techniques and overall design philosophy than you could possibly imagine.

From its astounding Richard Rogers' designed factory, set in acres of idyllic Scottish countryside, through to a people-centred approach to management and manufacturing, it's always the sound quality that is paramount throughout the entire process, from design sheet through to the final delivery of a new product to a customer.

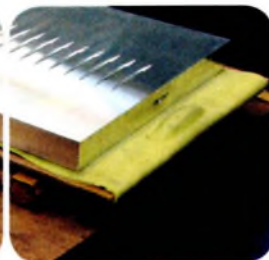
Alongside this evangelical obsession with product quality, it is evident to any visitor that there is a very special work culture at Linn. And, we're told, one that is constantly being honed with one very simple objective in mind: to always deliver ever better-sounding music.

## A factory for better music

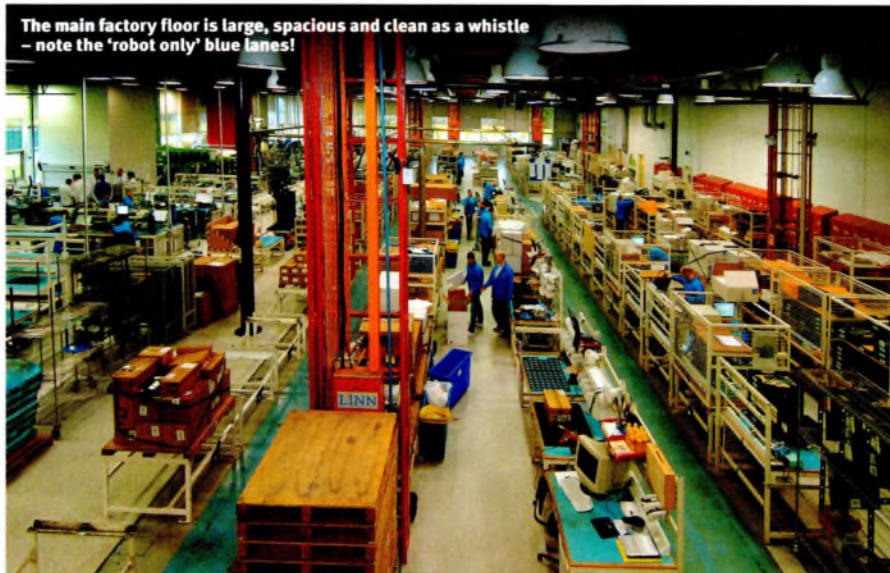
Driving up the winding approach road to Linn's factory is something of an eye-opener for the first-time visitor. It's almost as if somebody had somehow magically transported the Pompidou Centre from Paris to a sleepy farming village on the outskirts of Glasgow.

"I remember coming here as a kid when maybe I was about 12 years' old," recalls Gilad Tiefenbrun, MD of Linn and son of the company's outspoken and pioneering founder, Ivor Tiefenbrun. "It was basically a farm. And I remember my dad showing me around and saying that he was going to build a factory. People thought he was crazy because he was investing more into this place than the entire revenue of the company at the time."

The vision was to make a purpose-built factory designed around the process of bringing better music to people. "I still really don't think that there is anywhere else like it in the world," says Tiefenbrun [junior]. "It really is a unique place and it is the living embodiment of my father's vision for this company. "To create a truly great high-tech manufacturing company in Scotland that could provide employment to the local community."



## THE INSIDER LINN FACTORY TOUR



### A people-centred approach

The design of the factory’s layout is crucial to understanding Linn’s integrated approach to design and manufacturing.

Linn’s founder originally put out a request for tender to all the top architects in the UK. The brief was for an integrated manufacturing company that would be the best in the world.

“To be the best and to stay the best, is to use people,” says Tiefenbrun. “You cannot be the best just by a ‘product-by-product’ approach or by a marketing-led approach. Somebody else can always come along and out-product you or out-market you. So the idea was to become the best through the engineering talent in the company and to build this huge body of knowledge. The original brief described that.”

What the Richard Rogers Partnership clearly understood from that original brief, and what was crucial to the design of Linn’s building, was this concept of a flow of ideas between design and manufacturing.

“This flow of ideas and materials and people would allow creativity to take place, get



### “The incredible level of sophistication allows Linn to make investments in research and development.”

teamwork to happen and would allow Linn to make the most of the people working here,” explains Tiefenbrun. “And for those people to make the most of themselves and to continue to learn, develop and innovate on an on-going basis.”

The building is a pleasure to be in. It has lots of glass, loads of natural light and very few areas of transition – such as corridors or other dead spaces – with one area genuinely seeming to flow into the next.

Tiefenbrun claims that it is the, “incredible level of sophistication that this high-tech factory is operating at which allows Linn to make the kind of investments in research and development that we do and to keep moving forward.

“The factory has been extended and changed. We are changing it all the time. That’s the really clever thing. It is allowing us to constantly evolve. The original design for the building had within it multiple layers of potential extensions that could be done to the building, so it was planned for a hundred years or more.”

### The manufacturing journey

“The whole factory still feels very fresh, twenty-five years after construction was first completed,” enthuses Linn’s operations director, Brian Kennedy, as he wheels us through a factory tour which, even though he has clearly done it countless times, seems to take genuine delight in.

The first part of the factory tour is a wander through Linn’s (remarkably calm) manufacturing workshop, where the company makes most of the casings for its products.

“We don’t really pay any attention to sales forecasts, because everything we do here is built to order,” Kennedy explains. “So every



morning when we come in, we really don’t know what we are going to be building that day. We don’t punch any metalwork, create any electronic components or turn any screws unless there is an order on the system for a product.”

It was a five- or six-year journey for Linn to get to this stage of strictly building to order and, Kennedy notes, “every year it continues to just get better and better – the way we use our process and the way we use our people. Some people walk into our factory and say to me “it’s not very busy” and they are right, because the greatest waste of any manufacturing organisation is over-production.”

Kennedy describes Linn’s bespoke case-making operation as “a bit like dress-making, but with aluminium” – pointing out that this part of the factory is key in terms of product design and development.

“Not only are we doing normal production for customer orders, we are also making prototypes here. So if R&D wants something done, we’ll make the product.

“The reason why we do that – even though it is slightly disruptive to our manufacturing process – is that it allows them to develop products quicker. And, more importantly, from a manufacturing point of view, we get to see what they are thinking about earlier on and we can then influence the design and say, “please don’t do that, that’s not necessary, let’s try it this way” and so on.”

As with most factories, there are boring, time-consuming jobs that just need to be done, admits Kennedy. “Which is why we rotate people every day. You do one day here and then you move on to somewhere else.”

After cases have been washed and painted, a Linn staffer then silkscreens the products



by hand instead of using a machine to automatically apply labels. Another time-consuming job, but one that demands a considerable amount of skill.

"Silkscreening gives a very high-quality finish," explains Kennedy. "Plus, in twenty years' time, it will still look exactly the same. It's all a 'bit arts and crafts' because of the very small batches going through.

"People often ask me, why don't you just get somebody else to do all this? But the reality is that the devil is in the detail. When you show people your finished products – the variety, the volumes and the quality – they understand."

## Circuit board prototyping

Next up, we move through to the relative calm and quiet of Linn's electronics production plant, where there are two surface mount technology (SMT) production lines, which provide around 98 per cent of the company's electronics.

"Unlike the metalwork downstairs, this is a completely automated process," explains Kennedy. "The one thing we discovered when we started using SMT ten years ago is that the sound quality improved immensely, as it allows you to keep signal noise to a minimum."

**"Linn is unique, in that the company designs and builds almost everything it produces in-house."**

The machine itself is not particularly fast, but speed is not really the issue here, as Linn is only running small batches through the system.

"People often say that we are crazy and that this is not the way that we should run these machines, that we should just set them up and let them run one board for the whole day. The reality is that our business

model isn't like that, because we are not only doing production here, we are also doing prototyping again for design. So if design comes up with a new board, then we will do the prototype for them.

"Sometimes it is just one board. And it might take half a day to run a board through the process. But we provide our service to design, because we have visibility on what they are thinking about and we can influence them."

Walking through into the final assembly area, where the final (non-SMT) components are fitted and numerous intensive tests are run on circuit boards to ensure they work, visitors can also see Linn's new, 'integrated service centre' which takes up a large corner of the main factory floor and is a key part of the manufacturing operation.

"It is something we put in place about a year ago," says Kennedy, explaining how Linn's customer services, tech support, product reliability and repair teams are now all in one place.

"These guys are all obsessed with product quality and reliability. And this is the most effective feedback mechanism in the company about how well our products are doing, because they are not shy of going over and getting designers or the engineers from the factory and telling them when anything needs fixing.

"This is also a way of showing our dealers and customers that we are serious about product quality and reliability. We don't subcontract our service function or hide it behind closed doors."

Finally, after an operator has assembled a final product, "the last thing they do before they pack it up is to put their name on the product, because if people are not happy with something, then they won't put their name on it. And when customers come here, they love to meet the people who built their product. It closes the circle. Personalises the whole thing."

Linn is unique, in that the company designs and builds almost everything it produces in-house. This approach offers tight control over sound quality and encourages a healthy dialogue between the designers charged with developing new and innovative products, and the engineers and shop floor staff responsible for turning these ideas into commercial products.

"We are only building what we need", is a phrase we heard a number of times on our trip to Linn, which, alongside this refreshing focus on creativity and people over and above machines and technology, is perhaps the most basic distillation of the company's manufacturing philosophy. ●

## FITTER, HAPPIER, MORE PRODUCTIVE

**Many companies pay lip service to boosting staff morale, though few genuinely consider how to keep shop floor workers happy and motivated, beyond offering them a free bar at the Christmas party or taking them paintballing!**

**Whether they are screenprinting decals in the metal workshop, building a pair of 350 Klimax active speakers, or manufacturing the various parts of Linn's classic LP12 turntable, the fact that there is a lot of staff rotation at Linn is partly a logistical thing (putting staff in those areas in the factory where the work is) but is, as Brian Kennedy explains, mainly down to the notion that "If you keep challenging your people, getting them to do different roles in the company, then they get a better understanding of how everything works. And their jobs are more rewarding because there is no danger of them getting bored of building the same product every day."**

## LINN PRODUCT TIMELINE

- 1972** Founded by Ivor Tiefenbrun, Linn grew from a desire to improve the sound quality of his own music system.
- 1973** The mission to unveil the most accurate sound reproduction possible led to Linn's first product: the revolutionary Sondek LP12 turntable.
- 1983** Linn Records was formed to allow Linn engineers to better test the Sondek LP12 turntable, with one of the first albums released being *A Walk Across the Rooftops* by the Blue Nile. The label is now largely focused on delivering the highest quality 'Studio Master' downloads in DRM-free FLAC format.
- 1992** Release of the Karik, Linn's first CD player.
- 1994** Release of the Knect multiroom system.
- 1997** Launch of the CD12, designed by Alan Clark.
- 1999** Launch of AV51 audio-visual system.
- 2003** Launch of Akurate loudspeaker range for music and home cinema.
- 2008** Linn introduces its range of digital stream (DS) players offering significantly higher quality playback than traditional CD players.
- 2009** Linn announces that it is to stop manufacturing CD players and focus instead on digital streaming.

# Blind-listening Group test

**TURNTABLES** £2,000-£4,950

## Clash of the titans: but who will take the glory?

**Jason Kennedy** and the panel put six record players to the test to find out just how much you need to spend to achieve analogue audio ecstasy

**SERIOUS TURNTABLES** are intrinsically very expensive things: they are made in small numbers by craftsmen who usually choose results over building to cost. By their very nature turntables depend on the quality of engineering that goes into their manufacturer. Measuring minuscule variations in the wall of a high-speed vinyl groove is a difficult job, even before you add in the issues of keeping vibration from motors and speakers at bay.

This is largely why you can spend huge sums on turntables, arms and cartridges. But how much is enough? We assembled six models priced from £2,000 to £5,000 to find out just what you get at the various price points. You won't be surprised to read that they are all fine turntables, but it's the mix of qualities that differentiates them and we have done our best to explain what these are.

You will need a decent cartridge and phono stage to get the best results and these variables offer the potential for fine-tuning the sound, but don't believe anyone that tells you that it's all down to the cartridge.

Turntables are very tricky things to group test, but it's the most reliable way to undermine preconceptions and find out what each model is capable of. Setting each one up with the same cartridge was a challenge, but, as you might imagine ensured that the playing field was as level as it could be.

**“Turntables depend on the quality of engineering that goes into their manufacture.”**

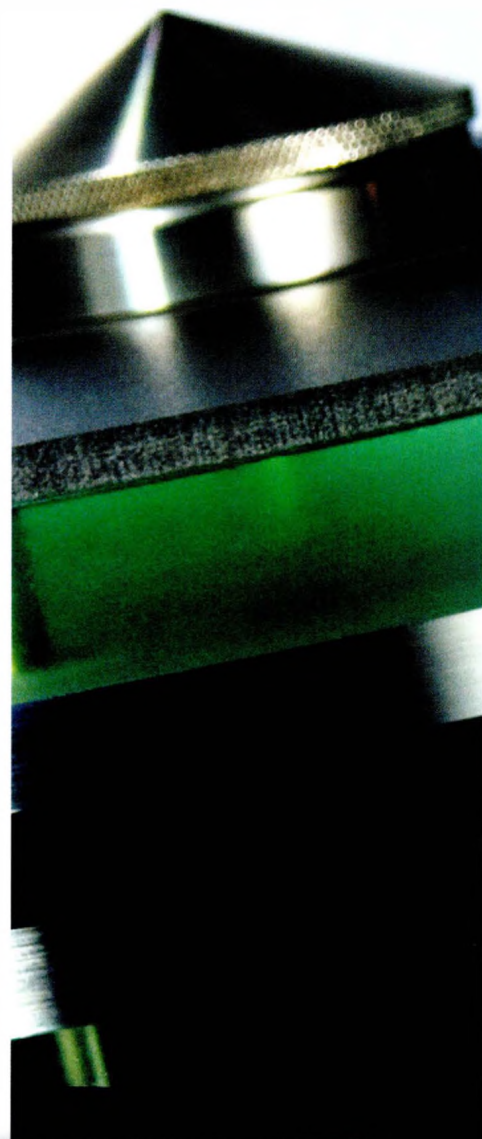
The cartridge we used for this unenviable task is Dynavector's DV-20X2L – a fine moving coil at a sensible price. It was combined with the excellent Trilogy 907 phono stage and played through two systems. For the panel listening this was an ATC CA2 preamp and ATC SCM150A active speakers. For the hands on listening we employed a Naim Uniti one-box system with Bowers & Wilkins 802 Diamond loudspeakers.



**THE TURNTABLE** is an expensive, mechanical means of turning a fragile format into an analogue waveform. Yet it continues to flourish with music lovers flocking back in droves. The answer is in the listening, no other format has the same degree of musicality.

Digital systems are arguably more detailed and accurate, but as with valve amplification, musical enjoyment is not about absolute precision, it's about emotional connection.

In our experience, no other audio format comes close to a 'great record' in this respect.



### ON TEST



**VPI Classic £2,693 P43**

This is a lot of turntable for the asking price, weighing in at 20kg and supplied complete with a 10.5-inch tonearm, it's an impressive package from a classic American brand. It doesn't use a mat on the solid aluminium platter and the high-density plinth is designed to withstand resonance by dint of mass alone.



**Clearaudio Performance SE £2,405 P45**

The Performance SE has a composite plinth with aluminium top and bottom plates that support an acrylic platter on a ceramic bearing. It's simplicity belies some refined engineering technology, that combines to make a well-finished and neat solution to getting the key data out of a vinyl groove.



**Inspire Eclipse SE V2 £2,689 P47**

Inspire turntable's acrylic plinths are machined and polished to a very high standard. Available in 9 and 12-inch variants, the Eclipse uses cones and Sorbothane to control energy. The arm is SME's entry-level M2, as fine a piece of audio engineering as you'll find anywhere in the group.



**Michell Orbe SE £3,150 P49**

The Orbe SE is a pared down version of Michell's top turntable and incorporates the latest Gen 2 version of the Never Connected power supply. It's one of the few fully suspended turntables with an acrylic/vinyl platter that's lighter than it looks. Michell supplied its modified Rega variant, the Tecno Arm, for this review.



**Pro-Ject RPM10.1 £2,000 P51**

Pro-Ject's penultimate turntable is a substantial acrylic-plattered beast that comes complete with its own magnetically isolating Ground It base. Despite its relatively low price, it's got more features than most, including a 10-inch carbon-fibre tonearm with alternative mass counterweights, a free-standing motor and an opposing magnet main bearing. It looks like remarkable value indeed.



**Roksan Xerxes.20plus £4,947 P53**

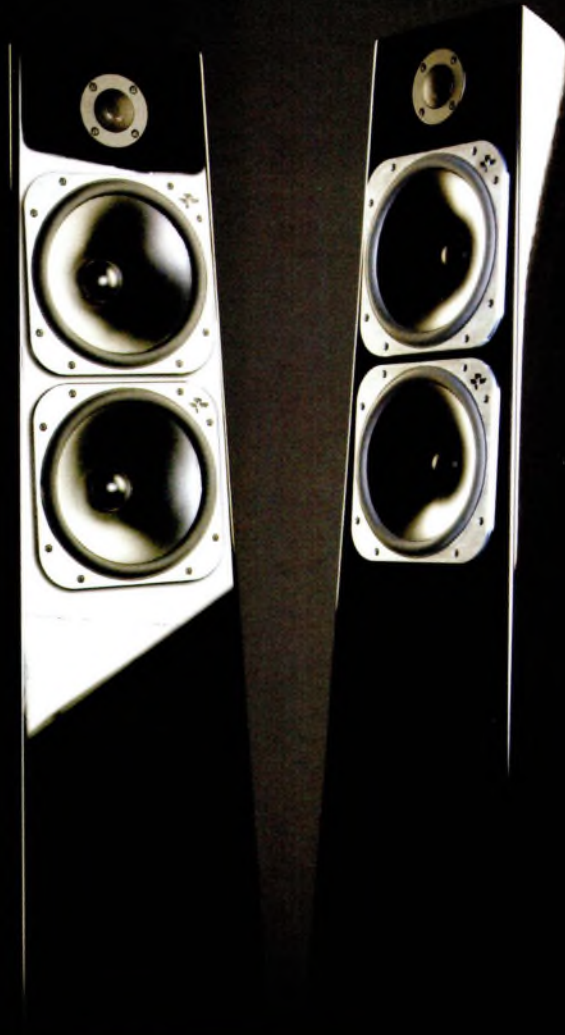
The Xerxes launched Roksan into the hi-fi oceans, but has changed a lot since the eighties. A highly refined and beautifully finished design, it takes its own distinctive approach to the problems of extracting maximum musical detail from the groove. Our sample came with the swinging counterweight Zversion of the Tabriz arm.



We are indebted to the blind panellists; Stephen Harris (Naim/Focal), Paul Benge (ABC Audio) and Jamie Marshall (Technophobe) for their time and expertise.

# TOTEM

ACOUSTIC



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**Rayleigh HIFI**  
Rayleigh 01268 779762  
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Southend 01702 435255

**Loud & Clear**  
Glasgow 0141 221 0221  
Edinburgh 0131 555 3963  
**Moorgate Acoustics**  
Sheffield 0114 275 6048



# Clearaudio Performance SE (inc arm) £2,405

This turntable's simplicity belies some refined engineering technology and a performance to match

## DETAILS

- ORIGIN:**  
Germany
- DIMENSIONS**  
WxHxD:  
420x130x330mm
- WEIGHT:**  
10.3kg
- FEATURES:**
- Ceramic magnetic main bearing
  - 40mm acrylic platter
  - Aluminium and HDF plinth
  - Carbon-fibre arm beam
  - Sapphire and ceramic gimbal bearings
- DISTRIBUTOR**  
Audio Reference
- TELEPHONE:**  
01252 702705
- WEBSITE:**  
clearaudio.de

**T**he latest incarnation of the Clearaudio Performance is a more substantial turntable than it looks, thanks to a plinth that's made from a sandwich of aluminium and HDF. You can't see the high-density fibreboard because it is framed by the natural coloured aluminium in the sandwich, but it performs the critical task of damping any resonance that manages to get through the three adjustable feet beneath it.

The platter is a 40mm slab of acrylic that sits on a ceramic magnetic bearing, the shaft of which has been polished to an even higher degree than on the original Performance. The magnetic suspension means that the ceramic shaft doesn't need a ball bearing or thrust pad to take the weight of the platter, which should reduce noise from this critical component quite considerably. The drive force comes from a completely separate motor in a solid housing with three silicone feet. It has an acrylic pulley with the larger 45rpm drive above the one for most of your records and you can adjust the height of the pulley with three nylon screws – a fixing that Clearaudio is rather keen on.

This turntable and arm is sold as a package with the Maestro Wood cartridge for £2,630 and uses nylon

bolts to hold it in place. They're a good thing for energy damping, but easy to damage. The so-called 'silent' drive belt is one piece of silicon-based rubber.

The Satisfy Carbon Directwire tonearm has a carbon-fibre main beam that sits on sapphire and ceramic gimbal bearings and supports the cartridge with a fully adjustable headshell. The Directwire suffix indicates a continuous cable run from cartridge tags to phono plugs.

## Sound quality

The Performance SE proved to be very popular with most of the blind panellists; they all agreed that it has an excellent sense of pace, thanks to good leading-edge definition and strong timing. This is partly because it doesn't have the bass extension encountered with many of the alternatives, but it has enough for most purposes. Keith Jarrett's piano sounds a little more clanky as a result, but the instrument on the *Köln Concert* is not the richest from a tonal point of view. One listener thought it made the instrument more realistic, while another felt that the album wouldn't have been a big seller if this is what most people heard.

One thing is clear about the Performance SE, it's very articulate and detailed and this helps voices to project well; two listeners commented

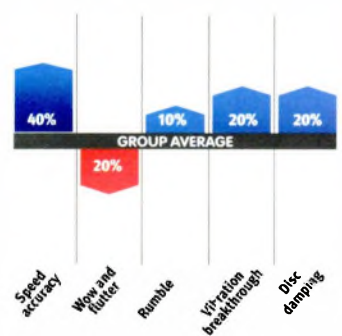


## TECH LABS

### LAB REPORT

Speed accuracy of our review sample was the best of the group, at just 0.1 per cent fast. As the motor runs at a speed dependent on the mains frequency this could vary a little, but typical variations aren't likely to worsen that much. The motor is not completely vibration-free, and a little rumble couples from it to the turntable, depending on the support that they share. In our test set-up, it was not much above the detectable threshold. The various impulse results from disc, arm and support show a small degree of tuned character, but at quite a low frequency which is unlikely to become directly audible. Isolation is actually quite good for what is basically an unsuspended design.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★
- VALUE FOR MONEY**  
★★★★★
- BUILD QUALITY**  
★★★★★
- FEATURES**  
★★★★
- LIKE:** Fast, lively and engaging sound that's strong on detail
- DISLIKE:** Slightly light balance and sound won't suit all systems
- WE SAY:** Lean and pacy, this is a gripping turntable with impressive speed and plenty of detail

### OVERALL



# More than words



words  
that count . . .



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

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**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



# Inspire Eclipse SE V2 (inc arm) £2,689

Combine this turntable's presentation attributes with SME's M2 arm and you have a fine piece of audio engineering

## DETAILS

ORIGIN:

UK

DIMENSIONS:

WxHxD:

420x130x330mm

WEIGHT:

15kg

FEATURES:

- Record weight clamp

- Stainless steel and acrylic platter

- Flame polished acrylic

- AC synchronous motor

DISTRIBUTOR

Inspire Hi-Fi

TELEPHONE:

01246 827272

WEBSITE:

inspirehifi.co.uk



The newest kid on this particular analogue block, Inspire, clearly has a penchant for acrylic.

It started out offering mods for Rega decks in the material and the Eclipse SE V2 is almost entirely made of the stuff. The black shiny finish says it all really, but it's more than a couple of slabs of the stuff, between the two are three cones with acrylic tips, alloy bodies and sorbothane damping. The bottom half of the plinth sits on three low-profile feet with no option for height adjustment.

The platter is a weighty lump because it combines 18mm thick acrylic with a 10mm thick ring of stainless steel. This provides peripheral weighting and thus increased inertia. It's nicely executed with studs running through the acrylic, while it's a pity to hide the all-over machining under the foam-cored mat that Inspire supplies as an option. Apparently this does the trick soundwise, so we used it for the review. The subplatter is an impressive piece of engineering that sees bearing spindle, centre pin and platter machined out of a single lump of stainless. If this was an official mod for the LP12 it would cost nearly as much as the whole Eclipse!

Drive is courtesy of an AC synchronous motor placed close to the subplatter and fixed, like the bearing, to the top acrylic slab. On/off switching is achieved at the back

of the deck next to the mains inlet, which isn't all that convenient, but at least the unthreaded record weight means you can change LPs without switching off.

Inspire supplied the turntable with an SME M2 tonearm, the least expensive arm in that company's roster and a superbly engineered and finished piece of kit, that has the convenience of a removable headshell.

## Sound quality

This is an assured and slightly louder than average turntable with good dynamics and imaging. In fact, it's capable of genuinely 3D results with a good recording. The perceived level factor is unusual; the listening panel thought that the level had been changed on its first outing and this was observed in the hands-on evaluation as well. Its timing is decent, but not outstanding in the context of the competition, but this doesn't stop it from turning in an engaging result with a variety of music styles.

We particularly enjoyed its tonal depth with early instruments and found that most of the vinyl placed under the cartridge offered up a vibrant and colourful tonal palette. It's not quite as focussed as the best in this department, but its steady calmness lets plenty of music through.

The listening panel noted that it's a bit short on low-end weight, lacking the depth excavated by the



alternatives without providing the timbral clues in the bass that allows the Roksan to get away with a similar characteristic. They also commented that, while it's good on vocals it lacks detail across the band and this might be why it's a little short on engagement.

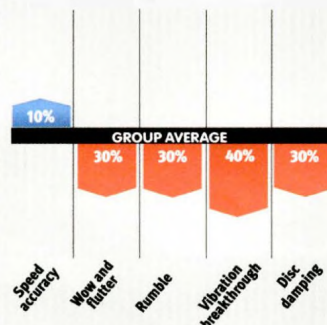
The soundstage lacks the sort of scale that designs such as the Michell and Clearaudio achieve. Its imaging and dynamic skills are not quite enough to offset limitations in timing and bass extension, but this doesn't stop it making engaging music with a great recording.

## TECH LABS

### LAB REPORT

This turntable has two principal weaknesses: rumble and internal resonance. The rumble is entirely due to the motor, which couples quite strongly through to the stylus and produces a hum signature that contains plenty of harmonics, at a level that is likely to be just about audible over the surface noise of good pressings. Internal resonances are shown up by the impulse tests, which reveal two main characteristic frequencies, roughly 230Hz and 900Hz. The former is more obvious in testing but the latter may end up colouring the sound more as the ear is much more sensitive at that frequency. External vibration couples rather effectively to this turntable due to the lack of suspension. Wow and flutter is a little higher than we'd like.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

SOUND QUALITY

★★★★☆

**LIKE:** High-quality machining and finish, with good dynamics

VALUE FOR MONEY

★★★★☆

**DISLIKE:** Back panel power switch and below par bass extension

BUILD QUALITY

★★★★☆

**WE SAY:** An interesting newcomer to the scene, but sound is not quite revealing enough

FEATURES

★★★★☆

OVERALL

★★★★☆

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# Michell Orbe SE (inc arm) £3,150



The Orbe SE incorporates the latest Gen 2 power supply, resulting in fine dynamics and a full-scale soundstage

## DETAILS

**ORIGIN:**  
UK

**DIMENSIONS:**  
(WxHxD)  
490x155x380mm

**WEIGHT:**  
13.5kg

### FEATURES:

- 60mm acrylic and vinyl platter
- Suspended pendulum chassis
- Screw down clamp
- Inverted bearing
- DC motor with tachometer speed control
- External power supply

**DISTRIBUTOR:**  
Michell Engineering

**TELEPHONE:**  
020 8953 0771

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

**T**he SE is the 'sport' version of Michell's Orbe range-topper. It cuts down on costs by removing the acrylic casework of its namesake and, in many respects, looks the better for it. Like the well-regarded Gyro, it is a fully suspended design that floats the armboard and platter on three springs, which sit under three posts that stick up from the cast aluminium subchassis that surrounds the platter. Underneath are two acrylic layers in a tristar shape that reach out to support the suspension posts and fix-to-turned aluminium feet.

Set up is a matter of adjusting the knurled tops under the three covers, so that the turntable is level without leaving a large gap between the bottom of the subchassis and the tristar. In practice, there isn't much scope and you need a level support in the first place, because the gap should not exceed a couple of millimetres.

The platter looks heavy, but as its made from a mix of vinyl and acrylic, it sits on an inverted bearing and is driven by a round-section rubber belt. The motor housing is the biggest in the group and supports a DC motor that connects to an external power supply that offers speed switching.

The Techno Arm is a heavily modified Rega RB250, with silver litz cable, silver plated plugs, cartridge clips and a VTA adjuster. It also features the Tecnoweight, which keeps mass

at the same level as the stylus for better tracking and allows incremental downforce adjustment.

## Sound quality

This turntable sounds more substantial than its platter feels, but you can't judge a turntable by mass, it's design and engineering quality that count and the Orbe SE seems to have both of those down. It has real bottom end weight combined with an open, assured midband that lets instruments and voices through in all their tonal glory. The drawback with many high-mass designs is that they don't time well because there is a tendency for mass to retain and reflect energy. This turntable avoids that altogether and produces an extremely coherent and right-sounding result.

This was a view shared by the panel, who enjoyed the Orbe SE's fine dynamics and full-scale soundstage in which voices and guitars were projected with considerable realism. It garnered favourable comments about its timing, even if leading edges were considered less obvious. It also managed to turn in a very enjoyable rendition of the dub plate, which revealed much of its extension and rhythmic coherence.

There were several comments about the quality of piano tone from the listeners, with one describing it as being 'realistic' and another as being detailed. The Orbe clearly has

a strong and well-defined bottom end and this goes a long way to placing a piano solidly on a realistic soundstage.

It's not just about weight either, its also very good with voices, which are well articulated. Allan Taylor's guitar is also well projected into the room in the context of a full-scale image. Transparency could be greater, as some of the competition reveal, but the Orbe SE balances power and subtlety very effectively. What's more, it has a breadth of appeal that none of the alternatives could quite match which is impressive to say the least.

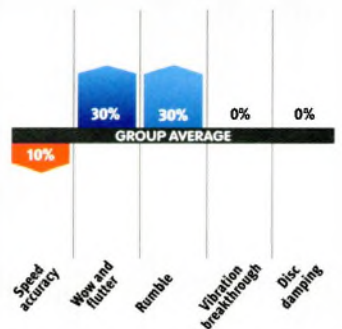
## TECH LABS

### LAB REPORT

One normally expects a fully suspended turntable like this to give particularly good rejection of external vibration, but while most frequencies are indeed filtered out, the rather resonant structure of the deck's subchassis still rings along in response to vibration and can colour the sound. Although the actual level of breakthrough isn't very high, prolonged ringing can have a marked effect on sound, particularly at higher frequencies.

We found a resonant signature with peaks as high as 1000Hz. The modified Rega arm is not entirely free of resonance either, though Michell's work does damp it to some extent. Speed of our sample was a little low at -0.5 per cent, but speed stability (wow and flutter) is excellent and there's no trace or motor noise breakthrough.

## RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY



**LIKE:** Powerful, nicely timed and dynamic with a revealing midband

#### VALUE FOR MONEY



**DISLIKE:** The need to screw on a clamp slows down the proceedings

#### BUILD QUALITY



**WE SAY:** A fully suspended design that manages to do everything with ease

#### FEATURES



### OVERALL





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## Pro-Ject RPM10.1 (inc arm) £2,000

Despite its low price, the RPM10.1 has more features than most, including a carbon-fibre tonearm

### DETAILS

**ORIGIN:**  
Czech Republic

**DIMENSIONS:**  
(WxHxD)  
480x210x330,  
Ground It  
500x80x400

**WEIGHT:**  
13.4kg

**FEATURES:**

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

**DISTRIBUTOR:**  
Henley Designs

**TELEPHONE:**  
01235 511166

**WEBSITE:**  
project-audio.com

**W**e looked at the RPM10.1 back in *HFC 348* and found a lot to like in its high-mass, magnetically isolated design. Pro-Ject has a knack for making top-notch turntables at competitive prices and this would seem to apply as much here, as with its more affordable models. The RPM10.1 is supplied with Pro-Ject's Ground It Deluxe base – a substantial slab of MDF and steel that sits on four magnetically isolated feet, with three steel buttons on top that locate the spikes on the turntable plinth. These incorporate another layer of isolation in the form of sorbothane damping, which keeps resonance out of the arm and platter. Magnets are also used in the main bearing, so that the five-kilo acrylic platter doesn't grind away at a thrust pad, but floats on the shaft.

Propulsion is produced by a freestanding motor that has its own mass-loaded stand and runs off a wall-wart supply. Pro-Ject supplies a spacer so that you know where to site the motor and get the right tension on the square-section rubber belt.

The tonearm is an Evolution 10cc, a ten-inch carbon-fibre beast, with a conical shape and moulded headshell. It sits on inverted bearings in a ring-shaped housing and has a thread and

weight anti-skate system. What differentiates it, however, is that four alternative counterweights are supplied so that you can optimise the resonant character of the arm/cartridge system. It's a simple solution to the issue of resonance control in a system where any extraneous energy is turned into sound. The turntable is supplied with a heavyweight puck to pin the vinyl to the platter, but a rather basic interconnect for the RCA phono outputs.

### Sound quality

This is a dynamic and vital sounding turntable that is capable of remarkably natural results. It has the ability to make instruments and voices sound more real and this results in extremely lively and lifelike music that envelops the room. It's rich without being blowy or overblown and has taut, deep bass which underpins the soundstage to give it real scale. Timing is better than average, good but not outstanding, yet the exuberance it brings to the recording makes it seem on the ball and in truth only the Roksan and Clearaudio were able to outplay it in this department.

Its real strength lies in its expansiveness, which gives the soundstage depth and width without any hint that it's overblown. The



focus is sharp, but not edgy thanks to a very smooth, clean delivery. A result, no doubt, of the Ground It base, which provides impressive isolation. The panel really enjoyed the tonal rendering of horns and electric keyboards on one track, as well as the projection of voice on another.

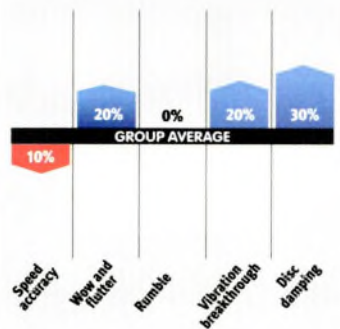
In the context of a group of more expensive peers the RPM10.1 is still highly recommended. It's a very effective turntable for the money.

### TECH LABS

#### LAB REPORT

Pro-Ject has really put some work into avoiding resonance in this deck and performance is good in important areas, including vibration breakthrough and chassis/arm resonance. Indeed, although it's not strictly part of the overall suite of tests here, arm resonance is about the best result we can recall from decks we've tested over the years, which is bound to help keep sound pure and unsoftened. The shape, thickness and material of the chassis all help to keep that dead and while some vibration does couple in from the support, it's largely untuned in nature. Speed accuracy is acceptable and wow and flutter are kept low. There's just a trace of audible breakthrough from the motor, at least on the typical support we used for our testing.

#### RESULTS AT A GLANCE



### Hi-Fi Choice

#### OUR VERDICT

**SOUND QUALITY** ★★★★★ **LIKE:** High sense of life and vitality thanks to excellent dynamics

**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Tinyfingerlift makes manual cueing tricky

**BUILD QUALITY** ★★★★★ **WESAY:** An entertaining turntable that offers excellent spatial and tonal resolution for the money

**FEATURES** ★★★★★

#### OVERALL

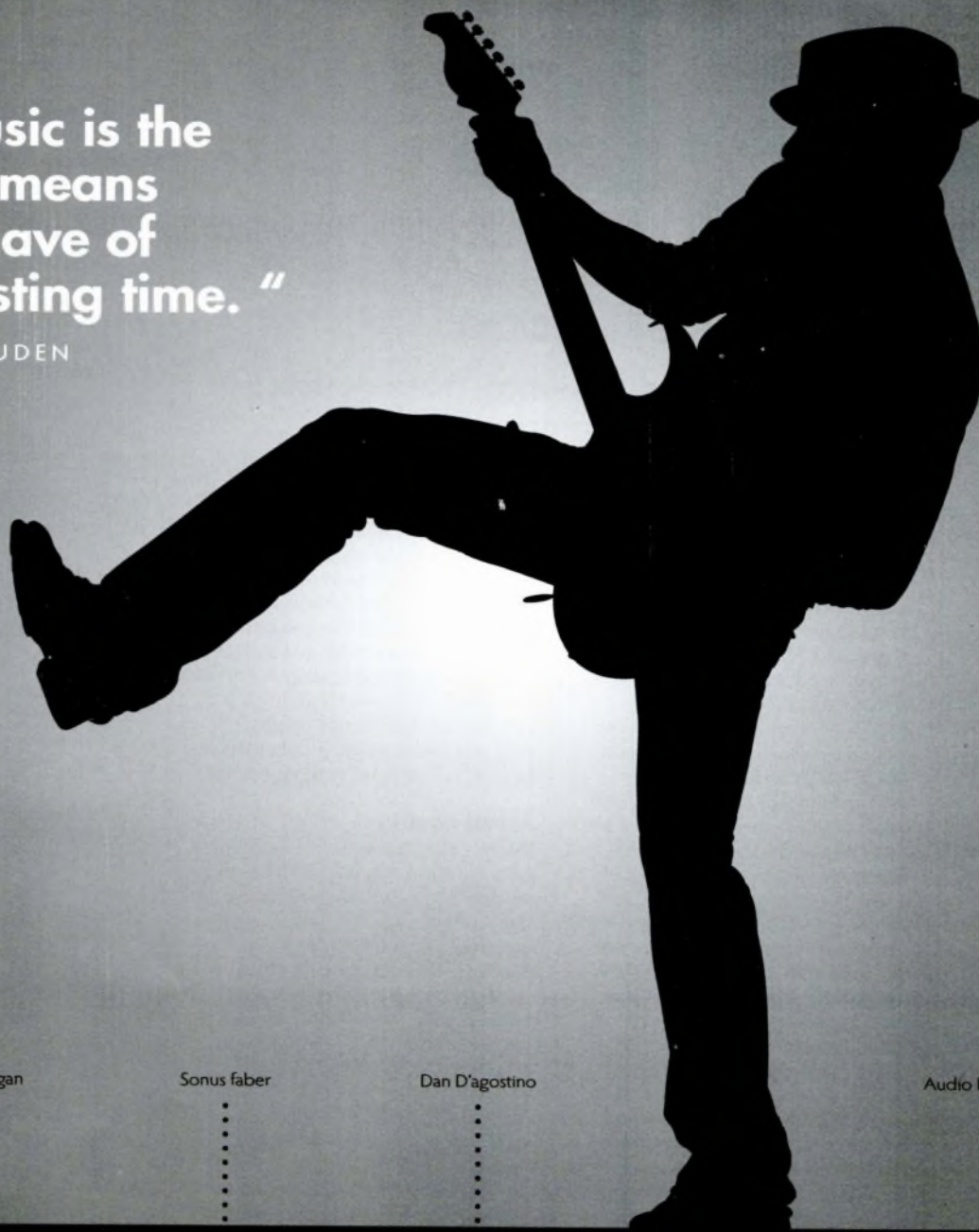


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W. H. AUDEN



Martin Logan



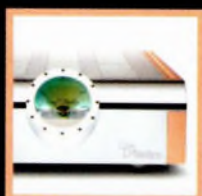
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# Roksan Xerxes.20plus (inc arm) £4,947

A highly refined and beautifully finished design, the Xerxes.20plus has its own distinctive approach to musical nirvana

## DETAILS

- ORIGIN:**  
UK
- DIMENSIONS:**  
(WxHxD)  
450x115x320mm
- WEIGHT:**  
12kg
- FEATURES:**
- Acrylic dust cover
  - Three-part plinth
  - Triple-layer isolation
  - External power supply with speed switching
  - Gloss black or rosewood finishes
- DISTRIBUTOR:**  
Roksan
- TELEPHONE:**  
020 8900 6801
- WEBSITE:**  
roksan.co.uk

**T**he 20plus is a considerable refinement of the original Xerxes design. It is far better finished and thought out, but the essential principles remain the same.

Its distinctive features include a motor that sits on a bearing which is retained by a spring, so that it can move when drag is increased. The idea is that the motor exerts less torque on the inner platter that it drives. This is via a flat rubber belt and thus less energy is transferred into the platter atop it. Its other quirk is that centre spindle is designed to be removed when the record is playing, thus entirely decoupling the vinyl from the metal of the platter and bearing.

This turntable is immensely adjustable; you can vary the angle of the subchassis in two planes and even the angle of the platter via the main bearing. This has an unusually small-diameter hardened-steel bearing spindle, which sits on a tungsten ball and is attached to the inner platter with the outer platter resting on top.

Both parts are in aluminium and covered by a mat with distinctive cut-outs. While the top slab of the chassis sits on decoupling mounts, the lower

half is supported on bright polished-metal feet.

This Xerxes.20plus came with the top DS1.5/XPS power supply and the Zi version of the Tabriz tonearm. This has a pendulum counterweight, which puts the mass low down in order to combat the effects of record warps, it adds £250 to the price of the standard Tabriz.

## Sound quality

The Xerxes has always had a reputation for great timing and this quality is amply demonstrated in this latest version. Our panel described it as having good leading-edge definition and being very fast. This impression was even stronger in the sighted listening, where we were captivated by its ability to deliver a totally coherent musical result.

It's a thrilling experience that makes pretty much everything you spin sound more engaging and enjoyable, whether it's heavyweight dub or the nimble playing of acoustic guitars. The Xerxes manages to do this without sounding bright or forward, too, which is often the case with turntables that time well. Instead, instrumental tone is very real and lifelike, a factor enhanced by the full-scale imaging that the listening panel pointed out with comments that included, "good acoustic space" and, "high

soundstage". It doesn't seem to be as extended in the bass as the best in class and but this may be because it manages to maintain its tunefulness and timbral colouring right across the band. It's not bone-crunching bass, but you can follow the lowest notes with ease and that is a more appealing characteristic in our books.

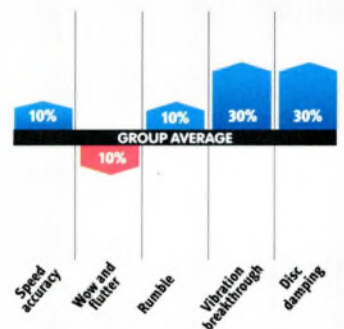
The Xerxes in this guise is an inspiring turntable and one that will have you engrossed from the first track. It is by far the most expensive on test, but if budget allows the results are rewarding.

## TECH LABS

### LAB REPORT

Roksan's sophisticated power supply for the motor helps keep vibration levels low: we were able to detect the tiniest amount of breakthrough, but in practice we wouldn't expect this ever to be audible. Vibration from the outside world is also kept to a low level, thanks to the suspension in the deck. There's a trace of tuned character to the breakthrough impulse response, but it's very swiftly damped and we don't regard it as a problem. Disc and arm impulse tests also reveal a well-damped behaviour, with little in the way of audible resonances. Speed accuracy is OK and wow and flutter is just a little higher than we've come to expect from Roksan products, though it is, at least, mostly relatively harmless wow, rather than the more audible high-rate variations of flutter.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★
- VALUE FOR MONEY**  
★★★★★
- BUILD QUALITY**  
★★★★★
- FEATURES**  
★★★★★
- OVERALL**  
★★★★★
- LIKE:** Superb sense of timing with spacious soundstaging
- DISLIKE:** Bass could be more extended
- WESAY:** A classic that keeps on getting better, with superb control and spatial resolution to make an addictive sound



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# VPI Classic (inc arm) £2,693

A lot of turntable for the asking price, here's an impressive package from a classic American manufacturer

## DETAILS

- ORIGIN:** USA  
**DIMENSIONS:** (WxHxD) 520x250x394mm  
**WEIGHT:** 20.5kg  
**FEATURES:**
- 10.5-inch unipivot tonearm
  - 8kg aluminium platter
  - AC synchronous motor
  - Finishes: black oak or walnut
- DISTRIBUTOR:** Analogue Seduction  
**TELEPHONE:** 01733 350878  
**WEBSITE:** analogueseduction.net

**T**he VPI is a lot of turntable for the money, it's easily the biggest and heaviest in this group and if that weren't enough, it has the longest tonearm in the JMW10.5i. The latter is an elaborate unipivot design, with balance weights around the pivot point that can be rotated so that the stylus sits upright in the groove. VTA variations are accommodated with a substantial stainless wheel on the arm base. This makes it very easy to finely adjust the arm height, so much so that you can do it 'on the fly' as the record plays.

The 10.5 part of the name refers to arm length in inches, a factor that reduces tracking error as the cartridge follows a shallower arc, but which reduces the potential for rigidity in the arm tube. The arm wiring is terminated in a connection block, with RCA phono sockets so you will need interconnects to hook it up to your phono stage.

The Classic turntable has a substantial 50mm-thick, solid aluminium platter that sits on an inverted bearing and is driven by an AC synchronous motor that's rigidly fixed to the plinth. The plinth itself is made of a laminated MDF block, with a steel plate on top and solid wood edging. It comes from the mass damping school of design that sits at the opposite end of the spectrum to

the suspended subchassis. All there is in terms of isolation are compliant mountings between plinth and the large feet that sit in each corner.

## Sound quality

All that mass certainly gives the VPI a powerful, even substantial sound. It shook the floor with the dub track and probably the sofa, too, and if you like your bass "deep and slow" as one panellist did, then it could be for you.

The rest of the listeners, however, found that this sense of power is undermined by a lack of dynamics that results in a less-than-gripping sound. The VPI is not without its strong points, the piano piece delivered the tension of the live atmosphere in which it was recorded to a greater degree than usual and while the timing was described as "measured", it was also considered to be closer to CD than most, which suggests that it might be, "as stable as the master tape" as VPI puts it.

Whether making a turntable sound like CD is what the average vinyl lover wants is, of course, another matter, but speed stability is one area where turntables often struggle, so this is a good thing.

This is also a smooth and relaxed turntable, a factor most likely enhanced by the extra inch-and-a-



half of an arm tube. It's a quality that some value more highly than others, but undoubtedly benefits classical music. We had one listener indicate that leading edges were well-defined, but he also felt that there was a lack of vitality to the sound.

While this is undoubtedly a very assured turntable, it lacks the pace and energy of its competitors in this group. It sounds extremely stable, which is good, but fails to expose the energy in the music as well as the best at this price.

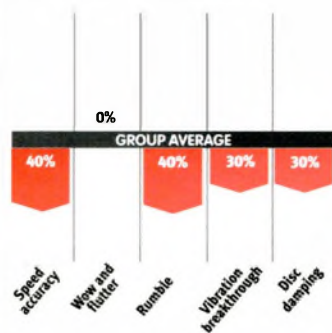
## TECH LABS

### LAB REPORT

This deck is far from resonance-free and tapping various parts of it shows up a variety of quite lightly damped resonances, although to be fair most of them are in the lower midrange where their effect is less insidious than at higher frequencies. In particular, external vibration can cause relatively prolonged ringing and we would recommend using an isolation support to reduce this effect.

Disc impulse results show a trace of the same resonance (due no doubt to something in the chassis), while arm resonance testing also shows up some ringing at higher frequencies. Motor breakthrough is at a considerably higher level than we would like to see from a deck in this class and speed accuracy of our sample was poor.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Assured, controlled and calm sound suggests low distortion
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Lacks the vitality that makes vinyl the music format of choice
- BUILD QUALITY** ★★★★★ **WE SAY:** An impressive turntable with a rather nice tonearm that lacks get up and go
- FEATURES** ★★★★★

### OVERALL



# Lab conclusions

Turntables still differ quite markedly in how they deal with the real world of vinyl and systems, as **Richard Black** reports

## TECH LABS

It's in the nature of mechanical devices – which in hi-fi terms means turntables and speakers – that they vary more markedly than all-electronic components such as amps and CD players. Simple things like speed accuracy and stability are reasonably consistent (consistently good, that is), as one would hope when they are after all either right or wrong. But the equally important resonant signatures of these turntables are exactly that, signatures that are unique and clearly matched to their owner. As far as the basics go, we've nothing to say about the speed

accuracy of any but the VPI, which at 1.3 per cent (about a quarter of a semitone, in musical parlance) is further off that it should be.

Wow and flutter of most of the decks is good, though we have slight concerns about the level and nature of this parameter on the Eclipse deck. We were surprised how much rumble we heard from several of the decks, but realistically only the Eclipse and VPI put out figures that are likely to be audible and then only with the best pressings.

In terms of sensitivity to external vibration, coupled from the support underneath the deck, there's wide

variation, with the VIP and Eclipse showing clear signs that a suspended support of some kind could be of benefit. Surprisingly, the Michell's suspension doesn't render it king of the hill here, because the structure's intrinsic resonance is too easily excited even through the suspension springs.

Disc and arm impulse tests show up resonances with the structure and we were much impressed by the Pro-Ject, Roksan has also got this area well sorted. Clearaudio and VPI show the most internal resonance. As always, though, measurements don't tell quite the whole story: if you like the sound, it can't be all bad!



**THE ROKSAN** and Michell turntables in this group come with rather fancy-looking power supplies. In the Michell's case, a DC motor is used which needs some sort of supply; the one used here is a bit belt and braces, but will be very steady in the face of mains voltage fluctuations. The Roksan (like Clearaudio, Eclipse and VPI) uses an AC motor which can be run off the mains (via a transformer), but a re-synthesised supply has a lot to offer in terms of speed stability.

## RESULTS AT A GLANCE



Make/model	Clearaudio Performance SE	Inspire Eclipse SE V2	Michell Orbe SE	Pro-Ject RPM10.1	Roksan Xerxes.20plus	VPI Classic
Price	£2,405	£2,689	£3,150	£2,000	£4,947	£2,693
Sound	★★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features	★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Conclusion	Lean and pacy, this is a gripping turntable with impressive speed and plenty of detail	An interesting newcomer with a high standard of finish, but sound is not quite revealing enough	A turntable that does everything with ease, it makes you wonder why springs went out of fashion	A remarkably effusive turntable that offers excellent spatial and tonal resolution	Captivating timing combines with superb control to make an addictive sound	An impressive turntable with a rather nice tonearm but one that lacks get up and go

### Key features

	Clearaudio Performance SE	Inspire Eclipse SE V2	Michell Orbe SE	Pro-Ject RPM10.1	Roksan Xerxes.20plus	VPI Classic
Size (WxHxD)(mm)	420x130x330	420x130x330	490x155x380	500x290x400	450x115x320	520x250x394
Arm included	Yes	Yes	Yes	Yes	Yes	Yes
Dust Lid	No	No	Optional	No	Yes	No
Speeds	33/45	33/45	33/45	33/45	33/45	33/45
Elec. speed change	No	No	Yes	No	Yes	No
Motor type	AC	AC	DC	AC	AC	AC

### Lab conclusions

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

	Clearaudio Performance SE	Inspire Eclipse SE V2	Michell Orbe SE	Pro-Ject RPM10.1	Roksan Xerxes.20plus	VPI Classic
Speed accuracy	+0.1% E	-0.3% G	-0.5% A	+0.3% G	-0.3% G	-1.3% P
Wow and flutter	0.07% A	0.08% A	0.03% E	0.04% G	0.06% G	0.05% G
Rumble	-76dB G	-70dB A	<-80dB E	-78dB G	-80dB E	-65dB A
Vibration breakthrough	+20%	-40%	0%	+20%	+30%	-30%
Disc impulse	+20%	-30%	0%	+30%	+30%	-30%

# Blind-listening verdicts

We were spoilt for choice with these superb turntables but when it came to the crunch there was only one winner, says **Jason Kennedy**

## AS ONE MIGHT HOPE AT THE PRICE,

this is a very strong group of turntables. All of them are capable of an even-handed, revealing and entertaining result when equipped with a decent cartridge and phono stage, but some are clearly stronger than others in key respects. The listening panel was not always in total agreement, but it slowly became clear that four of the six were stronger in most respects and one of them got its nose across the line just ahead of the pack.

The areas that the least successful contenders struggle in are timing and dynamics, which are the two musical qualities where turntables seem to have a natural advantage over digital sources, so we value them highly. We refer here to the attractive Eclipse SE V2 from relative newcomer Inspire, a turntable which although commendably stable is a little short on engagement, due to limited energy and snap. The big VPI Classic is uncannily calm and relaxed, but again lacks pace. It goes down low enough, but is strangely short of the life force that makes vinyl so appealing.

The rest of the pack are harder to split and, while we have our preferences, it's quite possible that your system and musical tastes might lead to a different decision.

The Clearaudio Performance SE lives up to its name with a clear, open and sparkling sound that's extremely strong on timing, if a little lean for some tastes. It worked very well with the active ATC system used for the blind panel, but less so with the leaner, faster hands-on combination of Naim and B&W.

The Pro-Ject RPM10.1 is an exuberant and enjoyable turntable with phenomenal energy in the context of excellent levels of detail and if your funds won't stretch to the group winner, then this is a very strong substitute.

The Roksan Xerxes 20plus, being the most expensive player in the group, had a lot to prove but did so by playing everything we put on it with a finesse and enthusiasm that made it very difficult to stop. It combines the timing skills of the Clearaudio with superb spatial resolution and life-affirming dynamics. It's expensive, but the finish is the best in test. ●

## THE WINNER IS...

**ONCE AGAIN MICHELL HAS COME UP TRUMPS in a turntable group test. Last year it managed this with the Gyro SE, this time the next model up in the range takes the title. The Orbe SE manages to do everything well and at a competitive price, considering the quality of sound, build and engineering.**

**The key to its success lies in a strong fundamental design that has been enhanced in no small way with a DC power supply. The result is a taut, controlled and powerful sound that lets the vitality and thrill of vinyl pour out of the speakers. This comes down to excellent detail retrieval and precision timing. It avoids the leanness found in other pacy designs with a deep, calm bottom end that's rich in texture and throws up a full-scale, three-dimensional soundstage that invites you to walk right in.**



A turntable and arm is not a complete audio source, you need partnering components of equal quality to hear the glory of vinyl

### CARTRIDGE: Dynavector DV-20X2L £499

The DV-20X2L was the cartridge that we used to audition these turntables, because it's a revealing and dynamic moving coil with excellent timing. In other words, it is as capable as any of the turntable/arm combinations in the group, it's also relatively easy to set up which is useful in a situation like the blind-listening session. It is also the best sounding MC that we've found at what is a very reasonable price for the genre and if the results encountered with these turntables are anything to go by, it's compatible with a wide range of record players.



### PHONO STAGE: Trilogy 907 £1,995

The amplification and equalisation of the tiny signal that comes out of a moving coil cartridge is not an easy thing to do well. A good phono stage can transform almost any turntable and cartridge into a music source of shining beauty and the Trilogy 907 is just such a stage. It is superbly built with fully adjustable gain/impedance and has that rare combination of transparency, tonal richness and great timing. It might seem a lot to spend, but if you are serious about vinyl there is no substitute for quality at this crucial stage in the chain.



### SUPPORT: Townshend Audio Seismic Sink Stand £400

Turntables are more sensitive to vibration than any other audio component. Their job is to read tiny vibrations in the vinyl groove and you don't want energy from loudspeakers feeding back to that point. You can do this by siting the turntable away from the speakers on a wall shelf (if you have sturdy walls) or you can use an equipment support that truly isolates the component.

The Seismic Sink Stand does that better than any we have tried, it allows a turntable to read the groove in a calm environment free from distortion.







# Twenty's vision



PMC's new twenty series applies some of the lessons learned while developing the upmarket fact models, says **Paul Messenger**

**P**MC achieved its 20th anniversary last autumn, celebrating the fact by launching a brand new four-strong 'twenty' series of models that are intended to fill the gap between its regular 'i' series of domestic hi-fi speakers and much more costly 'fact' models.

In truth, the twentys are priced much closer to the 'is' than the 'facts', this compact floorstander starting at £2,095 for the real wood veneered version. (There's a choice of three here, including oak, walnut and amarone, though the high-gloss Diamond Black finish costs an extra £210.)

That compares with a current price of £1,525 for the GB1i, its nearest equivalent in the standard range. Judging by the bold specifications, the two models seem to have a great deal in common. The transmission line loading the bass is the same length (2.4m) and both drive units have the same nominal sizes.

## Sharp and tilted

However, the twenty.23 looks much sharper and up to date than the

GB1i and, perhaps, the real clue to its superiority lies in a significant increase of roughly 25 per cent in weight. It's a little larger, too and features numerous detail refinements intended to improve performance.

The most distinctive feature of all the models in the new range is that the enclosures tilt slightly backwards. It's only a five degree angle of tilt – any more would probably upset the stability too much – but it does substantially enhance the appearance, as well as contributing to the time-alignment of the two drivers' voice-coils.

## Driver technology

One consequence is found in the plinth, which is set back a little to compensate and ensure that the spikes are properly located directly below the fore'n'aft centre of gravity. Besides enhancing the physical stability, the plinth has two additional features. The overlap at the back is rounded and shaped, with a groove that provides a convenient hand-hold for lifting and moving the speaker. And the three-bolt fixing for the plinth is accomplished through

## ► DETAILS

**PRODUCT:**  
PMC twenty.23  
**ORIGIN:**  
UK  
**TYPE:**  
Two-way compact floorstander  
**WEIGHT:**  
13.2kg  
**DIMENSIONS:**  
(WxHxD)  
152x918x330mm  
**FEATURES:**  
• 27mm Sonolex soft-dome tweeter  
• 140mm doped paper cone bass/mid driver  
• 2.4m ATL (advanced transmission line)  
• Large line exit on front  
• Twin terminal pairs  
• Decoupled spike-equipped plinth  
**DISTRIBUTOR:**  
PMC Ltd  
**TELEPHONE:**  
08704441045  
**WEBSITE:**  
pmc-speakers.com

carefully designed cork'n'rubber washers, which provide a measure of decoupling. The fixing instructions seem a bit haphazard – take up bolts to finger-tight, then add a quarter turn – but we're assured they're effective, as is the technique.

The enclosure itself is substantially constructed from 18mm high-density fibreboard (HDF) and further stiffness is provided by the internal structure provided by the folded transmission line, which is 2.4m in length and, therefore, requires two long vertical partitions. The line is terminated in a large port on the front near the floor and further bracing is applied inside the critical top surface.

The drivers might look similar to others used by PMC, but they're actually unique to the twenty series. The twenty.23's bass/mid M13 is a cast frame 140mm unit. It has a 95mm diameter flared paper cone

**"It does a remarkable job of delivering fine neutrality and excellent stereo imaging."**

with a textured surface and matt-finish doping.

The Sonolex tweeter was developed alongside Norwegian OEM driver specialist SEAS and has a 27mm doped fabric dome. A rear chamber helps keep the diaphragm's fundamental resonance quite low, allowing the crossover to operate at a lower than usual 1.8kHz. The dome sits behind a special fixed grille which helps widen the dispersion.

Twin-input terminal pairs are conveniently located near the floor. Parallel connected with brass rods when delivered, these also provide the bi-wire or bi-amp options. Inside, the crossover network follows PMC's established tradition in using steep 24dB/octave slopes, ensuring fine phase coherence and minimal driver overlap, but also requiring extra care in component matching during manufacture.

## Simple ingredients

Room measurements showed that the twenty.23 is very well suited to positioning well clear of walls, whereupon it delivered decently even bass extension down to below 40Hz in our listening room and was free from unwanted mid-bass excess.

The fixed grille on the Sonolex tweeter fronts a rear chamber that's designed to reduce resonance



## Q&A...

WE SPOKE WITH PMC'S CHIEF DESIGNER AND OWNER PETER THOMAS



**HFC: We're intrigued by the 'backwards tilt' of this loudspeaker. Is this purely a styling device or does it also enhance performance?**

**PT:** Both, but mainly technical. The tilt benefits the phase alignment of the drivers. This tilting integrates the two drive units using fewer crossover components and has the bonus of reducing reflections within the cabinet and the associated colorations.

**At the launch you spoke about 'trickling down' the lessons learned when developing the upmarket fact models. Can you expand on this and be more specific?**

The main areas borrowed from fact are: the inert, narrow baffle; the highly braced ultra-low-noise cabinets; refinement of the transmission line damping material; and new tweeter and bass units. The low 1.8kHz crossover point follows in the fact footsteps, along with hand-selected and matched components, and even the low interaction layout mimics the fact design.

**Are the drivers the same as those in the fact.8, or are there detail differences?**

Every element of the twenty series is new. The twenty tweeter is a 27mm soft dome rather than a 19mm unit, but has a similar grille to extend the high-frequency response and widen the dispersion. The new LF units are specifically designed for their corresponding transmission lines.

**PMC uses relatively complex crossover networks, though numerous other brands try to maximise simplicity. Doesn't it worry you that all those extra components will compromise the sound quality?**

Not at all. What is more a worry is the poor results from using simplistic crossovers. High order crossovers are more difficult and more expensive, but enjoy vast benefits. More components increase the possibilities for tailoring the speaker to create greater accuracy. They also increase power handling, widen dispersion and reduce coloration.



**TRANSMISSION** line approach has several benefits, not all of which are immediately obvious to the casual observer.

The alleged prime purpose is to reinforce the lower bass by using the line to reverse the phase of the output from the back of the cone, so that it adds to (rather than cancels with) the main cone output at low frequencies.

However, several other factors are also important, such as the internal partitions that form the line add considerable extra stiffness to the side panels and the way the line absorbs, rather than reflects midrange output radiated from the back of the main driver cone.

Most of the listening was done using a Naim CDS3/555PS CD player, a modified hybrid Rega/Linn Sondek LP12 with Rega RB1000 tonearm and Soundsmith Strain Gauge cartridge (HFC 324), and a Magnum Dynalab MD 106T tuner. Amplifiers included a Naim NAC552/NAP500 combo; cables were from Chord Company, Vertex AQ, Phonosophie, Vertere and Naim, while equipment supports included Mana, Vertex AQ, Naim and Townshend types.

The twenty.23 might be a simple design with quite simple ingredients, but its sound quality is very classy indeed, with a delicacy, transparency and freedom from both boxiness and cabinet coloration that is unusual at any price. Some degree of constraint in both bass weight and dynamic expression is inevitable with such a small bass/mid driver, but for listeners prepared to accept such limitations, this loudspeaker ticks most, if not all, of the boxes.

The transmission line approach is discussed in more detail in *Talking Point* (left). Although the bass reinforcement and enclosure stiffening are both significant, arguably the most important effect is the way a well-damped line can absorb the midrange frequencies from the back of the driver, avoiding the boxy reflections often created within conventional enclosures.

And it's this freedom from audible midrange boxiness and congestion that really sets this speaker apart from most of its competitors and is responsible for its fine transparency.

That lack of boxiness is also responsible for the superior stereo imaging, which seems entirely divorced from the speakers themselves, while the wide dynamic range and low 'hash' floor assist the ability to create realistic depth perspectives with appropriate material. Mono sources, such as speech, demonstrate impressively tight central focus.

Trawling through familiar programme material showed that this is a speaker that's invariably inviting and very easy on the ears, and the ability to deliver an unusually wide dynamic range by effectively resolving very low-level detail is more than fair compensation for a rather more modest ability to deliver realistic dynamic punch and grip.

The top end is quite strong, relatively speaking, but only rarely to the point where it becomes in



any way intrusive. It's also clean and sweet enough to bring an attractive texture to the sound of instruments such as violins and realistically render the background audience noise during live performance recordings.

One interesting question must be how the twenty.23 fits in between the GB1i and the fact.8 (or fact.3). Without the opportunity to bring all three models together, it's impossible to answer that question accurately, but relying on an admittedly fallible audio memory does suggest it sits rather neatly between the two.

The GB1i is a decent enough speaker, no question, but it simply lacks the all-round sheer class of the twenty.23, especially in terms of smoothness and bass-end clarity.

The fact models are significantly more costly and have an extra bass/mid driver, so making a fair comparison is harder. However, the senior models do seem to combine an impressively smooth delivery with rather more dynamic expression than that available with the twenty.23 and significantly more bass weight, too, in the case of the fact.8. Whether that's worth the rather hefty price premium on purely sonic grounds is, perhaps, debatable, but the facts do also have certain advantages in presentation.

### Cool and Dry

It's probably true that the twenty.23 is best suited to rooms that are somewhat smaller than the relatively large (4.3x2.6x5.5m) listening room used for our tests. It's certainly true that the overall character is on the dry and cool side of neutrality and could, perhaps, do with a bit more weight and warmth.

The bass does go deeper than one has any right to expect in view of the small size of the bass/mid drive unit. It's undoubtedly clean, crisp and agile here, providing plenty of information on what the

**DETAILS**



- 1** An optional cloth-covered grille is retained by concealed magnets
- 2** Enclosure incorporates an elegant five-degree 'backwards tilt'
- 3** Separate plinth aids stability. It's set back to accommodate the tilt and incorporates controlled decoupling
- 4** Advanced 2.4m transmission line terminates in a large front port by the floor
- 5** Hand-hold groove is hidden within the rear extension of the plinth
- 6** Enclosure has sharp edges all round and comes in a choice of three wood veneers or high-gloss black

**HOW IT COMPARES**

**THE TWENTY.23** is certainly costly for a compact two-way floorstander based on a 140mm bass/mid driver – PMC's own less expensive GB1i model is a more typical example of the type.

Stand-out models at these lower prices include the GB1i (HFC 346) the Kudos X2 (HFC 336) and the B&W CM8 (HFC 344).

Moving up closer towards the twenty.23 price, the £1,685 transmission line two-and-a-half-way Rega RS7 (HFC 347), the muscular port-loaded £1,690 ProAc Studio 140 Mk2 (HFC 347) and the £1,890 quarter-wave-loaded Audiovector Ki3 Signature (HFC 343) are stand-out performers.

At £2,295, the Spondor SP2/3R2 (HFC 343) provides an interesting, classically styled standmount alternative.

bass lines are doing. But it could do with a bit more authority and grip, especially with rock and synthesised material. The bass hangs on in there pretty well and is well able to communicate the musical messages, but it doesn't exactly power and drive the music along in the way that gets the blood coursing in the veins, and in the manner that a significantly larger loudspeaker can manage.

However, there's no denying the fine top-to-bottom coherence that this speaker delivers. One bonus that comes from using such a small bass/mid driver lies in the advantages it offers at the top end of its operating band, in making the crossover transition to the tweeter.

The twenty.23 accomplishes this changeover particularly well – rather better, in fact, than the GB1i – showing just sufficient restraint to avoid the presence zone from becoming too aggressive when the volume is turned up, yet without leaving voices (especially speech) sounding shut in.

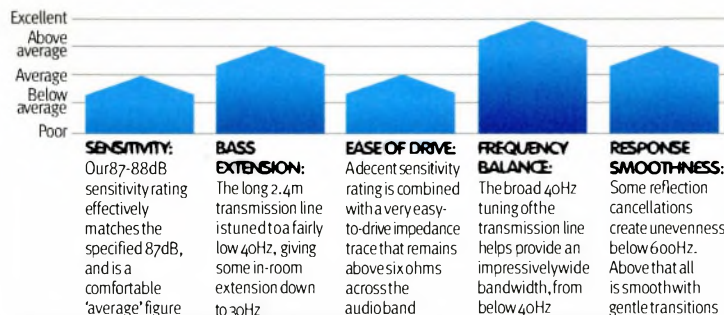
**All-round value**

This relatively small and quite discreet loudspeaker looks good, with a high-class standard of finish that's very much in the modern idiom.

Despite its modest size, it does a remarkable job of delivering an essentially full bandwidth sound, with fine neutrality and excellent stereo imaging. The tonal balance is generally smooth and even and the sound quality has impressive overall coherence and midband transparency. A bit more bass authority might well be appreciated, but there's no denying the fine all-round value for money of a very well-judged design. ●

**TECH LABS**

**RESULTS AT A GLANCE**



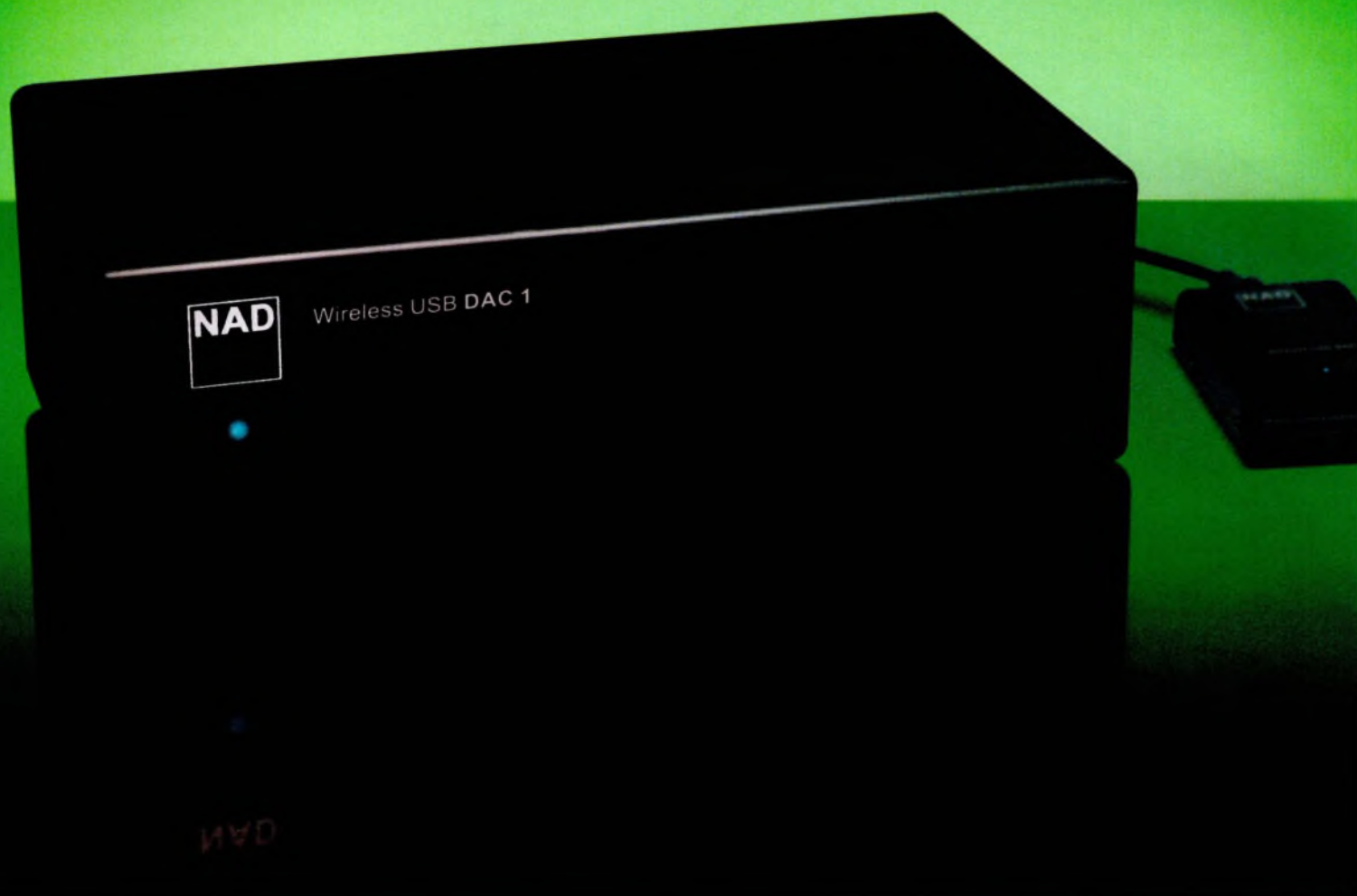
**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Delicate and transparent midband, with a wide dynamic range
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Could do with more bass and greater dynamic expression
- BUILD QUALITY** ★★★★★ **WESAY:** Attractively styled, with a smooth coherent balance and a dry, but clean bass
- EASE OF DRIVE** ★★★★★

**OVERALL**





# No cables, no bother!

NAD's new £300 DAC connects both wirelessly and effortlessly. But, asks **Richard Black**, how does it fare against the competition?

**I**n recent years, wireless hi-fi has taken off in a big way, comfortably banishing bad memories of analogue wireless headphones of yore. With wi-fi, AirPlay, Bluetooth and various proprietary formats, we have plenty of choice in terms of sending digits from one place to another. Not all of these are entirely trivial to set up, though, and they aren't all bit-perfect either: Bluetooth, for a start, so far only supports transmission of lossily coded data.

## Quick and easy

We're always keen to try out new twists on the subject. NAD got us interested from the start, with a combination of low price and promised simplicity. And indeed this really is about as simple a solution as one can imagine. You connect the transmitter to a USB socket on your home computer (any of the usual flavours) and connect up the DAC itself to your hi-fi via either analogue or digital (electrical) connection, and off you go.

## DETAILS

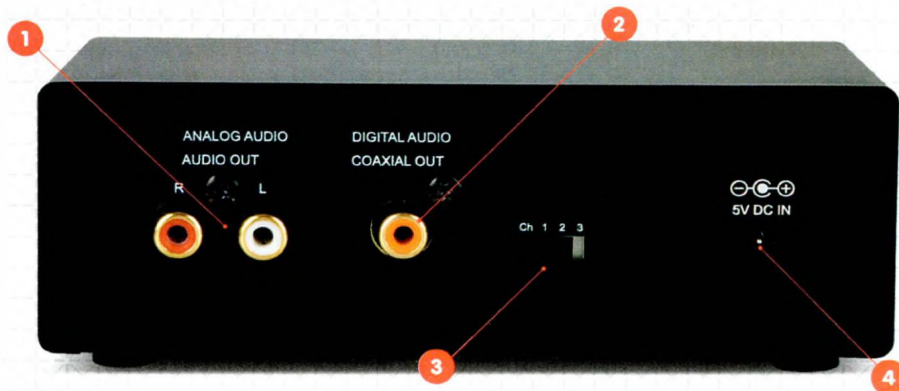
**PRODUCT:**  
NAD USB DAC1  
**ORIGIN:**  
Canada/China  
**TYPE:**  
Wireless USB DAC  
**WEIGHT:**  
0.4kg  
**Dimensions:**  
(WxHxD)  
135x35x70mm  
**FEATURES:**  
• Unbalanced  
analogue out  
• Electrical  
digital out  
• External  
power supply  
• USB transmitter  
dongle included  
• Fixed sample  
rate 48kHz  
**DISTRIBUTOR:**  
Armour Home  
Electronics  
**TELEPHONE:**  
01279 501111  
**WEBSITE:**  
nadelectronics.com

We've installed various bits of USB hi-fi over the years, but this was the quickest and easiest of the lot, running within seconds of connection on both PC and Mac computers, not even going through the business of installing itself on the computer, as it appears to use a pre-installed default profile.

That said, you may still have to look at the Preferences menu to make sure audio playback is routed to the appropriate device and in this case things are not quite as clear as they might be: the system is called 'USB Headset' which is not strictly accurate.

PCs seem to be more inclined to direct audio to the most recently connected device, while Macs need to be pointed that way manually. No big deal if you're familiar with computer set up, but you have to make sure you look at the right 'Preferences' menu – the one for the whole computer, not the particular playback application. This kind of thing is what makes computer audio just that little bit less 'plug and play' than we might all wish.

**CONNECTIONS**



1 Unbalanced analogue outputs    2 Electrical digital output    3 Source selector    4 DC power supply input

Against that, we were delighted to find that the transmitter and receiver (that is, the DAC unit proper) seem to 'find' each other almost instantaneously and without any manual intervention at all. Even if you change the channel, you only have to do it on one unit. No access codes to enter, no 'visibility' to set, nothing. If all wireless connections were this simple the world would be a better place.

**Decent specification**

The other thing about this system is that it doesn't incorporate any element of remote control, so you still use the computer's own mouse, keyboard and display – in other words, you need them nearby. But if you are using a laptop you can have it by your listening seat and not worry about running cables across the floor to the hi-fi. Importantly, too, the quality ought to be better than that at the computer's own analogue

**“It compares well, producing sound with excellent bass weight.”**

outputs, especially if you use the USB DAC1's digital output to connect to your choice of upmarket DAC.

The DAC chip chosen by NAD for this unit isn't the highest performer on the market, but it has a very decent specification, comfortably better than that intrinsic to 16-bit audio in most ways. Analogue output circuitry is simple, but similar to that of most budget CD players.

Our only concern on reading the data sheet for the DAC was the line that said 'Sample Rate – 16-bit/48kHz'. We would neither demand nor expect 24-bit operation from a device of this nature, but the sample rate rang alarm bells because PCs in particular are known to convert the



**TALKING POINT**  
IT MAY SEEM a little bizarre that computers can't simply put out 'raw' audio data under all circumstances, but they can't, or at least don't. The reason is compatibility with low-budget digital-input receivers, but that's a red herring because practically all digital-input consumer gear built in the last decade has sample rate converters on the inputs and so can interface to anything anyway. In other words, it's yet another legacy issue.

The practical upshot of this is that data pass through a sample-rate converter on the computer motherboard (in practice generally implemented in software), and it's not necessarily a high-quality device. It even operates when input and output sample rates are notionally the same. The usual workaround is to invoke 'kernel streaming', but some USB devices don't support this: the NAD USB DAC1 is one of those. So near and yet so far!

data rate of audio sources and the quality of that process is not above question. Would that be the case here?

**Promising delivery**

It seems, in fact, that 48kHz is the fixed, non-optional data rate of this DAC. We tried very hard to get bit-perfect transmission, but even players like Cool Edit and Foobar failed, nor did we succeed on a Mac platform. However, the Mac rate conversion is noticeably higher quality, subjectively and objectively, and enabled us to become quite enthusiastic about the sound.

It actually compares very well, at best, with CD players of the £500 variety, producing sound that's clear, detailed, lively and with particularly excellent bass weight and extension. In short, it delivers what it promises.

Via PC we were less convinced and various tests pretty much convinced us that the sample-rate conversion within the computer was largely to blame. Even a Chord DAC couldn't rid the sound of residual muddle and the dreaded 'smeary window' syndrome, where you can hear more or less what's going on but, try as you might, not quite all the details.

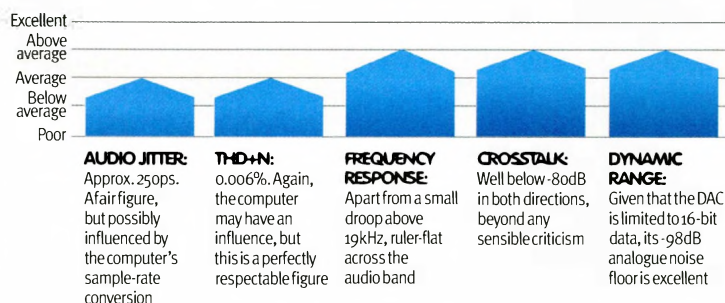
The fact that the DAC1's analogue outputs sounded similar suggests NAD has done a good job at the conversion and analogue output part, but corrupted digits will never give best quality.

**Good budget quality**

Evidently what's needed is a slightly more sophisticated approach, which somehow allows bit-perfect streaming. It's not entirely NAD's fault that PCs do such a lousy rate-conversion job, but a better workaround would be a real plus. Lacking that, sound is more in the decent background music category than true hi-fi, or good budget quality if you own a recent Mac. ●

**TECH LABS**

**RESULTS AT A GLANCE**



**Hi-Fi Choice**

**OUR VERDICT**

**SOUND QUALITY** ★★★★★ **LIKE:** Gets digital audio across the room with no trouble at all

**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Hampered by fixed data rate, involving sub-optimal rate conversion on most computers

**BUILD QUALITY** ★★★★★

**FEATURES** ★★★★★ **WE SAY:** For Mac users who benefit from much better sample rate conversion

**OVERALL**



## 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

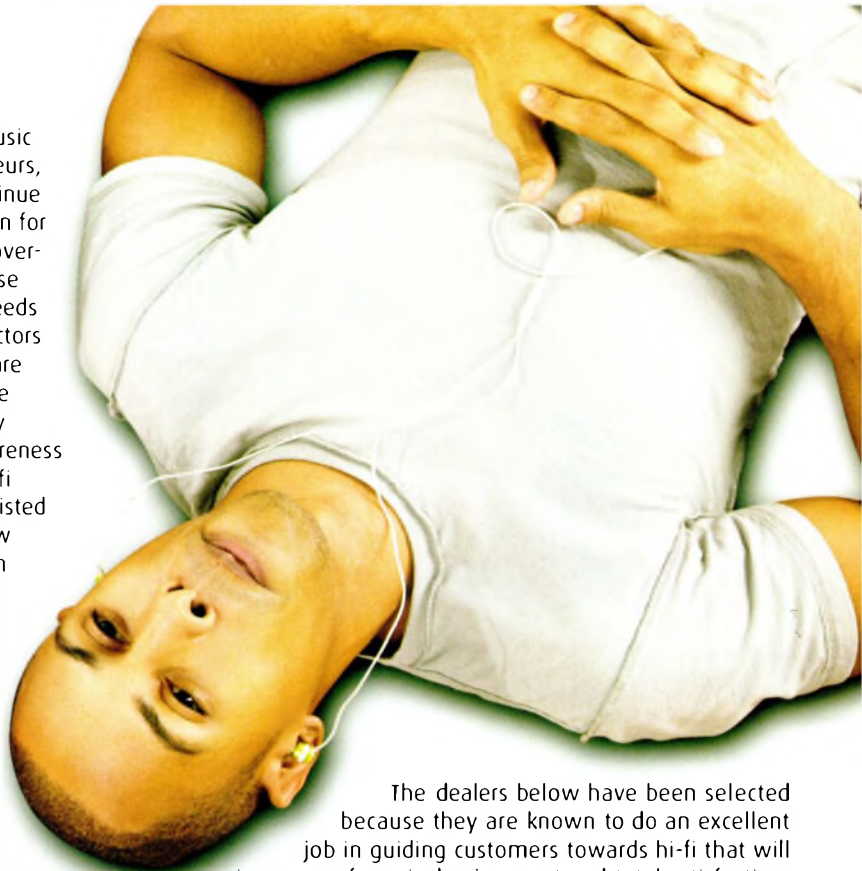
Just as essential a link in the chain as the hi-fi connoisseur is the specialist hi-fi retailer and the two are rightly dependent on each other. Without the specialist retailer the hi-end hi-fi manufacturer would have to rely on the internet and hi-fi magazine reviewers to try and assess the relative 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 over-riding 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

##### Banbury 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

##### Coventry 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

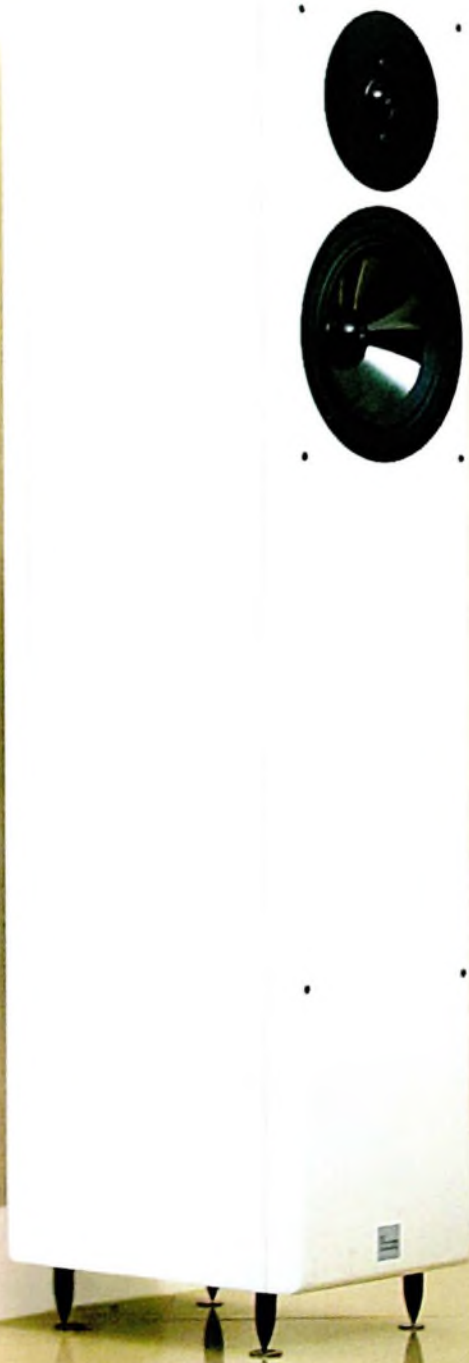
##### Hull THE AUDIO ROOM

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

##### York

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





## 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.

To appreciate the sound, innovation and quality of these speakers, call us now on 01480 270550 or visit [www.va-speakers.co.uk](http://www.va-speakers.co.uk) to locate your nearest stockist.

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

Tel: +44 (0)1480 270550  
Email: [sales@audyus.co.uk](mailto:sales@audyus.co.uk)

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



# Royal performance

Creek has upped the ante with its first no-compromise phono stage, **Jason Kennedy** puts the new WyndSOR through its paces

**C**reek introduced the WyndSOR name with its first turntable in 2010 (HFC 302) and now it has a phono stage to match. This is a two-box design with exemplary casework and a front panel interface that allows you to configure preset parameters for several different cartridges and have it remember each by name.

This will be a boon to anyone who regularly changes cartridge and needs to set specific gain, impedance and capacitance for each. Another feature that we are beginning to see on a growing number of phono stages is balanced inputs, albeit not in conventional form.

## Right back

Not for Creek the mundanity of XLR inputs that are usually on hand to receive a balanced signal. Instead, the company has opted for that rare beast the mini-DIN socket, a fact it accepts by including matching plugs with the stage. This is probably because they are small enough to fit on the back panel of this compact unit (XLRs would be too big).

There are regular RCA phono inputs as well, so you are not obliged to get the soldering iron out to give it a go. Given the intrinsically balanced nature of a cartridge's output –

separate grounds for each channel – you are likely to get better results if you do, however.

The WyndSOR phono preamp is based on the Destiny phono card that Creek developed for the integrated amp of the same name, a stage whose circuit design incorporated very high-performance op-amps and balanced amplifiers, with an 'extremely accurate' passive RIAA equalisation stage. The WyndSOR is a turbo-charged version with totally separate boards for each channel that go right back to the power supply regulation stage. It also has a separate power supply in order to keep noise completely at bay.

## Pretty impressive

The set up interface on this stage is pretty impressive, we've seen similar but not at this price. You can scroll through the various set up parameters and set cartridge type and adjust gain in five levels. Input resistance has the same number of options and there are four degrees of capacitance to choose from.

The best bit is that you can save those settings and give them any name of your fancy. This is what you are paying for in the WyndSOR, the only other interface of this nature is on the Leema Agena, which is a full-size stage at £3,495.

## DETAILS

**PRODUCT:**  
Creek WyndSOR  
**ORIGIN:**  
UK  
**TYPE:**  
MM/MC  
phono stage  
**WEIGHT:**  
Preamp 1.2kg,  
Powersupply 1.5kg  
**DIMENSIONS:**  
(WxHxD) Preamp  
192x62x196mm  
Power supply  
112x63x210mm  
**FEATURES:**  
• Gain options: 40,  
45, 53, 61, 70 dB  
• Resistance  
options: 91, 100, 1k,  
33k, 47k Ohms  
• Capacitance  
options: 100pF,  
440pF, 1.1nF, 1.4nF  
• Balanced and  
single-ended input  
**DISTRIBUTOR:**  
Creek Audio  
**TELEPHONE:**  
01442 260146  
**WEBSITE:**  
creekaudio.com

Build quality of both supply and preamp is very high. They may not be big boxes, but they are very well put together and finished in black or silver anodised aluminium.

## Dynamic punch

Pair the WyndSOR with a Townshend Rock 7 turntable, Funk FX-R arm and van den Hul Condor cartridge front end and sit back to enjoy a full-scale, rich soundstage that is detailed and refined. Timing is on the relaxed side, but there's no shortage of dynamic punch when the vinyl provides it. A great recording sounds pretty spectacular, in fact, but musical engagement could be stronger.

The contrast between records is very high, which indicates that this is a revealing stage that will respond to whatever it's fed. In other words, a pacy front end will provoke a more upbeat sound and something like a Roksan or Linn is probably as good a match. Its natural strengths are dynamics and tonal colour, the punch that it can deliver from snare and kick drum is very effective as is the woody resonance of an acoustic guitar.

## Strong features

The WyndSOR is a distinctly refined phono stage that will thrill those who enjoy good imaging and great recordings. It doesn't have the pace of the best in class, but makes up for this with qualities that are arguably just as important. The ability to set parameters via the front panel, while impressive, is only really of use to those with more than one cartridge and it's a pity that there isn't a mono setting for vintage recordings.

All things considered, however, it's a strongly featured, well made and revealing piece of kit that deserves the attention of vinyl lovers, be they Creek users or otherwise. ●



## Hi-Fi Choice

### OUR VERDICT

**SOUND QUALITY** ★★★★★ **LIKE:** Has the ability to accommodate multiple cartridge parameters

**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Set up features are less useful for those with one cartridge

**BUILD QUALITY** ★★★★★ **WESAY:** A well-featured phono stage that's nicely built and strong on imaging and dynamics

**FEATURES** ★★★★★

### OVERALL





# Heavy metal



The TP106VR+ is the flagship integrated in a new range of valve products from Slovakian brand Canor. **Ed Selley** feels the glow

**C**anor is a new arrival in the UK but we have seen some of its handiwork before. The Slovakian-based company used to be known as Edgar and its very distinctive wood-fronted electronics featured a few years ago. These products are still available but were rebranded as Canor in 2007 and were joined by a range of more conventionally styled units that use valve topology. The

£3,950 TP106VR+ seen here is the flagship integrated amplifier in the range.

More conventional styling or not, the Canor is still not a 'normal'-looking valve amplifier. Most valve amps we have seen recently are open-chassis designs with the valve compliment on show. The Canor uses a completely enclosed chassis and gives very few external clues that it uses valves at all. The result is less

## ► DETAILS

**PRODUCT:**  
Canor TP106VR+

**ORIGIN:**  
Slovakia

**TYPE:**  
Integrated valve amplifier

**WEIGHT:**  
26kg

**DIMENSIONS:**  
(WxHxD)  
435x170x390mm

**FEATURES:**  
• 4x 6550 Output valves

• Four line inputs

• Full remote control

**DISTRIBUTOR:**  
Sound Foundations

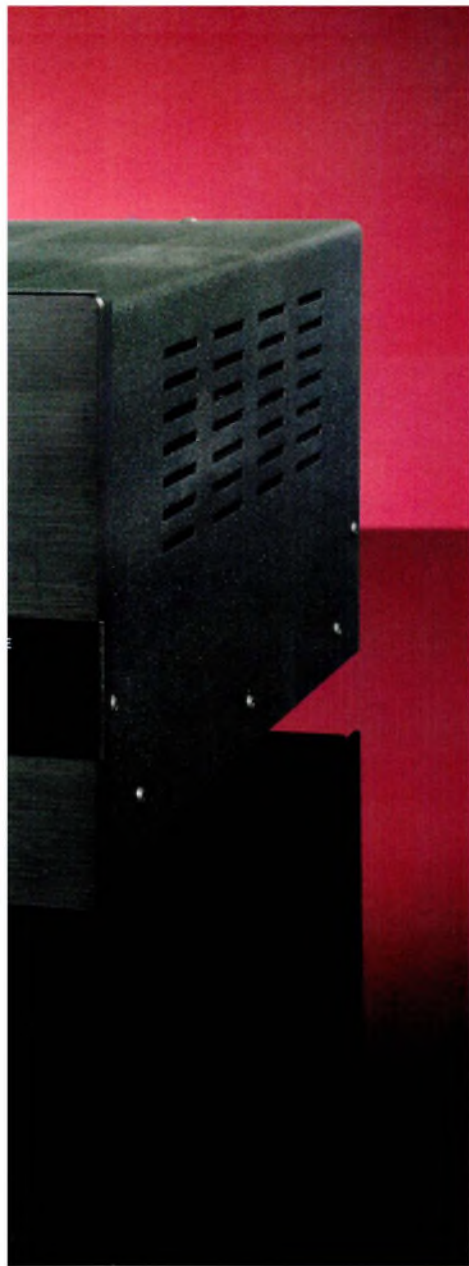
**TELEPHONE:**  
01276 501392

**WEBSITE:**  
canor-audio.com

visibly dramatic than the open-chassis types, but does mean the valves are suitably protected by the chassis. The large volume control and illuminated input panel are more reminiscent of solid-state designs, but the overall effect produces a handsome product.

## Unstressed configuration

The TP106VR+ uses four 6550 output valves. These are run in a relatively unstressed configuration and Canor claims an output of 55 watts into four ohms, which is well within the operating limits for the design. Canor says that the amp operates in Class A for the first 20 watts of output, which with speakers of reasonable sensitivity will be most of the listening someone would undertake day to day. The considerable 26kg all-up weight is partly down to the large high-quality output transformers which in many regards are the single most important part of any valve amplifier.



Canor puts a considerable amount of effort into matching and testing the valves used in its amplifiers. Each valve selected is extensively tested before installation. To accomplish this, Canor has designed and built a variety of unique valve testing machines that are intended to ensure that each product proves as reliable as possible. One of these fearsome-looking devices attended the recent Whittlebury hall show and gave an insight into how much effort that Canor puts into this aspect of design.

This quartet of output valves is mated to a preamp that uses four 12AT7 valves and a pair of 5AR7 valves as rectifiers. The circuit also features high-quality Mundorf coupling capacitors for improved performance over the smaller Canor designs. The rear panel features four line inputs and a tape loop. No preout is fitted and the TP106VR+ also makes do without a phono stage (given Canor makes a high-quality standalone unit, this is not too surprising). Another interesting omission is the lack of a choice of four and eight-ohm speaker outputs that are generally present on most valve amplifiers to more effectively couple them to speakers. Given that Canor quotes most of its figures into four ohms, it is fair to suppose that the amp operates for the most part at four ohms.

The fit and finish of the TP106VR+ is excellent. The all-metal chassis feels substantial and very solidly bolted together. Removing the lid is a serious undertaking as it is held in

**HOW IT COMPARES**

**THE CANOR** faces competition from a number of similarly priced products.

Perhaps the closest in terms of valves and overall design is the Copland CTA405 (HFC 305) which retails for £3,200. Another enclosed chassis design, it uses four KT88 valves in place of the 6550's of the TP106VR+. More powerful than the Canor, it features an internal phono stage, but the Canor uses higher-quality internal components.

Slightly cheaper than the Canor and possessing a similar power output is the Unison Research S6 (HFC 347), that uses six EL34's in a single-ended configuration. The Unison has an open chassis and doesn't feel as robust as the Canor, but does have a fabulously inviting sound.

Luxman's solid-state L550A-II (HFC 335) is Class A biased like the Canor and provides an interesting solid-state alternative with a similarly inviting sound.

place by 20 screws. Once the lid is removed, alongside the Mundorf parts is a collection of high-quality components in a well implemented circuit. The controls feel solid and well weighted and the paint finish is excellent. The lack of ostentation can initially make the amp seem a little subdued, but this is undoubtedly a high-quality product that has been very carefully assembled.

A welcome touch in a field of designs that are often very minimalist is the presence of a full remote control that not only does volume functions, but allows for input selection as well. As an added bonus, the remote is a smart brushed-metal affair rather than a parts-bin special. At £3,950, the Canor faces stiff competition from

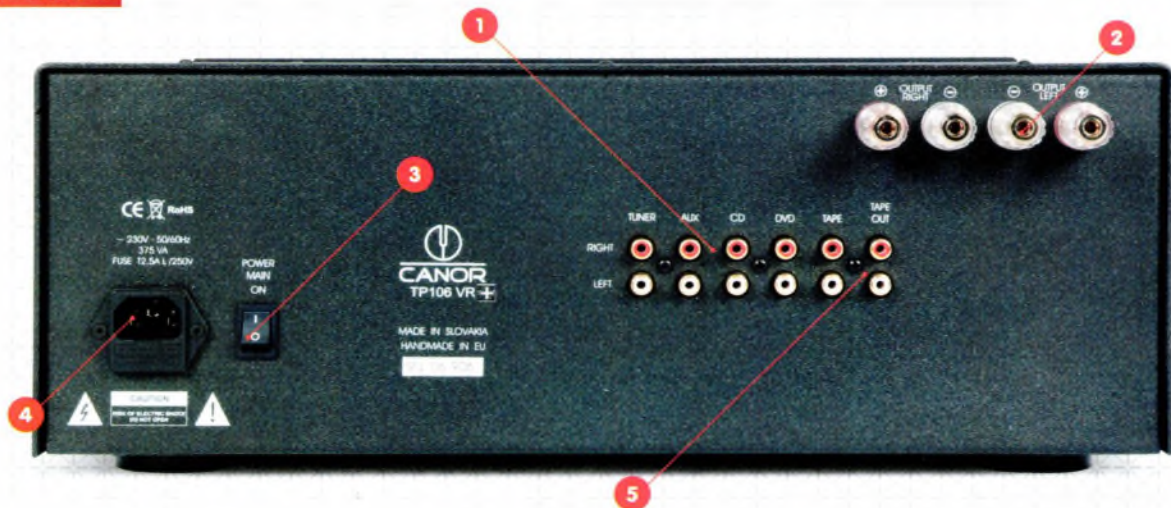
**“The Canor faces no shortage of competition, but admirably rises to the challenge.”**

a number of designs (see left) but the raw materials are promising.

**Well sorted**

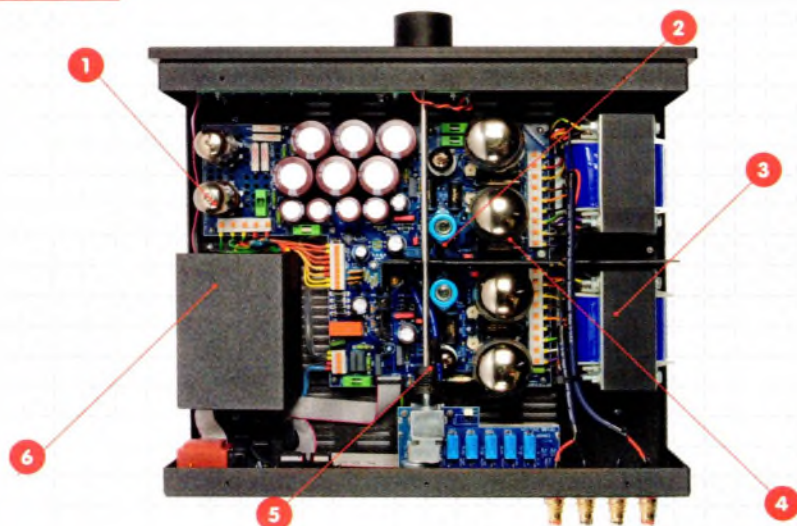
More promising still is the way that the amp sounds. Like many excellent valve amplifiers, there is absolutely nothing warm or bloomy about the performance of the TP106VR+. In a blind-listening scenario, there is nothing that would have a listener automatically assuming that the Canor was a valve-based design. This

**CONNECTIONS**



- 1 Line input on RCA phono connections
- 2 Speaker outputs
- 3 Mains power switch
- 4 IEC mains socket
- 5 Tape loop

**HIDDEN TECH**



- 1 **5AR7 rectification valves**
- 2 **12AT7 valves in preamp section**
- 3 **Output transformers**
- 4 **6550 output valves**
- 5 **Volume pot at the rear of the amplifier**
- 6 **Shielded mains transformer**

is a tremendously well sorted amplifier that happens to be built around valves. Into relatively sensitive speakers, the Canor shows no shortage of headroom and is likely to stay in the Class A area of operation almost all the time.

**Visceral thwack**

The most immediately arresting area of the Canor's performance is the low end. This is a valve amp that can show many solid-state designs a thing or two about bass extension and timing. Drums have a visceral thwack that is felt as well as heard, but nothing is lost from the detail and timbre of the piece.

The upper registers of the Canor are equally adept. Often valve amplifiers can portray the sense of a fabulous midband, which in reality is more a reflection that the bass and

treble performance is nowhere near as accomplished. The Canor feels seamless from top to bottom and this is mainly because it is equally capable across all parts of the frequency spectrum. There is superb detail and richness in the midband, as one might expect, but this doesn't simply peter out as the frequency increases. Unusually for a valve design, the Canor can actually sound a little sharp with poorly recorded material and will readily reveal shortcomings in mastering and production on some material.

This insight and detail allows more thoughtfully recorded material to shine and this is further aided by the Canor's excellent sense of soundstaging and depth. Musicians are given the space appropriate to their performance and the sense of the recording environment that



**THE CANOR** went through the reviewing process at the same time as the AMR and WLM beautiful system (see p92).

Substituting the Canor for the AMR amplifier made for a very happy-sounding system and this would certainly be a partnership worth considering.

Choosing suitable speakers to play to the strengths of the Canor will be the key to getting the best from it and designs like the excellent Tannoy Definition DC10T (HFC 323) would make a fine partnership. Canor produces its own CD player to partner the TP106VR+, but we would also consider Shanling's fabulous CD-T 2000, which won our 2011 Best CD player award and would work well with the Canor.

captures the recording perfectly. Voices are given special treatment and are fabulously detailed and compellingly real. They are never separated from the recording, but they always take centre stage to proceedings. It is extremely hard to treat the Canor as background listening, as it has the habit of effortlessly grabbing attention away from whatever else you might happen to be doing.

**Sensational performer**

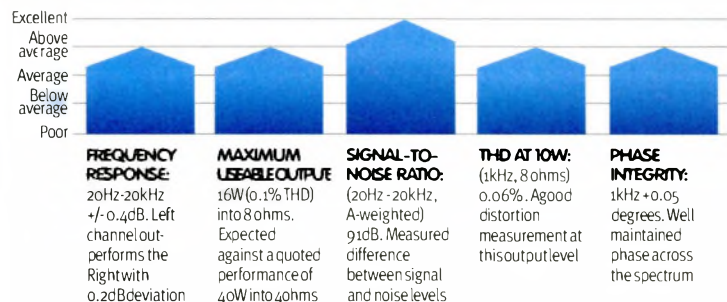
The TP106VR+ is not perfect. It can be ruthless toward less accomplished recordings and enclosed chassis or not, it runs very hot. There are also better specified designs available for the same asking price (or less) and if you have tremendously insensitive speakers, it may struggle. For the most part however, this is a sensational performer that does a great many things extremely well. It is hard not to admire the care and attention that has gone into the design and the fit and finish. The remote adds a welcome touch of civility, as well as greatly simplifying use.

The Canor faces no shortage of competition at the price point, but it rises admirably to the challenge. The performance and presentation is of an order that means that it should be considered even if a valve amplifier was not initially something you had on your shortlist. The power output should prove completely sufficient for real-world listening in most domestic situations and the closed chassis – given sufficient ventilation, makes no greater demands on placement than any solid-state design.

What the Canor offers is the timing, bass extension and general even handedness of a solid-state amplifier, coupled with an extraordinary lucidity and sweetness that solid-state designs will struggle to match. This is a very fine amplifier indeed. ●

**TECH LABS**

**RESULTS AT A GLANCE**



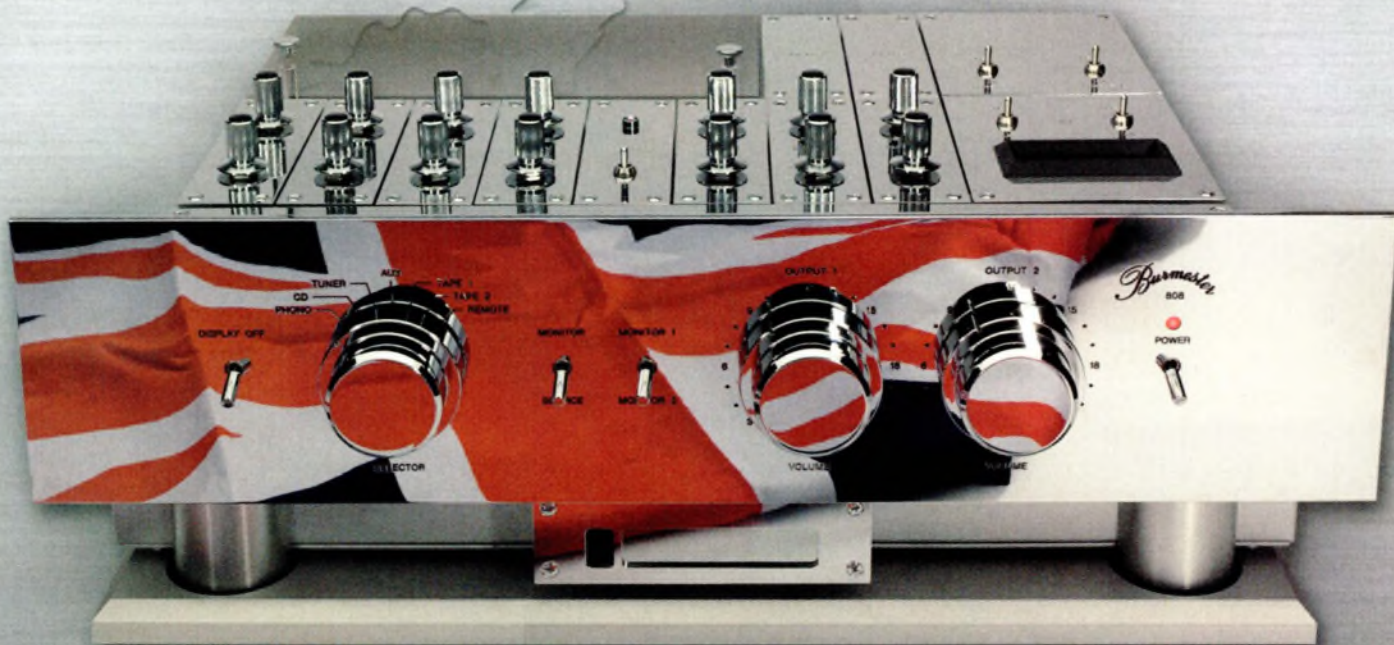
**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Balanced and engrossing sound, excellent build quality
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Won't flatter poor recordings, runs hot
- BUILD QUALITY** ★★★★★ **WE SAY:** A well thought-out amplifier that offers a superb performance with real-world usability
- FEATURES** ★★★★★

**OVERALL**





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



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# Figure of speech



Spendor has updated its legendary S3/5R2. **Ed Selley** finds out if the classic character has survived the improvements

**F**ew speakers have a pedigree quite as long or distinguished as the LS3/5 standmount speaker. Originally designed for the BBC to monitor outside broadcasts, it's impressive performance won many fans. So when the BBC requirement ceased, Spendor took over; a success record that has resulted in the latest iteration, the S3/5R2.

Given the classic nature of the design, the basics remain unchanged. The Spendor is a whisker over 300mm tall and mounts a 140mm mid-bass driver, with a 22mm tweeter in a sealed enclosure. With the cabinet dimensions and design somewhat 'sacred', the main areas that Spendor has focused on are the drivers and the internal bracing.

## Wide surround

The tweeter is a version of the Spendor 'wide surround' design that features a thick surrounding ring of material, that acts as both resonating area and mount. This is partnered with an all-new bass driver produced from EP39 (engineering polymer variant 39), with a magnesium-alloy basket to allow greater driver excursion.

This excursion is important because as the Spendor is a sealed cabinet, the only real way of improving the bass response is to increase the driver travel. When combined with a stiffer and more solid cabinet, Spendor claims that the R2 has a considerably extended bass response to the previous model. This is combined with further changes to the crossover to improve the midrange.

## A simple business

First impressions of the Spendor are good. This is a

solidly constructed and very attractive loudspeaker. The fit and finish of both the cabinet and drivers is excellent and the S3/5R2 feels worth the asking price. Speaker connections are via a hefty pair of binding posts and the only area where the Spendor could be said to be less than perfect (cosmetically) is in the use of lugs to secure the grilles, rather than magnetic trim tabs.

Partnering and placing the S3/5R2 is a simple business. The sensitivity of 84dB/w initially sounds alarming, but as the impedance never drops below six ohms, it is an easy load for most amplifiers. With no port or other perforation, the Spendor is happy to be placed close to walls or indeed on shelves. In any normal UK room, there should be no issues placing them effectively for good results.

## Trade-off

Owning any version of the 3/5a was historically a trade-off between superb midrange lucidity and the limitations of the bass response. The latest changes to the S3/5R2 go

## DETAILS

**PRODUCT:**  
Spendor S3/5R2

**ORIGIN:** UK

**TYPE:**  
Two-way  
standmount  
loudspeaker

**WEIGHT:**  
4.6kg each

**DIMENSIONS:**  
(WxHxD)  
165 x 305 x 190mm

**FEATURES:**

- 22mm wide surround tweeter
- EP39 polymer mid-bass driver
- Multiple panel thicknesses to reduce coincidental resonance

**DISTRIBUTOR:**  
Spendor

**TELEPHONE:**  
01323 843474

**WEBSITE:**  
spendoraudio.com

further to eliminate this than ever before. This is still an astonishingly communicative speaker. Voices and instruments are handled with an effortless accuracy that has very few equals in terms of tonality under £1,000.

The careful design of the drivers pays dividends in terms of avoiding undue harshness as well. The SE/5R2 can be pushed very hard without hardening up or becoming aggressive. At room-filling levels, it still sounds firmly in control. This also translates to a forgiving nature with poor recordings.

Where the old design would acquiesce to the laws of physics with low end material, the new model is made of sterner stuff. Absolute bass response is still limited by the design, but the S3/5R2 accompanies that addictive midrange with a tight, fast and tuneful bass performance. The difference is subtle, but gives the Spendor a wider appeal than its predecessor, without losing the traits that made it popular with so many people in the first place.

## Size limitation

The S3/5R2 also has excellent timing that gives up-tempo music the underpinning required to enjoy it, while never forcing slower pieces. Its soundstage is well formed and easy to follow with a believable sense of the space a recording was formed in.

With smaller pieces, it's astonishingly competent and can show more expensive designs a trick or two. As the scale of pieces increases, the limitations of its size become more apparent, but never alarmingly so.

If you require your speaker to give you a visceral thump in the chest above everything else, this latest version of the 3/5 series is still unlikely to appeal. For everyone else – especially those in smaller rooms – this upgrade of a British classic is the most complete yet. ●



## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY



**LIKE:** Detailed and expressive sound, fine build and easy placement

#### VALUE FOR MONEY



**DISLIKE:** Absolute bass response still limited

#### BUILD QUALITY



**WESAY:** A superb performer that takes the classic attributes of the design and adds further all-round ability

#### EASE OF USE



#### OVERALL





# Ray of light

How many features can you cram onto a CD player? Raysonic's latest appears to have all the bases covered, says **Jason Kennedy**

**T**he CD 128S is a brightly lit and styled-up player and just a glance at the back panel reveals that it has balanced and single-ended outputs, as well as digital in and outputs of all the key varieties.

More importantly, it's a fully balanced machine with a Class A output stage driven by no fewer than four triode valves, all this in a top-loading aluminium chassis. It looks

like an awful lot of hardware for the money. The question is, does the sound match the appearance?

## Electric blue

Raysonic is a dedicated to valve electronics and has a wide range of amplifiers and a growing portfolio of CD players. The CD128S is its sixth model and sits just above the entry level. The distinctive styling of this player, and a number of other



## ► DETAILS

**PRODUCT:**  
Raysonic CD128S

**ORIGIN:**  
Canada/China

**TYPE:**  
CD player/digital preamp

**DIMENSIONS:**  
(WxHxD)  
480x130x300mm

**WEIGHT:** 11kg

**FEATURES:**  
• Analogue outputs:  
RCA phono,  
XLR balanced

• Digital outputs:  
coaxial, AES/EBU

• Digital inputs:  
coaxial, AES/EBU,  
USB, optical

• DAC: AD1955  
upsampling to  
24-bit/192kHz

• Valve complement:  
4x 6922EH

**DISTRIBUTOR:**

Zepher Audio

**TELEPHONE:**

0845 5198823

**WEBSITE:**

raysonicaudio.com

models, comes down to in-house metalwork fabrication (there is a photographic factory tour on the company's website that makes it look like a pretty serious operation by valve electronics standards, but there are no workers on the factory floor, and no grime either!).

The S in this player's name indicates that it's a variation on the older CD128 which doesn't have what are essentially digital preamp features found here. Not only does it have digital inputs, but it has a digital volume control as well and thus can be connected straight to a power amp or active speaker. The digital inputs include USB, so you can hook up your PC as well as audio sources, which gives it a degree of future-proofing that everyone should be looking for in a CD player today.

It's a high bling-factor design, thanks to the circle of control switches and output valves that are bathed in a wash of blue LEDs. Fortunately, for those of a sensitive nature, it's easy to switch the lights





off so that you can focus on the music. The case is very stylish with its rounded corners and 8mm-thick aluminium construction.

What you don't see is that the transport has its own isolation system to keep its resonances away from the internal electronics and those coming from speakers away from the critical laser/disc interface, agitation of which is a prime source of jitter.

The top-loading aspect involves both an aluminium puck to clamp the CD and a lid to seal off the transport bay, which makes it a bit slow to change discs but is always going to be more reliable than motorised drawer systems.

Under the cover it has an AD 1955 decoder chip, which upsamples to 24-bit/192kHz with no option to avoid this particular process. It has some fashionable names on key capacitors: specifically Mundorf and Solen metallized polypropylene film types. Incoming mains power is catered for by a C-core transformer.

Raysonic includes a warm-up function that slows down turn-on, but enhances valve life as a result. Given the ease of access, it would not be difficult to replace the glassware and this would be an easy way of experimenting with the sound should the urge to tweak get the better of those that buy a CD128S. Just make sure the valves are matched pairs. The four 6922EH Russian valves supplied should give plenty of good service, however.



**ONE OF THE advantages of valve-powered products, is the ease with which you can try out alternative valves of the same type. The four 6922EH valves in the CD128S are also known as ECC88s and there are quite a few companies making this component, each of which will have a slightly different character.**

**There is also the option of using new old-stock NOS valves from classic brands of yore, like Mullard. You need to get matched pairs for each channel, so as not to undermine overall performance and most suppliers sell them in this way. But so long as this is done, then it's quite interesting and inexpensive to try out alternatives. We found a Yugoslavian variety called Gold Dragon that sells for £9.25 online.**

**The sound of valves can also be improved by using damping devices that are designed to suppress their tendency to ring and, possibly of greater importance, shield them from RF.**

### Heavy metal

This is an awful lot of fine metalwork for the price. Only Chinese-made products can hope to compete in terms of build, while the company that appears to offer the most alongside well-regarded sound is Shanling.

We wrote about the Shanling CD-T2000 (£1,985) in *HFC* 350 and it made a very good impression. It doesn't, however, have the AES/EBU and TOSLINK digital in and output socketry of this Raysonic nor such substantial casework, which gives the newcomer the edge on in terms of features. The balanced operation might give it the sonic edge, but that would depend on the partnering amplifier's ability to take advantage of the fact.

**“A charming player and one that provides insights into the music that few at this price can.”**

Unlike the majority of high-end players closer to home, the CD128S has a very nice all-aluminium handset, which can be used to directly access tracks, adjust output level (in very small increments) and select inputs among other functions.

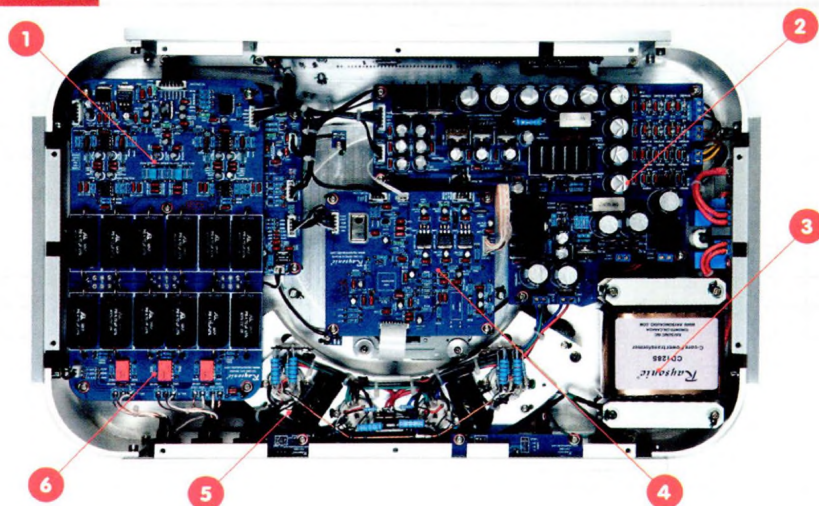
In the grand scheme of things this player faces stiff competition from all points of the audio globe. Another Chinese built machine, the Consonance Mini Droplet 3.1 (£1,995), also has a tube output,

### CONNECTIONS



- 1** Top of one of four 6922EH output valves, two per channel
- 2** Digital outputs: coaxial on RCA phono
- 3** Analogue outputs: balanced via XLR
- 4** Digital inputs: AES/EBU on XLR
- 5** Digital inputs: USB B
- 6** Digital inputs: optical on TOSLINK

**HIDDEN TECH**



- 1 Analogue output board
- 2 High tension supply for valves and smoothing for DC heater stage
- 3 C-Core mains transformer
- 4 Regulators for Sanyo transport mechanism below
- 5 Electrolytic decoupling caps for the valves below
- 6 Muting relays for the output stage

but eschews digital inputs and balanced outputs in favour of variable oversampling and a 16-bit chipset.

Sim Audio, a Canadian company to the core, makes the CD3.3 at £2,200. This is a less fancy player that produces very engaging sounds from a 24-bit/192kHz convertor. The real contender, however, at this price is Naim's CD5 XS. It doesn't have the open finesse of this player, but produces a thoroughly engaging and powerful sound that drives the music like few players at the price.

**Fresh ideas**

The CD128S was played through a Leema Tucana II integrated amp and Bowers & Wilkins 802 Diamond speakers, a system that showed it as

an open and airy-sounding player with no shortage of delicacy. We were particularly impressed by the texture of instrumental tone on an early instruments disc. The harmonics were brought forth in a distinctly fresh and lively fashion, while the tempo of the piece was marked out with a light precision that made for a strong sense of flow.

Further listening to a variety of discs enhanced this impression of a fast, lively sound, albeit one that's a little short on grip. The bass is not as heavy as we're used to with solid-state output stage equipped players and this takes a bit of getting used to, yet the presence of chewy lumps of synth bass on Cornelius' *Fit Song*, among others, suggests that it's quite capable of delivering fully textured, if not wholly substantial low end when the music demands it.

**HOW IT COMPARES**

**WE ASKED** Gary Campbell of Zepher Audio, Raysonic's UK distributor, for his suggestions as to the best system to complement the CD128S and he came up with two options based on components distributed by his company.

The first combines the Raysonic SP-500 integrated (£2,499) with M&D Maximus Mini + speakers (£1,650). The SP-500 is a 70-watt, class A/B integrated, with tetrode valves arranged in a push-pull configuration on a chassis of very similar proportions to the CD player.

Gary suggests the JE Audio VL19 valve preamp (£2,999) and VM60 monoblock valve power amps (£3,999 a pair), which are superbly finished components with balanced operation, the monoblocks offering 60 watts e from KT88 valves.

The chosen speaker is the M&D Maximus Monitor+ (£3,250), which is a larger and more seriously equipped variant on the Mini+.

Its sound has a lot of the positive qualities of valves, more so than many glass-powered CD players we've encountered. Transparency through the mid and top is clearly in a higher league than the majority of alternatives at the price, but some will miss the sense of gravitas that CD can deliver so effectively. With a Mac running Audirvana Plus software to the USB input you get a very similar result, but better imaging, while the sax on *Take 5* has rarely felt more breathy and alive in the room than it did with the Raysonic's conversion.

You get a similar result with both single-ended and balanced outputs and its qualities are apparent through alternative amplification, too. We hooked up a Naim Uniti one-box system to see how it matched from the opposite end of the spectrum and got a more grounded and beguiling sound, that worked extremely well with certain material, the jazzy work out at the end of Steely Dan's *Gold Teeth* being one such example.

**Light fantastic**

It makes a refreshing change to hear a player that, rather than compromising one aspect of the sound in order to achieve a normal perceived response, makes the most of the output stage's abilities in order to provide a sound that will divide opinion. It won't be to all tastes, but those that appreciate the timbre and air of acoustic instruments and voices will undoubtedly forgive its slightly lightweight balance.

It's a charming player and one that provides insights into the music that few at this price can. This, combined with its comprehensive array of features and impressive build quality, makes it a product that we're happy to recommend to those who look to the light. ●

**WHO IS RAYSONIC?**

Raysonic is a good example of the pre-eminent variety of mid-range companies currently making in-roads into the hi-fi business. Like a number of growing and already well-established hi-fi manufacturers, it builds its products in China, in order to keep costs down. But it also has a base in Toronto, Canada to provide international appeal.

Ironically it's the fast-growing Chinese market that is most keen to buy non-Chinese goods, which is a bonus for western companies, but a conundrum for those closer to that particular home.

The company is run by Kam Leong 'Steven' Leung, who clearly knows a thing or two about valve electronics and metalworking,

or at least has a partner or two who does. Nowhere is this more obvious than in the abilities of Raysonic's inhouse metalworkers. This is most noticeable in the stunning appearance of the CD128S CD player and definitely more so in the company's upmarket designs, which are extremely well finished.

Even the massive power amps in the range, like the Reference 26 monoblocks with 180 watts a channel from 12 valves arranged in push-pull configuration, look superb.

The Reference 2 Tube preamplifier is more restrained, yet also comes in two chassis (two power supplies with two tube regulators) that are fully equipped with the best internal parts you could possibly wish for.

**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Open, transparent, dynamic, fast and fluid sound
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Some will prefer a more substantial sound and a less bling-aesthetic
- BUILD QUALITY** ★★★★★ **WE SAY:** A change from the usual CD player balance that emphasises the strengths of the valves
- FEATURES** ★★★★★

**OVERALL**



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- ✓ Able to handle high temperatures
- ✓ Very flexible fibres
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- ✓ Very high resolution - even on low-level signals
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# Reference mini

TEAC's latest 'Reference Series' DAC is more than just a pretty box, says **Richard Black**, it's also a 'star' performer

**T**EAC has long managed to bridge the gap between mass-market and audiophile. Its mass-market products are exactly that (good, but mass-market), but its more refined offerings are often found in some of the finest systems. It may be guilty of over-using the word 'reference' in connection with hi-fi products, but the latest additions to the compact Reference range really do look as if they mean business, especially this new DAC.

## Hi-res Tenor

The floodgates are well and truly open as regards hi-res USB DACs, so it's no surprise that TEAC brings its expertise to the market. The UD-H01 handles sampling rates up to 192kHz and also deals with 24-bit words, and it achieves this by using an input chip from Tenor Semiconductor. The key feature of this chip is that it allows the data transfer to operate in 'asynchronous mode', which means the DAC tells the computer when it's time to send more data. In simple terms, that's how you get low jitter from USB.

Of course, not everyone wants to stream audio from their computer and both flavours of S/PDIF input are represented; just one each of optical

and electrical. Outputs are copious, with both unbalanced and balanced on offer plus a front-panel headphone socket (a proper, full-size, jack socket) with its own volume control. D/A conversion is carried out by a generous pair of high-performance DAC chips.

Digital filtering is carried out by an asynchronous sample-rate convertor, a part from Cirrus which appears to do minimum-phase filtering – that's the sort with no pre-ringing.

## The latest analogue, too

Analogue components are right up-to-date as well, including one op-amp so recent that its data sheet isn't even translated into English yet; part of a dedicated high-grade audio range from JRC. It's accompanied by several (1970s-vintage) 5532 op-amps. Passive parts, and build quality generally, are good and the unit is easy to operate.

You need to install TEAC's drivers on your computer to use high-sampling rates via USB and not all applications seem to notice them – iTunes would only play at 44kHz. Some playback applications seemed to cause a momentary dropout at the start of a track, when you can hear the DAC's muting relays cut out and in again.

## DETAILS

**PRODUCT:**  
TEAC UD-H01  
**ORIGIN:**  
Japan/China  
**TYPE:**  
DAC  
**WEIGHT:**  
2kg  
**DIMENSIONS:**  
(WxHxD)  
215x60x220mm  
**FEATURES:**  
• Optical, electrical and USB inputs  
• Sample rates up to 192kHz (optical 96kHz)  
• Unbalanced and balanced analogue outputs  
• Headphone output (6.3mm jack) with volume control  
**DISTRIBUTOR:**  
TEAC UK  
**TELEPHONE:**  
0845 130 2511  
**WEBSITE:**  
teac.co.uk

## Strong in a strong field

By any reckoning this is a very capable piece of kit. The competition in this field is extremely strong, however, with some of our favourite DACs of 2011 setting the bar particularly high. The more costly Rega DAC at £500 won Best DAC in our recent Awards issue (*HFC* 352) and our sub-£500 winner was the Matrix Mini-i at £260.

Having set it up with a PC and made sure it was actually operating properly at high sampling rates, we played a couple of in-house recordings made at 96kHz, which showed at once that this DAC has no problem reproducing frequency extremes, detail and imaging. Indeed, it's very good at the latter, giving really excellent depth, which is generous yet precise and absolutely stable. All too often, depth seems to vary with dynamics, but not here.

Lateral imaging is similarly assured and as a result one seems to get even more detail from well-imaged recordings. The reason being that it's so easy to pinpoint the position of individual performers.

## No added character

Turning to commercial CDs of various styles of music, we were impressed with the rhythmic skills of this DAC, too. What it doesn't always have is precision of pitching on very low notes, which are certainly full-bodied, but can sometimes sound like a slightly dull thud when previous hearings have shown them to be specific notes – upright bass is the instrument most inclined to show this up. That does seem to be just about the only chink in its otherwise shining armour, though.

Treble is extended and sweet, and midrange is neutral and just as full of character as the original recording, no more and no less. The headphone output is good, too, making the UD-H01 something of a star. ●



## Hi-Fi Choice

### OUR VERDICT

**SOUND QUALITY** ★★★★★ **LIKE:** Precise, detailed and lively sound; simple, straightforward and adequately featured

**VALUE FOR MONEY** ★★★★★

**BUILD QUALITY** ★★★★★ **DISLIKE:** Bass could perhaps be a little more precise in some areas

**FEATURES** ★★★★★ **WE SAY:** This DAC has plenty to recommend it at a great price

### OVERALL





# High-class baby

Massive construction is just one of the key features that singles out Acoustic Energy's Reference 1, says *Paul Messenger*

**B**ack in 1988, Acoustic Energy made a very impressive debut with its original AE1, a small Proaudio-oriented speaker that, at the time, essentially re-invented the concept of the modern high-performance miniature.

The company has undergone numerous changes since then. Its original founders have long since moved on and the company is currently owned by Malaysian interests, which also provides a source for inexpensive production.

## The perennial AE1

The AE1 and a number of variations on its theme have been reviewed in *Hi-Fi Choice* on a pretty regular basis down the years. The most recent of these was the AE1 MkIII, which was the *Blind-listening Group Test* winner in HFC 337, while this new AE Reference 1 shares a number of features with that model.

The good news is that the £1,500 per pair Reference 1 is considerably less expensive than the standard MkIII that we reviewed (at £2,000 per pair). Indeed, the MkIII has since

undergone some changes: it now carries an SE suffix; costs £2,500, has an upgraded crossover network and comes in a wide range of colours, so the two versions are now significantly further apart pricewise.

## Constrained layer damping

The drive units of both versions look very similar and the cabinet is much the same size, too, but the enclosure engineering is handled very differently in this model, presumably to keep costs under control.

One could speculate that this might have compromised the performance of the less costly model, but that hardly seems to be the case. Admittedly there's no longer a metal-alloy panel to reinforce the front baffle and steel plates are not used to damp the internal panels either. But the alternative approach adopted here, which involves a double-skin enclosure with constrained layer damping between the two layers, seems to be equally effective.

In fact, the whole enclosure here is constructed using 3mm of high-density rubber sandwiched between



The now well-established Vifa Ring-radiator tweeter is coupled to a DXT Lens assembly for improved in-room response and dispersion matching to the bass driver

## DETAILS

**PRODUCT:** Acoustic Energy Reference 1  
**ORIGIN:** UK/Malaysia  
**TYPE:** Standmount two-way loudspeaker  
**WEIGHT:** 11kg  
**DIMENSIONS:** (WxHxD) 190x310x280mm  
**FEATURES:**

- Reflex bass-loading via rear port
- Vifa double-annulus ring-radiator tweeter with DXT lens
- 130mm bass/mid driver with underhung magnet and twin voice coil
- One pair of multi-way terminals
- 2kHz 2nd/3rd-order hardwired crossover
- Ebony wood with piano lacquer high-gloss finish

**DISTRIBUTOR:** Acoustic Energy

**TELEPHONE:** 01285 654432

**WEBSITE:** acoustic-energy.co.uk



**LOADING A tweeter with a lens has become increasingly popular recently, with Amphion and KEF as well as Acoustic Energy exploring the possibilities.**

**AE's example was developed by Danish consultants DXT and consists of carefully calculated and shaped concentric indented rings around the tweeter diaphragm. The prime purpose is to maintain consistent dispersion and hence power response right through the tweeter's operating range. However, the considerable difference in diameter between a bass/mid driver and a tweeter can lead to a substantial dispersion discontinuity through the crossover transition and using a lens can counter this mismatch and improve the integration.**

7mm and 5mm layers of MDF. The innermost layer takes the first 'hit' from the acoustic energy generated off the back of the bass/mid driver's cone and because it's quite thin, it is bound to vibrate, but these vibrations are then effectively absorbed by the rubber jacket and are, therefore, unlikely to penetrate to the outer layer and cause coloration.

However the enclosure is constructed under the surface, the skin itself is arguably the most important element for the customer. The Reference 1 comes beautifully dressed in an utterly delightful-looking ebony veneer, which is then heavily lacquered to give a lovely high-gloss finish. There are no alternative finishes available for this

**“Taking both sound quality and presentation into account, the AE Reference looks a very attractive proposition.”**

model, but it's hard to see how anyone would want anything different.

## Driver line-up

The driver line-up looks very like that used in the MkIII. The small metal cone bass/mid drive unit, with its integral and characteristically pointy dust cover, looks very like the original AE1 unit, but, in fact, has a deep-anodised hyperbolic-shaped alloy cone that's significantly thinner (and therefore lighter) than the original. The motor has a long gap operating on a short coil for superior linearity under high excursion (at some cost in sensitivity), while the double aluminium voice coil is thermally bonded to the cone in order to aid heat dissipation.

Specifying the size of a cone drive unit is the source of some confusion within the industry. Acoustic Energy calls this a 110mm unit, though the industry consensus would probably go for 130mm, which is the diameter across the inside of the cast alloy frame (corresponding to cone plus surround). To avoid such confusion we measure the diameter of the cone itself, which in this case is 95mm.

The tweeter follows the MkIII in adopting a Vifa-sourced fabric double-annulus 'ring radiator' device, a highly regarded unit, but one that certainly represents a significant break with the original AE1's traditional metal dome. Unlike the MkIII, however, the Reference 1's

**FEATURES**



- 1 Beautiful bony wood veneer is further enhanced by high-gloss lacquer
- 2 Vifa ring radiator tweeter is loaded by a DXT designed multi-concentric lens
- 3 Classic 130mm AE metal cone bass/mid driver has underhung magnet and twin-voice coil
- 4 Surprisingly heavy enclosure is constructed from a rubber between MDF sandwich
- 5 A large rear port provides energetic output around its 50Hz tuning frequency
- 6 Single pair of high quality terminals feed a simple 2nd/3rd-order hardwired crossover

though the phrase 'one form of enclosure coloration' requires some explanation.

There are actually two distinct types of enclosure coloration. One is created by the spurious vibrations in the enclosure panels, which might be small in amplitude, but are generated by a much larger surface area than the drive units. Here the Reference 1's advanced enclosure engineering is wholly effective and successful.

**Wide dynamic range**

Even if its high points of dynamic expression do seem a mite modest, the best feature of the Reference 1 is arguably its exceptionally low 'noise' or 'hash' floor, which means that the sounds created by the speaker emerge from a truly silent background. Low-level resolution and overall coherence are both very good, which ensures an exceedingly wide dynamic range, as well as precise, spacious and well-focused stereo images.

Although the bass 'thump' is just occasionally audible with some material, especially when the volume is turned up high, in practice it did little harm because this inherently very 'clean' speaker is mounted well clear of the floor (on Partington Dreadnought stands). Indeed, most of the time, it merely added a rather welcome impression of weight and gravitas to the proceedings.

Taking both sound quality and presentation into account, the AE Reference 1 looks a very attractive and effective proposition. The alloy baffle and superior crossover ingredients probably give the AE1 MkIII SE a modest performance advantage, but the Reference 1 looks a tempting prospect at £1,500, with its fine neutrality, low coloration and wide dynamic range. ●



**AT £1,500 PER PAIR,** the AE Reference 1 could have been in the standmount *Blind-listening Group Test* in the last issue (*HFC 353*). It also seems likely that it would have done rather well, though direct comparisons weren't possible. Amongst these alternatives, the Amphion Argon 1 (£1,179-£1,269) is probably its toughest competitor. Perhaps not coincidentally, it also uses a lens-loaded tweeter and is notable for its fine crossover coherence, but has a rather dull top end. The Totem Rainmaker (£1,100-£1,325) is a rather brighter option, while the Spendor SP3/1R2 (£1,650) has arguably the best judged relative treble level, but some midrange nasality.

tweeter is loaded by the DXT-developed lens, first seen in the Radiance series, which uses calculated and shaped concentric rings to maintain a consistent dispersion and power response through the tweeter's operating range and a good match to the midrange through the crossover region.

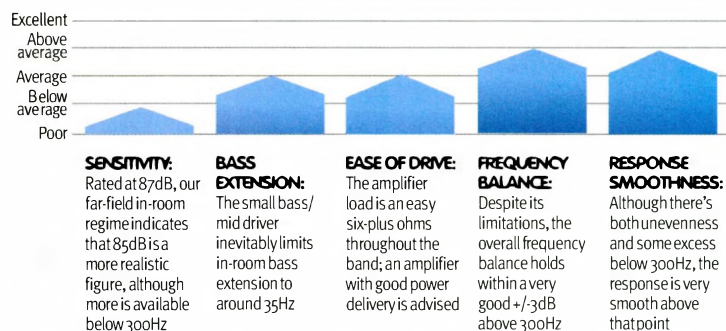
A single pair of good-quality WBT multi-way socket/binder terminals feed a relatively simple 2nd/3rd order hard-wired crossover network with just six components, mounted on MDF board. Ingredients include OFC copper internal wiring, laminate-core chokes and auto-transformer matching to avoid resistors.

The close similarity between the Reference 1 and the highly regarded MkIII extends very much to the sound quality of the two models. Both are best kept well clear of walls, and even at these locations suffer from some mid-bass excess under our room conditions (which is particularly interesting, since that wasn't at all the case with an AE1 Signature model that *Hi-Fi Choice* reviewed way back in 1995).

Both show very high standards of neutrality and low coloration, alongside relatively modest midband sensitivity. There's a remarkable freedom from one form of enclosure coloration here, too,

**TECH LABS**

**RESULTS AT A GLANCE**



**Hi-Fi Choice**

**OUR VERDICT**

**SOUND QUALITY** ★★★★★ **LIKE:** Superb presentation and notably wide dynamic range

**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Bass can get thumpy at times; midband sensitivity is quite low

**BUILD QUALITY** ★★★★★ **WE SAY:** Fine mid-to-treble neutrality and coherence, plus wide dynamic range, but sensitivity is below par

**EASE OF DRIVE** ★★★★★

**OVERALL**





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SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



FEATURES



OVERALL



“ Like most Shanling products, the CD-T2000 offers ‘battleship’ build quality and a very high standard of finish. ”

*“ If this product were manufactured in the USA, it would probably cost three or four times what Shanling is asking here and at just under £2,000, makes it a veritable bargain. ”*

“ Via the CD-T2000, cymbals reproduce with a lovely breathy openness that sounds like good analogue. ”

*“ It delivers a smooth, natural, well-balanced sound that lets you hear the music as it was originally recorded. ”*

“ ...the thought of going back to something ‘inferior’ once the review period was over was just too depressing to contemplate. ”

**Jimmy Hughes - Hi Fi Choice, October 2011**

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# MAD's world

MAD – acronym for My Audio Design – is one of hi-fi's more interesting and idiosyncratic operations, says **Paul Messenger**

**M**y Audio Design is one of hi-fi's newer and more surprising operations. It's headed by Timothy Jung, an Anglo-Chinese entrepreneur who combines youth, enthusiasm and imagination with a passion for making loudspeakers here in Britain. And some of its designs are indeed MAD – check out the extraordinary Royal Salute!

## The inspiration

That's certainly not the case with the 1920. Despite its curious name, this loudspeaker is conceived as a tribute to the classic BBC LS3/5A sub-miniature, which continues to enjoy cult popularity and a succession of lookalike models from several manufacturers.

In truth, the 1920 is much more of a homage to, than a replica of, the LS3/5A. From the front it does indeed look very similar – it's roughly the same width and a smidgeon shorter in height. However, the differences are equally significant, as the 1920 is significantly deeper (by about 44 per cent) and has a generous rear port (the 3/5A is a sealed-box design).

Other differences are even more substantial. For example, the 1920 claims a generous sensitivity of 90dB, whereas the 3/5A is way down at 82-83dB (partly explained by very different impedances).

## The basics

Forget the LS3/5A; it's better to consider the 1920 as a simple, yet very carefully refined reflex-loaded two-way. It uses high-quality ingredients, such as MAD's ESA Diamond Silver capacitor and silver solder in the 2kHz crossover. The Wavecor drivers include a 145mm bass/mid unit with a 100mm doped flared paper cone, while the tweeter has a

22mm soft-fabric dome. The enclosure comes finished in high-quality walnut or cherry real-wood veneer and is constructed using MAD's DRC multi-layer approach to damping.

## The sound character

Although it's not strictly neutral, the 1920's seductive sound quality has considerable charm. Arguably, its best feature is its bass delivery. Although its small size (and 60Hz port tuning) inevitably limits absolute extension, the overall bass alignment is particularly clever and practical, successfully avoiding the problem of midbass excess that plagues so many compact standmounts. Especially under our listening conditions, a result which hampered all of those in last month's *Blind Listening Group Test (HFC 353)* to a greater or lesser extent.

The 1920's essentially dry bottom end responds well to a certain amount of close-to-wall bass reinforcement. However, place it too close and the increase in midband coloration can become a little too obvious – a space of around 35cm seemed to give the best compromise.

## DETAILS

**PRODUCT:**  
MAD 1920  
**ORIGIN:**  
UK  
**TYPE:**  
Two-way standmount  
**WEIGHT:**  
5.5kg  
**DIMENSIONS:**  
190x280x230mm  
**FEATURES:**  
• Classic styling with picture-framed inset grille  
• Inspired by the BBC's LS3/5A design  
• 145mm driver covers the bass and midband  
• Rear port  
• MAD Diamond silver capacitor  
**DISTRIBUTOR:**  
My Audio Design  
**TELEPHONE:**  
020 8123 9789  
**WEBSITE:**  
madengland.com

Further up the band a rather too well-projected upper midrange brings explicit detail to the fore. Cabinet coloration is low, but some boxiness constrains transparency, so voice intelligibility is good, but there's also a tendency to 'shout' when the volume is high. Furthermore, this mild forwardness is somewhat exaggerated by a significantly restrained top end. It's very smooth and well maintained here, but at a distinctly understated relative level.

The 1920 has a claimed sensitivity of 90dB and this corresponds quite closely with our findings based on far-field in-room measurement. One contributing factor is an impedance which is essentially four ohms over the two prime midband octaves 200-800Hz. However, one criticism is that a significant difference in impedance was noted between the two samples of the stereo pair across this part of the spectrum, which suggests that tighter QC would be desirable.

The port here is tuned to a relatively high 60Hz, while the relative bass output is lean enough to suggest that some wall reinforcement might be helpful. Output is very well ordered across the broad midband and lower treble (from 120Hz up to 2kHz), but then drops away steadily, but smoothly through the treble proper.

## Good dynamic expression

The 1920's impressive coherence actually has some of the flavour of a single full-range driver speaker. Some might find its overall character a shade boxy and lacking in sparkle, but others will welcome the fact that the tweeter doesn't draw attention to itself and enjoy this speaker's superior bass agility, good dynamic expression and fine midband communication. It might look like an LS3/5A, but it certainly doesn't sound like one. ●



## Hi-Fi Choice

### OUR VERDICT

**SOUND QUALITY** ★★★★★ **LIKE:** Superior bass alignment and a lively, coherent overall sound  
**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Lacks sparkle, because treble output is a little too restrained  
**BUILD QUALITY** ★★★★★ **WE SAY:** Classic styling cues; fine bass alignment and a lively, if somewhat forward character  
**EASE OF DRIVE** ★★★★★

### OVERALL



# 1962

Welcome to the year in which the sound of the future was birthed in a tiny flat above a shop and the pop giants of the '60s were on the launch pad. **Simon Berkovitch** readies you for lift off...



In an alternate timeline, Decca's Dick Rowe is remembered as the man whose ears were tuned to the sound of the future. In 2010, Apple would have proudly announced that the back catalogue of the biggest pop group of all time was now finally available to download from iTunes – that of Brian Poole and The Tremeloes!

This scenario isn't as far fetched as it initially reads. On New Year's Day, 1962, instead of enjoying a much-needed duvet day after the traditional overindulgence of the previous night, two beat groups are auditioning for Decca, a record company that intends to snap up just one of the acts.

Dagenham's finest, The Tremeloes, pass the audition and join the roster. Fortune

**Joe Meek also passed on the early Beatles' demo tape, dismissing the band as “just another bunch of noise, copying other people's music”.**

favours their musical rivals less well on this occasion: after demoing 15 songs, the Liverpool quartet eventually gets the thumbs down from Decca. Producer Dick Rowe's advice to the group's manager is that “guitar groups are on the way out”. The manager? Brian Epstein. The group? The Beatles. Rowe's infamous words are recalled after the band's final live performance some seven years later – on the roof of their Apple company headquarters on London's Saville Row, as seen in the *Let It Be* film. “I'd like to say ‘thank you’ on behalf of the group and ourselves, and I hope we passed the audition,” draws John Lennon, rhythm guitarist of the most popular band on the planet.

## Countdown

Rewinding to 1962, it was a slow but significant ascent to glory for The Beatles, a year of shifts in group dynamics and personal relationships, but also a year in which the Holy Grail of signing on the dotted line was finally seized. Just four days after their rejection by Decca, the group's first vinyl outing – in the UK at least – hits the shelves. The band are the backing group to Tony Sheridan – like the band, a veteran of the notorious Hamburg club scene – on the single *My Bonnie*, with a spirited rendition of *The Saints (When the Saints Go Marching In)* on the B-side – hardly evidence of a band set to topple Elvis Presley as the biggest thing in rock and roll.

At least businessman Brian Epstein has faith: the four members of the group – John

Lennon, Paul McCartney, George Harrison and, at this stage, drummer Pete Best – sign a management contract with Epstein at his Liverpool record store, NEMS, on January 24.

With Epstein on board, a chain reaction of 'firsts' readies the group for lift off on the release of *Love Me Do*, on October 5. March sees the band's debut appearance on BBC radio on the then-popular show *Teenager's Turn (Here We Go)*, recorded at The Playhouse Theatre, Manchester, while April sees the band make their presence felt across the Atlantic for the first time, as *My Bonnie* is released in the USA by – irony of ironies – Decca Records. The main event takes place in June, however, as the quartet sign their first recording contract with EMI – amazing news for three of the four.

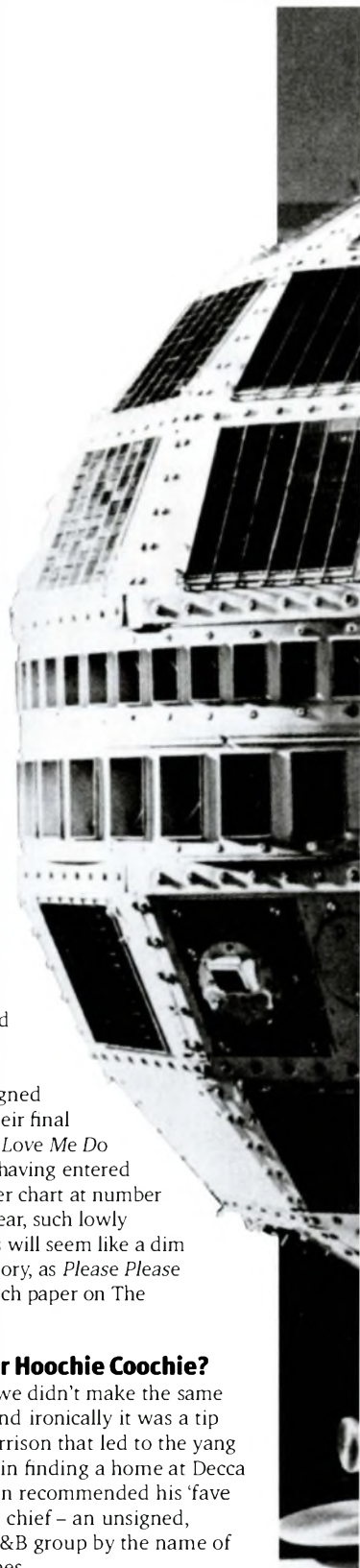
Unfortunately for drummer Best, he is replaced by Ringo Starr – just in time for a filmed performance at the Cavern club, Liverpool, for Granada Television; the first filmed record of the Fab Four.

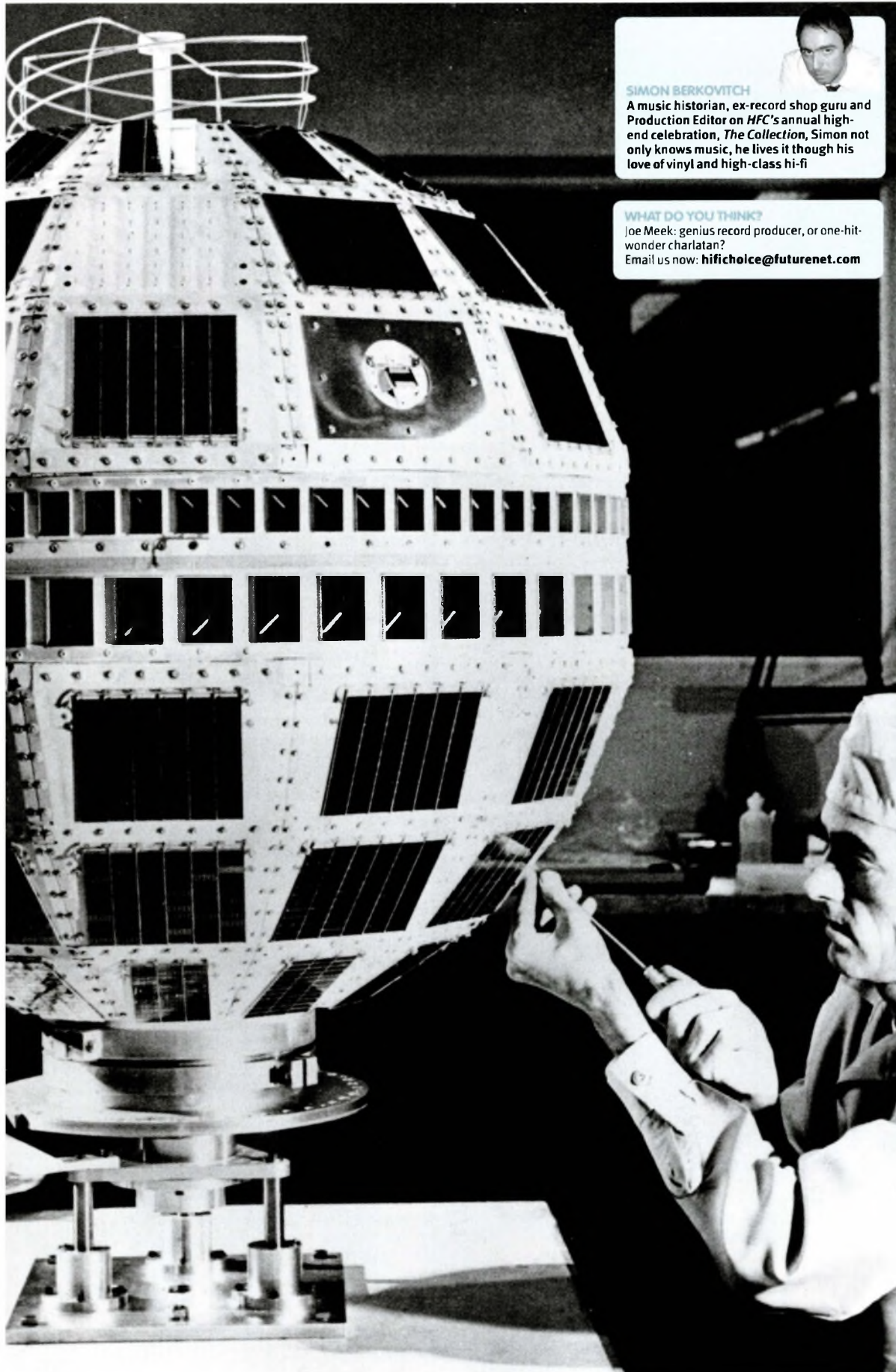
By the end of December, the signed band leave for their final Hamburg trip as *Love Me Do* hits number 17, having entered the Melody Maker chart at number 48. Come next year, such lowly chart placements will seem like a dim and distant memory, as *Please Please Me* lights the touch paper on The British Invasion.

## Honey Bees or Hoochie Coochie?

At least Dick Rowe didn't make the same mistake twice, and ironically it was a tip from George Harrison that led to the yank to The Beatles' yin finding a home at Decca in 1963. Harrison recommended his 'fave rave' to the A&R chief – an unsigned, London-based R&B group by the name of The Rolling Stones.

The genesis of 'The anti-Beatles' dates back to 1962, as the three key players of the group – vocalist and harmonica player Mick Jagger and guitarists Keith Richards and Brian Jones – meet at The Ealing Club, a haunt for blues enthusiasts. According to Richards, Jones came up with the name for the combo almost by accident. Asked for a band name during a





**SIMON BERKOVITCH**

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

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**TOP OF THE POPS**

The UK's number one singles in 1962 offer a snapshot of the old guard – a mixture of rock and rollers, crooners and novelty records – before the beat group explosion

- Cliff Richard and The Shadows: *The Young Ones*
- Elvis Presley: *Rock A Hula Baby*
- The Shadows: *Wonderful Land*
- B. Bumble and The Stingers: *Nut Rocker*
- Elvis Presley: *Good Luck Charm*
- Mike Sarne with Wendy Richard: *Come Outside*
- Ray Charles: *I Can't Stop Loving You*
- Frank Ifield: *I Remember You*
- Elvis Presley: *She's Not You*
- The Tornados: *Telstar*
- Frank Ifield: *Lovesick Blues*
- Elvis Presley: *Return To Sender*

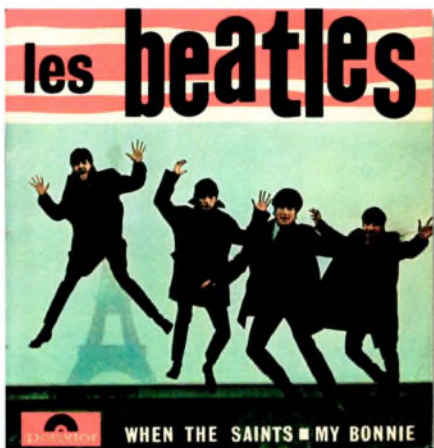


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- John Leyton: *Wild Wind*
- The Cryin' Shames: *Please Stay*
- The Honeycombs: *Something Better Beginning*
- The Syndicats: *Crawdaddy Simone*
- The Blue Rondos: *Little Baby*
- Screaming Lord Sutch: *Jack The Ripper*
- Glenda Collins: *It's Hard To Believe It*
- Geoff Goddard: *Sky Men*
- Pamela Blue: *My Friend Bobby*





telephone call to *Jazz News* magazine, the blonde guitarist cast his eye over one of many LPs sleeves strewn across the floor of the infamous flat the three shared in Edith Grove, Chelsea, seeing a Muddy Waters LP that was home to the song *Rollin' Stone*. Well, it had more of an edge to it than The Honey Bees or The Hoochie Coochie Men.

**“Telstar: the tune has the unfortunate association of being Margaret Thatcher’s favourite piece of music.”**

Now billed as The Rollin’ Stones, the group plays its first gig at the legendary Marquee Club with the line up of Jagger, Richards and Jones, Dick Taylor on bass (later one of the founding members of R&B ruffians The Pretty Things), Ian Stewart on piano and drummer Tony Chapman. Bassist Bill Wyman joins the ensemble in December and the introduction of drummer Charlie Watts (from Blues Incorporated) the following January (replacing Chapman) completes the classic ’60s formation of The Stones, The Beatles’ main musical rivals throughout the decade.

**Just another bunch of noise**

Despite his coup with the embryonic Stones, at least ‘The Man Who Turned Down The Beatles’ wasn’t alone in failing to see the

potential of an embryonic Fab Four. Maverick independent record producer Joe Meek also passed on the early Beatles’ demo tape, dismissing the band as “just another bunch of noise, copying other people’s music”. But this producer was hard at work on his own ‘bunch of noise’; an innovative work that still resonates with the sound of the future. As The Beatles’ career was making its slow ascent, Joe Meek’s reached its apex with the release of *Telstar*, as performed by The Tornados, on August 17. The instrumental, inspired by the world’s first telecommunications satellite, Telstar, which went into orbit that July, becomes the first song by a British group to hit the number one spot on the Billboard Top 100, paving the way for the British Invasion of 1964 and The Beatles’ domination of the American charts.

Heard almost half a century later, the opening seconds still sound fresh, new and thrilling, heralding a new dawn for popular music – the age of electronics. White noise and fizzing electronics give way to The Tornados’ clipped, taut rhythm section and the unforgettable Clavioline keyboard line, played by Meek’s gifted musical collaborator Geoff Goddard, composer of Meek’s previous number one smash, the eerie *Johnny Remember Me*, performed by TV star John Leyton.



**Spaced out**

*Telstar’s* musical achievement is made all the more remarkable when one examines its genesis. The melody came to Meek in a dream, who rushed from his slumber to urgently get the tune onto tape – a considerable feat as, incredibly, the producer was tone deaf. Goddard realised the tune on the Clavioline and members of The Tornados provided the remainder of the instrumentation – bar the unearthly electronics courtesy of Meek.

But no expensive studio like that of EMI for this global smash, number one in the UK, Belgium, Ireland, South Africa, and the US: recording took place in Meek’s recording studio, located in a flat above a leather goods shop on Holloway Road, North London. The studio at 304 Holloway Road, Islington – nicknamed Meeksville – produced three number one hits in the UK: TV star John Leyton’s *Johnny Remember Me* in 1961, The Tornados *Telstar* and The Honeycombs’ *Have I the Right?* in 1964 (see *The Meeksville Sound*).

Later in 1962, Meek produced a vocal version of *Telstar*, the tune that also has the unfortunate association of being Margaret Thatcher’s favourite piece of popular music. Dubbed *Magic Star* and sung by the improbably monikered Kenny Hollywood, the single failed to capture the public’s imagination in the same way that the instrumental had – remaining in the UK pop charts for 25 weeks, five of them at number one, and in the American charts for 16 weeks – but Meek’s place in pop history was assured.

His astonishing success in 1962 makes his final fall from grace in 1967 – a victim of the gutter press, mental illness, drug abuse and the changing musical tides ushered in by “another bunch of noise, copying other people’s music” – all the more tragic. In February 1967, using a shotgun owned by former Tornado Heinz Burt, Meek murdered his landlady before turning the gun on himself, the brave new world optimism of *Telstar* a distant reverberation in the cosmos. ●



# max

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MA03/09

MidlandAudioxchange has earned one of the highest reputations for supplying some of the worlds finest audio equipment. With over 25 years of experience, our portfolio represents what is 'state of the art' in hi-end audio. Add to that, a wealth of knowledge and purpose built facilities set in the leafy village of Belbroughton, makes for a perfect backdrop so you can carefully build a music system, tailored around your specific needs.

Conrad Johnson Le Contoure Wadia

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**90 Dusty Springfield**  
Goin' Back: The Definitive Dusty Springfield



**90 Bruckner - Sibelius - Nielsen**  
Symphonies



**91 Tellison**  
The Wages of Fear

# Music reviews

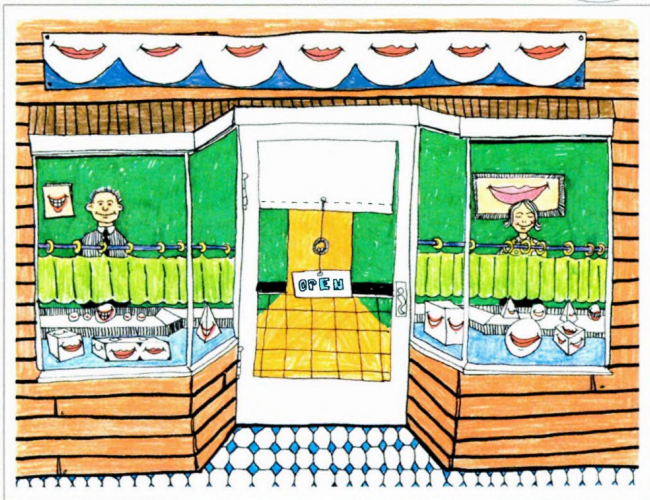
Hi-Fi Choice's pick of the latest high-quality music releases

## ALBUM OF THE MONTH

NEW IMPROVED FULL DIMENSIONAL SOUND

### SMiLE THE BEACH BOYS

Good Vibrations Good Vibrations Good Vibrations



#### Beach Boys

SMiLE

emimusic.com

★★★★★

EMI

2-CDs (also available as double-vinyl LP and a 5-CD box set)

**FOR 44 YEARS** it has been the holy grail of all 'lost albums'. It's regularly claimed that if the mythical *SMiLE* had been released as intended in early 1967, the entire history of popular music would have been different. *Sgt Pepper's Lonely Hearts Club Band*, released a few months later, would have sounded old hat and *SMiLE*, described by Brian Wilson as, "a teenage symphony to God", would have reigned supreme as the ultimate expression of peerless pop perfection.

The story of the non-release of 'The Greatest Record Ever Made' is equally legendary. After recording the album through much of 1966, Wilson lost his way in the sandbox in which his grand piano sat and

the work was abandoned as he degenerated into depression, drug use and paranoia.

Some of the songs subsequently surfaced in simpler versions on *Smiley Smile* and *Surf's Up*. But gone forever, it seemed, was the promise of an entire LP on which every song brimmed with the same soaring genius as *Good Vibrations*, the single recorded as a precursor to *SMiLE* and which patented the sophisticated techniques Wilson intended to utilise on the album.

After the project was scrapped, it was erroneously claimed Wilson had burnt the master tapes. But material from the sessions gradually began to turn up in bootleg form and significant chunks were officially released in 1993 on a 30th

"Wilson lost his way in the sandbox in which his grand piano sat."

anniversary Beach Boys box set. Then in 2004 came *Brian Wilson Presents Smile*, a newly recorded studio album with arrangements 'based' on the abandoned Beach Boys tapes.

Now finally, Wilson, together with surviving band members Mike Love and Al Jardine, has compiled from the original session tapes an approximation of what was intended to be the *SMiLE* album, as it might have been released 44 years ago.

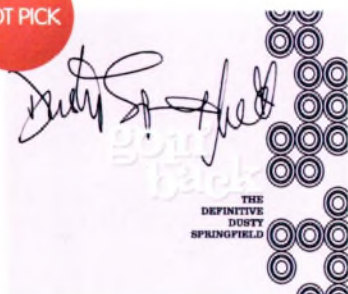
There was always going to be a problem in living up to 'The Greatest Record Ever Made' tag, simply because *SMiLE* remains unfinished. Wilson constructs songs in a modular form, crafting individual sections that would later be edited together to form a coherent whole.

As that process was never completed, many of the tracks on the reconstructed album are fragments or drafts. So a little interactive imagination on the listener's part is required to judge whether back in 1967 *SMiLE* really would have blown everything else – including the Beatles – out of the psychedelic-coloured water. Had *SMiLE* been unleashed on an unsuspecting public 44 years ago, the world of music truly might have become a more magical place.

The hours of bonus material from the sessions in the five-disc set might have been superfluous. Instead, they offer a fascinating insight into how Wilson's 'cut-up' montages were built from scraps, fragments, etudes and choruses into a previously undreamed sonic heaven. It's the raw, real, nuggety stuff of inspired genius at work. **NW**  
**Standout tracks:** Our Prayer; Heroes And Villains; Cabin Essence; Wonderful; Child Is Father Of The Man



HOT PICK



## Dusty Springfield

Goin' Back: The Definitive Dusty Springfield

universal.com

★★★★★

Universal

4-CDs and 3-DVD box set

**IT WAS ANOTHER** well-known female singer who sang, "you don't know what you've got 'til it's gone" – but it applies just as well to Dusty, whose death in 1999 caused us to reassess her work and realise she was not just another sixties' pop puppet like Cilla/Lulu/Sandie *et al*, but a supreme artist.

More than 90 recordings themed across four CDs into 'hits', 'rarities', 'BBC sessions' and 'stage/screen work', offer ample confirmation that she was indeed the finest British female singer of them all.

If some of the arrangements today sound saccharine there's no doubting that the voice is peerless. From the pop drama of *I Just Don't Know What To Do With Myself* to the blue-eyed soul of *Son Of A Preacher Man*, the remastering here puts her diva-esque voice squarely centre stage. To listen to Dusty in her prime is to hear where Amy Winehouse got it all from. **NW**

**Standout tracks:** You Don't Have To Say You Love Me; Son Of A Preacher Man; Little By Little; The Look Of Love



HOT PICK



## Bruckner-Sibelius-Nielsen

Symphonies  
Gustavo Dudamel  
Gothenberg Symphony

deutschegrammophon.com

★★★★★ Deutsche Grammophon

3-CDs

**THIS SPECIALLY PRICED** three-CD set brings together live performances of symphonies by Bruckner, Sibelius, and Nielsen. Things get off to a slightly uncertain start with Bruckner's towering Ninth Symphony, which lacks gravitas. In Sibelius's Second Symphony, Dudamel starts quite slowly and is content to let the work build inexorably to its final peroration. Best of all are Nielsen's Symphonies Four and Five, which are fiery and immensely powerful.

DG's live recordings sound clear and well balanced, with a wide dynamic range and natural perspectives. The Nielsen and Sibelius works are handsomely served and sound truthful and realistic. **JH**

**Standout track:** Disc 3, track 7

AUDIOPHILE VINYL

T-Rex The Slider [simplyvinyl.com](http://simplyvinyl.com)



★★★ EMI/Simply Vinyl  
180g vinyl

**ALTHOUGH THIS WAS** the seventh T.Rex album, it was only the second of the band's glam-rock-powered *T.Rextacy* era, and contains



## Sibelius

The Tempest –  
Overture and Suites  
Okko Kamu  
Lahti Symphony Orch.

bis.se

★★★★★

BIS

CD

**SIBELIUS'S INCIDENTAL** music for Shakespeare's *The Tempest* is a late score and among his richest and most atmospheric, evoking a twilight world that is eerie and magical. The two suites and overture last about 45 minutes, but time seems to stand still, such is the hypnotic power of the music.

Okko Kamu is a born Sibelian and his performances are idiomatic and assured. The BIS recording is impressively detailed and very dynamic, yet wholly natural, with an effortless clarity that allows every strand to be heard without obvious microphone spotlighting. The two-channel 16-bit/44.1kHz CD layer is very good, but SACD (stereo and 5.1 surround) sounds even better. **JH**

**Standout track:** Track 1



## Jethro Tull

Aqualung

emi.com

★★★★★

EMI

2-CDs(also LP, DVD and Blu-ray)

**CONCEPT ALBUMS** were *de rigueur* among prog-rock bands when Ian Anderson and his band released their fourth album in 1971. Its brilliance lay in the fact that each of its 11 compositions were so perfectly formed that the songs enjoyed a double life, oblivious to the themes and characters and Anderson's views on organised religion which infused them. Jethro Tull never topped *Aqualung* and it sounds as fresh today as when it was recorded.

The mix of hard rock riffs and folk-tinged semi-acoustic melodies is given sharp contrast in a variety of remixes to mark the 40th anniversary of its original release. Stereo, quad and surround mean you also get the original songs in a variety of different formats. **NW**  
**Standout track:** Aqualung; Mother Goose; Hymn 43; Cross-Eyed Mary; Locomotive Breath

**two Number One hits in *Metal Guru* and *Telegram Sam*. It's full of the fuzz-drenched guitar sound and trashy rock 'n' roll that Marc Bolan and producer Tony Visconti first unveiled on the preceding *Electric Warrior*. The lyrics are complete nonsense but they always rhyme, Bolan having realised that it ain't what you say that counts in pop, it's how much style you say it with, and this made *The Slider* their most successful album both here and in the US.**

**Although it has a fatter sound than *Electric Warrior*,**

**many tracks are heavily compressed, so while the bass guitar and occasional sax have a bit of body the overall result is pretty thin.**

**It opens up for the rare forays back to the early acoustic style, but for the most part distortion is clearly a key part of its sound.**

**It's a highly regarded album, but lines like "I know I'm small but I enjoy life anyway" make it hard to keep a straight face. **JK****  
**Standout tracks:** Telegram Sam; Rabbit Fighter



## Throwing Muses

### Anthology

4ad.com

★★★★☆

4AD

2-CDs plus book

#### SOMEWHERE BETWEEN

1980s American college punk and 1990s grunge came Kristin Hersh and her vivid, unsettling Muses. Hersh was definitely out-there and the bipolarity from which she suffered was brilliantly reflected in edgy, challenging songs. It was a sound that was never going to cross over to the mainstream like REM or Nirvana, but it won the band critical acclaim and a cult following.

This 43-track compilation capriciously omits some of the Muses' best-known songs, such as *Dizzy* and *Shimmer*, but the selection does remind us that they were more contradictory than we sometimes give them credit for, vacillating thrillingly from the manic brutality of *Hate My Way* to the fragile *Two Step*. **NW**  
**Standout tracks:** Hate My Way; Bright Yellow Gun; Furious; No Way In Hell



## Art of Noise

### Who's Afraid of The...?

salvo-music.co.uk

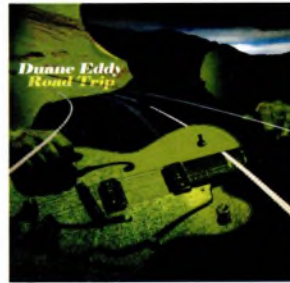
★★★★☆

Salvo/ZTT

CD/DVD box set

**THE ART PROJECT**, designed by producer/musician Trevor Horn, arranger Anne Dudley and music journalist Paul Morley didn't perform (until the very end), didn't show their faces, did opaque interviews couched in literary jargon and didn't even have much in the way of songs, preferring to create mostly instrumental sound collages using the newish technology of synths and samplers.

Draped in eighties' synths and sounds, any remastering of Art Of Noise's 1984 debut has resisted the temptation to modernise the sound for 2011. So it leans heavily to the bright end of the spectrum with an incredibly varied array of sounds derived from the Fairlight synthesiser, and sound mash-ups that resemble *musique concrète* with a funk beat. **DO**  
**Standout tracks:** Moments In Love; Close (To The Edit)



## Duanne Eddy

### Road Trip

emimusic.com

★★★★☆

Mad Monkey/EMI

CD

**GUITAR LEGEND** Duane Eddy has resurrected his distinctive twang, with occasional fifties throwback Richard Hawley, to produce a superb album of instrumentals that sound like the soundtrack to a lost film noir. Opener *Attack Of The Duck Billed Platypus* is a widescreen hymn to ominous open spaces, while *Kindness Ain't Made Of Sand* and *Bleaklow Air* are slow-burn masterpieces.

Eddy claims the bleak Derbyshire countryside inspired much of the album's tone of winsome sadness and Hawley's songwriting tropes are obvious, though sadly there's none of his rich baritone croon on offer. But the riffs are big and fulsome, rocking on occasion but more often languid like a hushed conversation in a quiet room late at night. **DO**  
**Standout tracks:** Kindness Ain't Made Of Sand; Bleaklow Air

# HIGH-RESOLUTION DOWNLOADS

## Tellison

The Wages of Fear

naimlabel.com

★★★★☆

The Naim Label

24-bit/44.1kHz

HOT PICK



**MUSIC FANS'** prayers have been answered: the Naim Label has finally brought its

quality-first approach to regular rock music with this album from London-based indie guitar band, Tellison. The music features intelligent songwriting that mixes distinct melodies with jangly guitar accompaniments, along with the occasional power chord foray approaching thrash territory.

The juxtaposition of clean vocals and hard-driven guitars produces a truly invigorating sound that is often reminiscent of Boston Acoustics' old demo favourites, *Dots Will Echo*.

The 24-bit recording brings out the rich vein of timbre from the band's vintage instruments and is nostalgic at its finest. **MS**

**Standout track:** Letters from Pre-Med

## Stuart McCallum

Distilled

naimlabel.com

★★★★☆

The Naim Label

24-bit/96kHz stereo



**MANCHESTER-BASED** guitarist and composer, Stuart McCallum admits to having a diverse selection of artists who

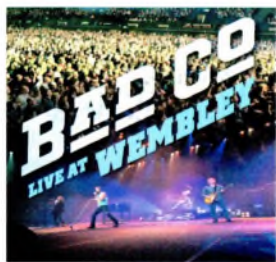
have influenced his work, from Wes Montgomery to Björk.

McCallum is probably best known for his work with The Cinematic Orchestra and the music here contains distinctive melodies, bass lines and drum beats, with electronica enhanced by elegant orchestral writing. It is not a million miles removed from some of fellow Mancunian, Vini Reilly's work.

On this 24-bit recording, the music sometimes has an almost dream-like, filmic quality, but there is nothing ethereal about the clarity with which McCallum's guitar is presented nor the way the detailed and lush ambient accompaniment is portrayed. **MS**  
**Standout tracks:** Part 3; Distilled

## BLU-RAY DVD

### Bad Company Live at Wembley eagle-rock.com



★★★★☆ Eagle Rock

Blu-ray LPCM stereo, Dolby Digital 5.1, DTS HD Master Audio

**FORMED IN 1973** out of the ashes of Free, Bad Company petered out in 1982, had a brief return in 1999 and reformed once more in 2007.

The key figures are Paul Rodgers and Simon Kirke, the singer and drummer from Free, and Mick Ralphs who played guitar with Mott The Hoople. Two of the three seem to have survived their rock 'n' roll lifestyles better than the other and are joined by Howard Leese on guitar and Lynn Sorensen on bass for this April 2010 tour finale.

It features 16 songs, among which is a liberal scattering of favourites, including *Feel Like Making Love*, *Bad Company* and *Can't Get Enough*, which are ably sung and played, but

rather let down by the sound. The fact that the simpler numbers like *Burnin' Sky* sound better is indication in itself that rather too much compression has been used. The sound is also short on bass extension, which might be a reflection of the venue but doesn't help the home experience. Despite this, the best songs shine through and reveal why Bad Co continues to sell albums and fill big venues, age doesn't seem to have diminished their appeal. **JK**  
**Standout tracks:** Sky is Burnin' Simple Man

# Hybrid theory

A heady combination of state-of-the-art and classic design from two young hi-fi companies that has **Ed Selley** all a flutter

**C**onfronted with the appearance of this trio for the first time it would be easy to make some assumptions about them. Two subtle black boxes that give very little clue to their origin or indeed, given their similarity in appearance, their functions. Partnering them, a pair of speakers of a shape and design that has a hint of both the vintage and the vaguely familiar.

In actual fact, this is a pairing of two relatively young audio companies, both of which go about the business of great sound in a manner different to almost anyone else. Behind those subtle exteriors is some seriously clever technology that gives this system a performance and capability that is genuinely addictive.

**“This is a thoroughbred system that is equally happy as a day-to-day family workhorse.”**

The electronics are courtesy of UK company Abbingdon Music Research. Named, apparently in deference to the Oxfordshire town of nearly the same name, the company has operated out of premises in London since its inception in 2000. The philosophy of ‘back to basics’ thinking combined with careful implementation and solid build first bore fruit in the 77 series components. The 777 series seen here extends that philosophy to a more terrestrial price point.

## **Intriguing blend**

The CD-777 is, at first glance, a conventional one-box CD player. Look a little closer and it is, in fact, an intriguing blend of the ancient, the vintage and the state-of-the-art.



COMPONENTS



**1 ABBINGDON MUSIC RESEARCH CD-777 CD PLAYER £3,195**

Taking many of the features from the range-topping CD-77, the CD-777 combines state-of-the-art processing with a classic multi-bit output and a valve output



**2 ABBINGDON MUSIC RESEARCH AM-777 PREAMPLIFIER £3,195**


Another hybrid design, the AM-777 uses a single-ended valve preamp with bi-polar solid-state power amplification for real world speaker-driving ability



**3 WLM DIVA MONITOR LOUDSPEAKER £3,230**

This unusually burly standmount combines a 10-inch dual-concentric driver with a clever cabinet design and an adjustable tweeter, to create a sensitive speaker with great flexibility





**LEFT:** The WLM's one-inch metal supertweeter is mounted within the main driver  
**RIGHT:** The CD-777 has a super-fast disc-loader  
**BELOW:** The AM-777 amplifier combines valves and solid-state

and a space age remote, and we have a unique front end.

### Unique whole

The player is partnered with the identically clad AM-777 amplifier that, once again, combines different generations of technology to a unique whole. This time the valves are in the preamplifier and allow it to essentially operate as a single-ended design. Like the CD player, these valves are clearly visible through the perspex 'viewing gallery' across the top of both units – we like the confidence of any manufacturer that puts its engineering on show.

This vintage preamp design is partnered with a bi-polar solid-state power amplifier, that is intended to preserve the integrity of the sonic signal, while providing a no-nonsense 60-watt output. A nod to twenty-first century requirements is present in the form of another USB input partnering the balanced and unbalanced analogue connections.

Both units are absolutely identical from the front, sharing displays and button layout. Power them up together and their displays will show the 45-second 'soft start' countdown, until both are ready to go.

This dynamic duo are outputting through a pair of WLM Diva Monitors. Austrian brand WLM has been in business since 2002 and

It makes use of proprietary AMR software that allows it to operate in a variety of processing modes from straight 44.1kHz, all the way to full 192kHz upsampling, selectable via a remote. This functionality is also available to external sources, via both a USB connection and coaxial digital input on the rear panel.

It might be surprising to learn that the chipset on which this very flexible performance is based is a Philips UDA1305AT from the 'multi-bit' era. AMR is adamant that these older designs represent the high watermark of CD decoders and that implemented correctly, they are superior to more modern designs.

We then take a big jump into the past, as the final part of this unique philosophy is an output stage that uses zero negative feedback and a pair of 6H1n valves.

The result is a CD player quite unlike anything else we have tested. Finish the effect off with an incredibly solid casework, custom top-loading transport (that loads discs with a speed that reminds you how sluggish most DVD players are)





behind the relatively conventional exterior of the Diva Monitor is a speaker that is every bit as interesting as the electronics.

### Rare enough

The Diva makes use of a 10-inch main driver. This is rare enough in floorstanding designs and practically unheard of in standmounts. This big, relatively lightweight driver helps give the Diva Monitor a claimed sensitivity of 97dB/w, meaning it presents no difficulty for pretty much any amp of a few watts and up. It also gives the burly Austrian a low-end frequency response not dissimilar to a floorstanding design.

At first glance, this driver appears unsupported by a tweeter, but this is mounted concentrically in the main driver and hidden behind a fabric dust cap. This is a one-inch metal supertweeter that gives the WLM a usefully flat frequency response to over 20kHz. This frequency response can be tuned further, thanks to an adjustable tweeter output via a dial on the rear panel.

The WLMs arrived finished in an attractive 'zebrano' wood veneer. With the AMRs in their identical black casework, this is a handsome, but unobtrusive partnership. Fit and finish is superb and all three units convey the sense of having been designed with considerable care and attention to detail.

It is easy to understate the importance of displays that can be read at a distance, remotes that work from any angle and 'bookmatched' veneering on speakers. It is these details that can make or break the satisfaction of owning and using

equipment long term, though. Too many components sound the part, but are maddeningly frustrating to use. This trio is the very antithesis of this.

As such we have three units, all with unique design features and the promise of impressive performance. Furthermore, it doesn't need a room the size of a hangar, it is simplicity itself to use and is built like laboratory equipment. So does this unusual trio have the sound quality to complete the package?

### Satisfying partnership

In short – yes, and then some. This is the most satisfying Anglo Austrian musical partnership since Julie Andrews charged up the side of an Alp and launched into *The Sound of Music*.

The most extraordinary feature of these units is the effortlessness with which they go about their business and their talent across a huge variety of music. We often describe equipment as a great all-rounder, but rarely is this so applicable to a system as it is with this one.

You can confidently kick-off an evening's listening with the inspired delicacy of Nick Drake's *Five Leaves Left* and proceed over the next few hours to ramp up the pace, until you close the night with Underworld's *Everything, Everything* live.

At no stage will this system do anything other than enthrall. It is always in full control of proceedings and seems so perfectly suited to one end of the spectrum, it is hard to conceive it being as good with the other and yet it is so.



**DISTRIBUTOR:**  
Select Audio  
**TELEPHONE:**  
01900 813064  
**WEBSITES:**  
amr-audio.co.uk  
wlm-loudspeakers.com

One of the key reasons behind this all-round ability is that the system is magnificently even-handed. It places no particular emphasis on any part of the frequency spectrum and seems at home with any of it. This means that you have the simultaneous pleasure of a sweet and unforced top end, a fabulously detailed and inviting midrange and tight, controlled bass.

Not content with this, there is also seamless timing that manages the desirable trick of keeping everything together with upbeat and lively music but not 'forcing' more relaxed material into sounding more frenetic. The integration is seamless and the result is an astonishing all-rounder.

Incredibly, the good news just gets better. This is also a system that is incredibly forgiving of poor recordings. It manages to bring out the essence of the performance without reminding you of the problems.

It is perfectly listenable with a laptop plugged into the tremendously clever DAC of the CD-777 and music-on-demand services such as Spotify acting as a source. This is a thoroughbred system that is equally happy as a day-to-day family workhorse.

Here is a trio of units that form a system that is genuinely more than the sum of its parts. The clever technology and interesting design choices are not gimmicks or for show. They give this system incredible sonic ability with anything you can throw at it.

This is the system for anyone with a genre-spanning mass of music that they love for the sound, rather than the recording and who demands the absolute best from all of it. ●

# 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 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: [letters@hifichoice.co.uk](mailto:letters@hifichoice.co.uk)**

## QUESTION OF THE MONTH

**Q I have started commuting again and I've realised that my old earphones are not up to the job of keeping the outside world at bay. Is the Unique Melody worth the price premium over the Shure SE535?**

*John Kirkby, via email*

**A** *The biggest advantage to the Unique Melody is the custom fitting which makes for a perfect seal between the ear canal and the outside world. ACS is another brand to investigate.*

*Compared to the Unique Melody, we consider the Shure to be better value and nominated it for a 2011 award (HFC 352). The large variety of ear pieces available for the SE535 means that you ought to find something that is comfortable.*



## Big hitter

**Q** I am a subscriber from Romania. I read your magazine from cover to cover and am always delighted by the content.

I recently upgraded my system with a McIntosh Anniversary pack (C22 Tube preamplifier and two MC75 power amplifier monoblocks). My former system consisted of a Marantz SA-K1 and PM-K1, coupled with a pair of B&W 60453 speakers. As a source I am using a Naim HDX and a Pro-Ject 6 PepsX record player with a Ortofon Valencia cartridge. I listen mostly to classic rock, heavy metal and jazz. My favourite band is AC/DC.

I decided to use the B&Ws in the bedroom, so I need to choose a new set of speakers. I like big speakers, even though my listening space is not suitable. My audition room is in a small garage, with my listening position approximately 2.5 metres from the speaker. Behind the speakers I have some shelves that accommodate all of my CD and vinyl collection.

Most of the time I am listening at low levels, because my wife and kids are sleeping in rooms located above.

My budget is 20k (Euro) and I was rather taken with the Amphion Krypton 3 that I heard demoed at a local showroom. From what I've read about them they are well suited to my room, as they are not so dependent on the room layout. They were accompanied by a Bryson 2SST amplifier, although I was not convinced about the sound quality at low level. I was also looking at the KEF Blade and Dynaudio Confidence C4, but was unable to listen to any of those.

**McIntosh and Art is a popular combination**





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## DENON DBP-2012UD UNIVERSAL DISC PLAYER

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ALSO AVAILABLE: SONY BDP-S380 & BDP-S780



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WHAT HI-FI? AWARD FOR BEST DVD AND VIDEO AWARDS 2011

## PANASONIC DMP-BDT210 3D BLU-RAY PLAYER

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£199 OR LESS!

## PIONEER BDP-LX54 3D BLU-RAY PLAYER

The BDP-LX54 Blu-ray player features playback support for 3D Blu-ray discs along with advanced multi-channel audio.

ALSO AVAILABLE: PIONEER BDP-140 £129 OR LESS!



ESSAV.COM

## DENON AVR-1912 AV RECEIVER

This AV receiver is both intuitive and easy to use and gets the most out of your movies, music and games.

ALSO AVAILABLE: DENON AVR-2312 & AVR-3312



ESSAV.COM

## PIONEER SC-LX85 AV RECEIVER

This AV receiver meets all the popular needs including Apple AirPlay for wirelessly streaming music from any compatible device.

ALSO AVAILABLE: PIONEER VSX-921 & VSX-LX55



ESSAV.COM

CLAIM FREE YAMAHA W10-W10 WIRELESS IPOD DOCK Worth £145

## YAMAHA RX-A810 AV RECEIVER

Yamaha's range of AV receivers include many performance enhancing technologies and innovative features.

ALSO AVAILABLE: YAMAHA RX-V671 & RX-A3010



ESSAV.COM

## ROKSAN KANDY K2 CD / AMPLIFIER

This award-winning system delivers the sort of performance that will satisfy both the music aficionado and the hi-fi enthusiast.

ALSO AVAILABLE: ROKSAN CASPIAN M2



SAVE £699

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## CYRUS CD6SE • 6XP CD / AMPLIFIER

Don't miss the opportunity to buy this award-winning CD and amplifier package.

ALSO AVAILABLE: CYRUS CDB8E & 8XPd QX



SAVE £179

£299 OR LESS!

## YAMAHA CD-S300 • A-S300 CD / AMPLIFIER

Outstanding value CD and amplifier package comprising the Yamaha CD-S300 and matching A-S300 integrated amplifier.

ALSO AVAILABLE: ARCAM FMJ CD17 & FMJA18



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## DENON D-M38DAB CD RECEIVER

Enjoy outstanding performance with Denon's multi-award winning integrated CD, amplifier and DAB tuner system.



SAVE £120

£389 OR LESS!

WHAT HI-FI? AWARD FOR BEST DVD AND VIDEO AWARDS 2011

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Features CD playback, a DAB/DAB+/FM/AM tuner along with a USB connection and network capability via its ethernet port.



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## ARCAM SOLO MINI / MUSO CD / DAB SYSTEM

Provides the perfect answer for those who crave high quality reproduction from a compact system.

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D8000 .....	51"



Samsung SMART TV

## PANASONIC

<b>3D PLASMA TV</b>	
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GT30 .....	42" 46" 50"
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**ARCAM rCUBE**  
Arcam's award-winning system has plenty to offer including wireless options and multiroom potential.

WHAT HI-FI? AWARDS 2011

CLAIM FREE rWAND Worth £49

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**GENEVA MODEL M**  
This stylish, award-winning speaker dock system will genuinely give you hi-fi sound.

WHAT HI-FI? AWARDS 2011

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**VITA R4i**  
Comprises a multi-format CD player, iPod dock, DAB/DAB+/FM tuner and powerful amplifier/speaker system.

WHAT HI-FI? AWARDS 2011

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**B&W ZEPPELIN AIR**  
Combines good looks with impressive sound quality and useful AirPlay features.

ESSAV.COM

**MONITOR AUDIO iDECK 100**  
Offering sound quality comparable to the cream of the iPod dock crop the curvaceous device ticks all the boxes.

ESSAV.COM

**MONITOR AUDIO APEX SPEAKER PACKAGE**  
This luxuriously built award-winning package combines fine styling with excellent sound with both movies and music.

WHAT HI-FI? AWARDS 2011

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**KEF KHT7005 AV SPEAKER PACKAGE**  
The KHT7005 is an elegant solution that minimises clutter while creating a spacious, accurate and strikingly realistic 3D sound picture that fills all but the very largest rooms.

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**VELODYNE CHT-8Q SUBWOOFER**  
Despite its compact size, the CHT-8Q delivers phenomenal bass output and impact.

ALSO AVAILABLE:  
CHT-10Q .....£399  
CHT-12Q .....£499

£299 OR LESS!

SAVE £161

**SONOS - THE WIRELESS HI-FI SYSTEM**  
Play your digital music all over your house without a PC in every room. The award-winning Sonos lets you play your favourite tunes all over the house and control them from the palm of your hand. You can even play different songs in different rooms.

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**MARANTZ NA7004 NETWORK AUDIO PLAYER**  
Connect to your favourite music whether it's from your PC, external hard disc, radio broadcast or via Internet Radio or music service.

ALSO AVAILABLE: DENON DNP-720AE

CLAIM FREE Western Digital My Book Live 1TB NAS Drive

**CYRUS MUSIC STREAMERS**  
Includes the award-winning Stream XP (the perfect basis for a new high quality system), Streamline (a complete all-in-one music system) and Stream X (for adding to a Cyrus system that already includes a DAC).

ALSO AVAILABLE: OLIVE O3HD & O4HD

**TANNOY MERCURY V4 SPEAKERS**  
Award-winning compact floorstander with a beautifully judged overall balance.

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# SEVENoaks

SOUND & VISION

# Minitest

Four stocking fillers for the discerning audiophile:  
a seasonal selection from **Richard Black**

## Quad: The Closest Approach

by Ken Kessler

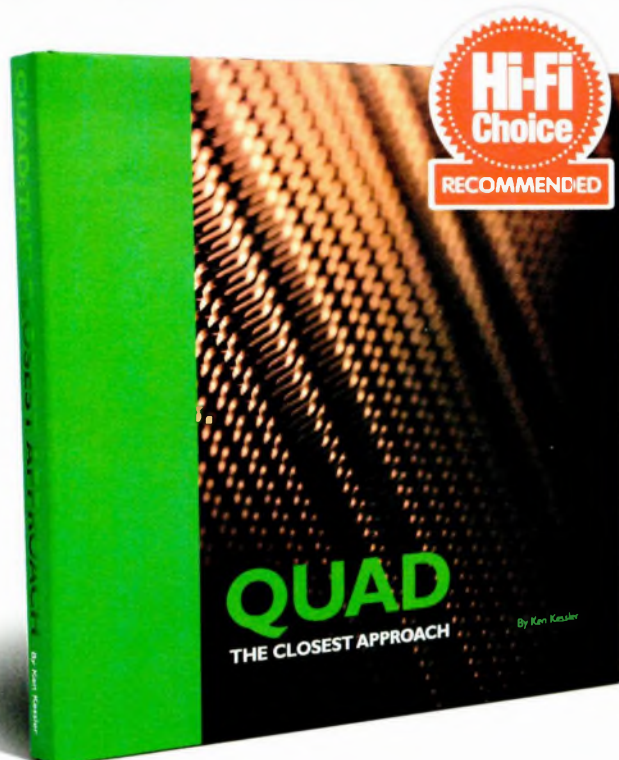
PRICE: £50 CONTACT: 01234 741152  
WEBSITE: IAGUK.COM

**THERE AREN'T MANY COFFEE-TABLE BOOKS** about hi-fi: it's not that sort of subject and probably the better for it. But this weighty tome is an exception and a rather glorious one at that. It tells the story, from many perspectives, of one of the biggest, oldest and best-loved brands in all audio, Quad, from its beginnings in 1937 to the start of the 21st century. Running to 200 pages, it is beautifully designed and presented. It covers the company's history, of course, but also includes many personal reminiscences of Quad-related incidents, warts-and-all accounts of business dealings, technical minutiae of Quad products, reviews, and so on. There are even facsimile reproductions of a handful of seminal Quad technical papers.

If you're a diehard Quadophile you've probably already bought it, but what we want to emphasise here is the extent to which Kessler's work illuminates the whole audio business in the UK across more than six decades. Most of the other significant manufacturers turn up in the index and between them and the various recollections of hi-fi dealers and shows, customers, and the whole world of recorded music and sound reproduction, the 'glory days' of hi-fi are brought back to life with a vengeance. If you lived through at least part of that period you'll love being reminded of it. If you didn't, this is the best way we know to get at least a sniff of what a fun time it all was.

**VERDICT** MORE THAN JUST THE STORY of one of the hi-fi greats, this is a panoramic survey of all that was good (and occasionally dodgy) about British hi-fi life since World War 2

★★★★★



## RedEye Mini

PRICE: £50 CONTACT: 01279 501111  
WEBSITE: THINKFLOOD.COM

**IPHONES AND OTHER ITHINGS** do an amazing amount of stuff. They include radio transmitter/receiver gubbins for telephony, text messages, internet, GPS, Bluetooth and wi-fi. They also receive and emit sound remarkably efficiently, too, but they don't include an infra-red transmitter and since that's how about 99 per cent of the world's remote controls operate, they can't be used to control your hi-fi, home cinema or miscellaneous household appliances.

This is where RedEye comes in. The RedEye range interfaces between your i... and an infra-red port, turning your favourite touch-screen device into a sophisticated and user-friendly remote for, potentially, everything you own. The full-size RedEye does this via wi-fi, but the Mini is even more ingenious: it connects to the headphone socket. It's controlled by special audio-band signals and also harvests enough power from them to drive the IR transmitter. It's small, as you can gauge from the photo (taking the mini-jack part of it as a reference) and it even comes with a little key-ring holder, so you can keep it with you at all times.

The associated software (a free download accessible via iTunes) includes on line support for a wide variety of devices and if you find it's missing one you can programme it manually. The real winner is that whole bunches or sequences of button presses can be programmed into a couple of taps on the screen. Brilliant!

**VERDICT** AT A TOTAL COST less than some 'intelligent' remotes, this is a winning application of iPhone computing power. Compatible with most recent iPhones/Pod/Pads

★★★★★

## Q2 Internet Radio

PRICE: £90 CONTACT: 01279 501111  
WEBSITE: Q2RADIO.CO.UK

**WE'VE SEEN PLENTY OF INTERNET RADIOS** in the last two or three years, but this one is a bit different. For a start, it has no controls on it. There's a tiny power switch at the back, only needed when the radio is going to be off for a long period of time. All other controls are effected by manhandling the whole unit. Rest it on a different side to select a new preset, tilt the front downwards to lower volume or upwards to raise volume, or stand it on its front face to turn it off. And that's it. Just 10cm in each direction, this little wonder receives any of the thousands of internet radio stations, playing them via its built-in single speaker or, if you prefer, via headphones (in stereo).

Now with only four sides to choose from you're stuck with just four presets, but apart from the fact that most people tend to select between two or three radio stations, changing the presets is unusually easy thanks to the clever software provided by Q2. You can't set the radio up without the software, but it's quick to download and install and offers a very easy way to change the contents of the presets in the Q2. You do need to have it connected via a USB cable for this to happen, but it's really a minor inconvenience. Naturally, sound is hardly top-notch via that one tiny speaker and loudness is a bit limited, but for novelty value this is hard to beat. And via headphones the sound isn't bad at all.

**VERDICT** TRUE HI-FI IT AIN'T, but as fun audio gadgets go this is simply delightful and a very simple way to access the wonders of internet radio anywhere in the home



## AudioPro WF100

PRICE: £150 CONTACT: 0843 289 7195  
WEBSITE: AUDIOPRO.COM

**IF YOU'VE BEEN READING** this issue in page order you'll already have seen the review of the NAD USB DAC1 (p60). AudioPro's little kit of parts is similar in concept and execution, but has some important differences.

The basic idea is still to send digital audio across the room or the home, from computer (PC or Mac) to hi-fi, wirelessly and effortlessly. A proprietary protocol is used, which means there's no need to do a wi-fi set up routine and communication is established almost immediately both transmitter and receiver modules are powered up. In this case, the modules are physically identical, each basically a USB dongle, so you have to read the text to see which transmits and which receives. What's less obvious is, that while the transmitter does actually accept data via the USB connector, the receiver doesn't. Instead, a 3.5mm stereo jack socket provides a line-level output: the USB part is just for power, which can be taken from a USB socket on a suitable amp or receiver, or from the supplied power supply. Another jack socket allows for an analogue input, which automatically cuts off the digital signal from the USB socket.

We found the receiver a little noisy and although the supplied power supply makes it quieter, there's still a tiny ticking in the background. The analogue input is surprisingly good and certainly for casual use there's very little to criticise about this system. ●

**VERDICT** A PARTICULARLY SIMPLE and flexible way of transmitting good-quality sound wirelessly, at a very attractive price



HELP & ADVICE

All four of these items, in their very different ways, can contribute to the fun to be had with and around reproduced sound. There's a bit of gadget-head in most of us and it's undeniable that

some of the latest gadgets really do contribute – the RedEye, for instance, makes a great remote out of any iPhone/iPod, in the process simplifying and enhancing the process of actually getting

a multi-component system actually to do something one wants. We also got the most immediate pleasure out of the Quad book – just sit down and have a good read. It's the little things in life...

# Hi-Fi Choice Reader Classified

Welcome to *Hi-Fi Choice* Reader Classified, the UK's first and best free private ads service for buying and selling second-hand hi-fi components.

These pages are a must-read if you're thinking about buying used kit, or if you have kit you want to sell. It's free to place an advertisement – simply submit your ad of up to 30 words, remembering to include your email, phone number and county.

The simplest way to send your ad is via email to: [letters@hi-fichoice.co.uk](mailto:letters@hi-fichoice.co.uk) Or mail to: **Reader Classified, Hi-Fi Choice, My Hobby Store Ltd, Hadlow House, 9 High Street, Green Street Green, Orpington, Kent BR6 6BG.**

Please note that this service is open to private advertisers only.

## FOR SALE

**CHORD ELECTRONICS** SPM 1050 power amp, black without Integra legs, six months old, mint condition. Call for price. **077294 58836** or email: [smu.sew@btinternet.com](mailto:smu.sew@btinternet.com) (Co. Down).

**MERIDIAN** digital Interconnects with Neutrik phono connectors, 900mm £14 plus p&p and 600mm £12 plus p&p. **01582 573570** or email: [i.frasers87@btinternet.com](mailto:i.frasers87@btinternet.com) (Beds).

**CYRUS** 6VS2 amp (black) £300, Celestion A1 speakers and stands £300, Marantz CD63 KI Sig £125, 2x4 4m QED Silver Anniversary bi-wire £40, 4x5m Chord Odyssey installation cable £100. **01159 894340** (Nottingham).

**REGA** Planet 2000 CD (silver) with remote £90, Rega Mira 3 amp (silver) £90, Rega EAR headphone amp (black) £20. All items in excellent condition and boxed. Buyer collects. **07962 184893** (Oxford).

**BOWERS & WILKINS** 704 loudspeakers (walnut) in

as new condition (£1,400) £340. **07968728973** (London).

**LITTLE DOT** Mk III valve headphone preamp/amp, £120, Yaqin CD-3 (no valves) £90, Cambridge Audio 540P £45, Sigtone Shek NOS DAC £40. Collection only. **07949 004039** (London).

**CREEK** Destiny amp (silver), 18 months old, superb condition. Boxed with remote and instructions £700. **07949910455** or email: [paul@redboxav.com](mailto:paul@redboxav.com) (Essex).

**NAIM** SuperNAI amp £1,750, Arcam A28 amp £500, Spendor SA1 speakers £799, Spendor S3/5R £499, Monitor Audio BX2 speakers £175, NAD CD545BEE CD player £275. Excellent condition, boxed. **01865 559737** (Oxford).

**NAIM** 555 CD player, PS R-Com, boxed, A1 condition, 4 years old, serviced by Naim 09/11, will courier (£18,000) £7,500. [JLCrawley@btinternet.com](mailto:JLCrawley@btinternet.com) (N Yorkshire).

**LINN** LP12 Sondek turntable, no arm, no lid, serial number

012975, £200 or best offer. Cambridge DacMagic, never used, £150. **07930 878582** (London).

**NAIM** Fraim. Consisting of a base and a standard shelf. Maple with silver upright. Fabulous condition/like new. Only two years old. (£1,680) £1,100. Includes three floor spike protectors. Collection preferred. **020 8372 8376** or email: [gigglesno1@hotmail.com](mailto:gigglesno1@hotmail.com) (London).

**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 and in good condition £650 (pick up only). **07534 457859** (West Yorkshire).

**SONY** ST-S311 FM/AM tuner, mint condition (black). Owned from new with original box and instructions, AM loop



Creek Destiny amplifier going for a song at £700

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 [fullswap@gmail.com](mailto:fullswap@gmail.com) (Northants).

**SONY** TC-K611 Dolby cassette deck, three motors, power door, fully loaded three heads, adjustable bias etc. Hardly used, excellent cond. (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 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 [Alanwrusell@tiscali.co.uk](mailto:Alanwrusell@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** 6 XP amplifier in silver (2010 model). As new £595. **01323 440597** (Eastbourne).

**MARANTZ** CD6002 CD player in mint condition, perfect working order with remote; £150. **02476 467679** (West Midlands).

**PROAC** Future One in ebony, £2,000. Krell KSA50S, boxed and mint open to offers. Linn Karik CD player

**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!

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 XP d 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 (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. Sugden 21AL 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. Reluctant sale £1,150ono **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** A21AL 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. 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 07970 012450 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, £125. Also Monitor Audio Bronze BR2 speakers, mint condition, three years old, all in perfect working order, £150. **024764 67679 or email johnclements45@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. **07908870023 (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).**

**LEEMA ACOUSTICS** Pyxis reference preamp in black. Fully balanced, internal DAC and phono stage with tone controls, £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, £1950ono. 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 johnkallios@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 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. **07884002911 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. **07914985733 (Derbyshire).**

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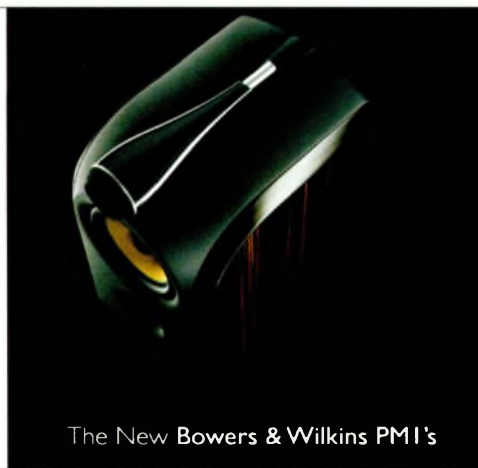
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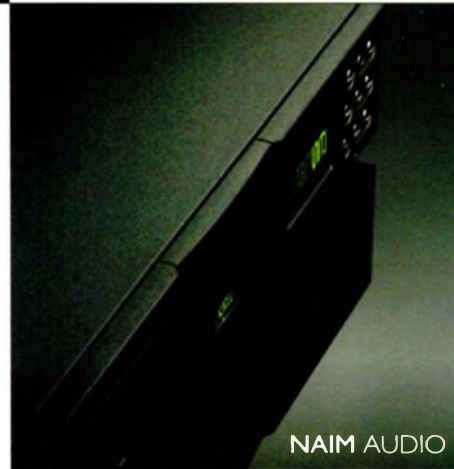
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# Hi-Fi Choice

## 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

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A selection of our favourites, from a £190 Pro-ject to a £115k Continuum

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The best in both magnetic and moving coil cartridges

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Surf the airwaves with any one of these carefully selected tuners

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Badge-winning headphones for your personal listening pleasure

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For those occasions when two boxes seem better than one



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A veritable *pot pourri* of hi-fi dealer classified advertisements

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For all your hi-fi wants, check our index of independent hi-fi dealerships



**BADGES** 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 dig output	OPT dig output	CD-RW compatible	CD text	BAL analogue out	Headphone socket	Variable output	Issue number
●	<b>Advance Acoustic MCD-204</b>	795	CD player with warm valve sound. Harmonically rich and inviting performance	●	●	●	●	●	●	●	●	342
●	<b>Audiolab 8200CD</b>	700	No SACD support, but excellent detail, neutrality and communication		●	●	●	●	●	●	●	340
●	<b>CambridgeAudio 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 dig output	OPT dig output	CD-RW compatible	CD text	BAL analogue out	Headphone socket	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-07S</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>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 CD22</b>	1,250	Positively aspirational externally, the CD22 packs plenty of performance		●	●	●	●	●	●	●	353
●	<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>Shanting 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

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Badge	Product	Price	Comments	Switchable speed change Suspension subchassis Speeds	Supplied with arm Suspension subchassis	Supplied with cart	Issue number
●	<b>Audio Note TT-2</b>	2,200	Wonderful sound and considerable flexibility. Tested with tonearm (£655) and cartridge (£420)	33/45			353
●	<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-arm base deck in its price range, it boasts image stability and precise bass	33/45	●	opt opt	331
●	<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	Replaceable stylus	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



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	RDS	Remote control	Signal strength Meter	Rotating 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+A T1210R</b>	1,200	High-end looks are matched by the sound, which is detailed and sophisticated	FM	100	●	●	●	●	283

### DAB/FM tuners

●	<b>Arcam FMJ T32</b>	600	A highly cost-effective way of optimising the airwaves. iPod functionality is a bonus	DAB, FM	100	●	●	●	●	319
●	<b>Onkyo T-4555DAB</b>	400	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard	DAB	40	●	●	●	●	298

### DAB/FM portables

●	<b>Monitor Audio Airstream 10</b>	225	The range of features on this DAB/FM/Internet radio is certainly impressive	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 PRESETS RDS REMOTE CONTROL SIGNAL STRENGTH METER ROTARY TUNING KNOB

# Headphones

Audiophile solutions for home and travel use



Badge	Product	Price	Comments	Electrostatic	Supra-aural	Open (Closed back)	Circumaural	3.5mm jack adaptor	Weight (grams)	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 win friends from outside the Apple camp as well



#### **PURE Sensia £250**

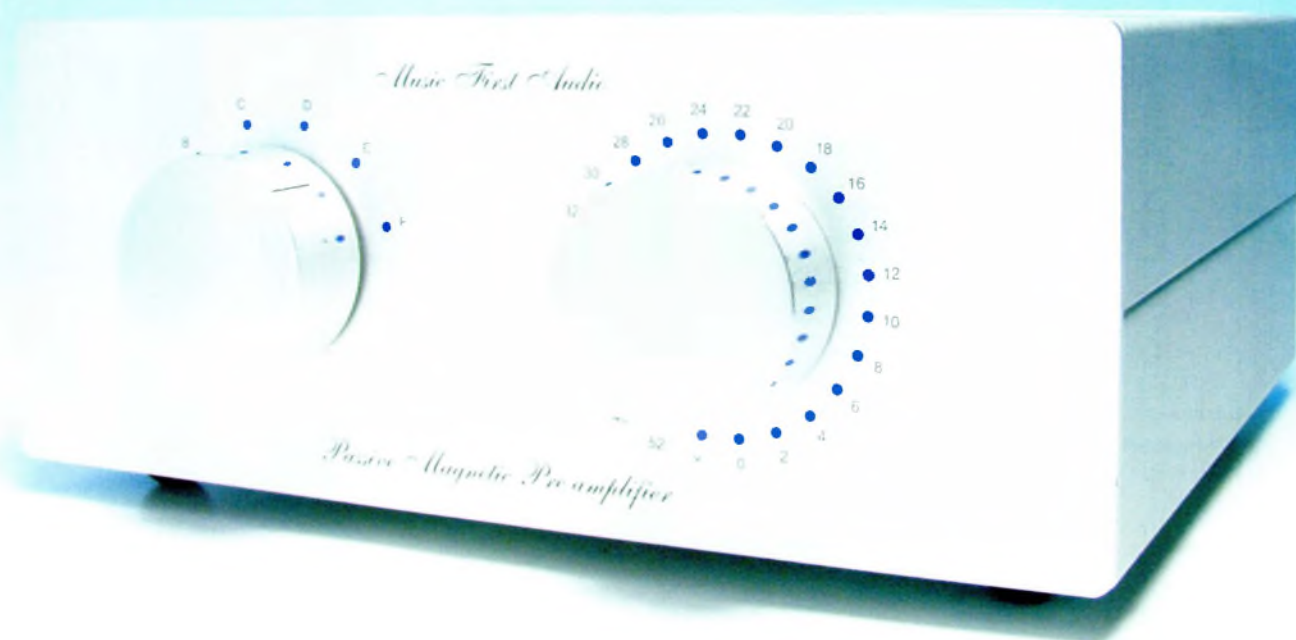
PURE's ground-breaking touch-screen DAB radio has changed the way we interact with radio forever and sets the standard for innovation



#### **Beyerdynamic T1 £880**

Our 2010 award winner is beautifully built and attractively designed, with a strong and engaging performance and remarkable detail

# Music First Audio



*“...so good I swear it is surrounded by magic”*

- Noel Keywood ~ Hi Fi World

Our multiple award winning products are  
handmade in the UK and let you  
hear your music the way it was recorded

Please contact us to arrange a demonstration of  
a complete Hi Fi music system in your own home



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music first audio



BADGES



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 input	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 840Av2</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>Electrocompaniel EC15 Mk II</b>	2,750	Big, characterful and beautifully built amp, with equally big and unforced sound	6			120	349
●	<b>Emillè 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>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 I22</b>	1,250	Energetic amp with no loss of precision and environmentally engaging	4			80	353
●	<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-amplifier	Line inputs	Remote control	Phono input	Power output (watts)	Issue number
●	<b>Cambridge Audio Azur 840E/840W</b>	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled	●	●	8	opt	200	309
●	<b>NAD C165BEE/C275BEE</b>	1,550	An alternative to the usual integrated route and one that offers flexibility and fine sound	●	●	6	MM/MC	130	336

Above £2,000

●	<b>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>Meridian Audio Core 200</b>	1,500	Excellent detail, this preamp upsamples sound and is well-featured. Tested with DSP3200 speaker package	●		8		75	353
●	<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.

# HERE COMES THE REAL **MAGIC**

**AWARD WINNING** - The Mini-I has consistently been rated full marks for its sheer number and quality of features resulting in an outstanding price to performance ratio. The Mini-I has ranked 5/5 Star from HiFi Choice and won the Headphonista Outstanding Design 2010 award!

**24/192KHz** - The Mini-I supports up to 24-bit and 192KHz through its S/PDIF and BNC inputs. The maximum sample rate supported via USB is 24-bit/48 KHz.

**LCD DISPLAY** - A useful feature that displays the current active input, sample rate, volume level and track time information.

**INPUTS/OUTPUTS** - The Mini-I has it all with USB, BNC, Optical and digital Coaxial inputs. A single pair of phono (L/R RCA) and balanced (XLR) connectors provide the outputs.



**REMOTE CONTROL** - One of the very DACs to come with a remote control. Features on/off control, input selection, volume control and a mute button.

**DAC/PRE-AMP/HEADPHONE AMP** - The Mini-I does it all; you can use the DAC as a fixed line output or as a preamp with variable line out. The icing on the cake is the 6.3mm headphone jack.

## **MATRIX MINI-I** DAC/PRE-AMP/HEADPHONE AMP

**£259 inc UK shipping**



BADGES



RECOMMENDED = ●



EDITOR'S CHOICE = ●



GROUP TEST WINNER = ●



BEST BUY = ●

# Streamers/music servers



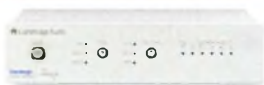
Streaming and music servers are opening up a new dimension in listening pleasure

Badge	Product	Price	Comments	Internal drive	iPod compatible	Balanced output	Digital output	Issue number
●	<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	●	●	●	●	352
●	<b>Rotel RDG-1520</b>	795	A great product for those unaccustomed to internet-based audio		●	●	●	351
●	<b>T+A E-Series</b>	2,690	Few single units offer as many features. Attractive on both practical and sonic grounds	●	●	●	●	353

Internet radio  
USB  
Balanced output  
Digital output  
Issue number

**SPECS KEY** **WIRELESS** Able to receive files wirelessly **INTERNAL DRIVE** Fitted with its own hard drive **USB** USB Sockets fitted **INTERNET RADIO** Able to receive web radio **IPOD COMPATIBLE** Able to connect directly to an iPod **APPLE AIRPLAY** Able to function as an AirPlay receiver **BALANCED OUTPUT** Fitted with a balanced out **DIGITAL OUTPUT** Fitted with a digital output

# DACs



Digital-to-analogue converters are back and the price has come right down

Badge	Product	Price	Comments	Coaxial input	Optical input	USB	Wireless	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

Headphone socket  
Volume control  
Issue number  
Sampling rate (kHz)  
Wireless  
USB  
Optical input  
Coaxial input

**SPECS KEY** **COAXIAL INPUTS** Fitted with a coaxial input **OPTICAL INPUTS** Fitted with an optical input **USB** Fitted with a USB input **WIRELESS** Able to receive material wirelessly **SAMPLING RATES** Maximum sampling rate of the DAC **BALANCED OUTPUTS** Fitted with a balanced output **HEADPHONE SOCKET** Can operate as a headphone amp **VOLUME CONTROL** Can be connected directly to an active speaker or power amp.

# Cables



Cables really can make a difference, especially our top recommendations

## Analogue interconnects

Badge	Product	Price	Comments	Stranded	Solid core	Copper	Silver	Digital cable type	Issue number
●	<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>Kimber Hero</b>	180	Energy and rhythmic drive are the key features here, but there's also plenty of detail	●	●	●	●		353
●	<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>van den Hul</b>	175	A very well-rounded cable that's particularly strong on detail without compromising performance	●	●	●	●		353

Digital cable type  
Issue number  
Silver  
Copper  
Solid core  
Stranded

## 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 MCV-15</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 Teatrac</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 -

# Digital Audio streaming

hi-fi and networked audio specialists from single systems to whole house solutions



New Akurate DS

LINN



New Klimax DS

- Networked audio - simple access with a huge performance increase
- Audition & compare various products or brands in our listening rooms
- Arcam, B&W, Denon, Linn, Naim, PMC, Rega, Quad, Spendor, Sonos

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# Stereo speakers

The most influential link in the chain



Size: width, height, depth (cm)  
 Floorstander  
 Ease of drive  
 Bass from (Hz)  
 Close to wall  
 Free space  
 Issue number

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 that 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 L880</b>	700	Good value floorstander with neutrality, massive headroom and plenty of punch	22,99,37	●	A	25	●	●	275
●	<b>KEF iQ50</b>	599	Looks cute and very discreet, with spacious imaging, good balance and a sweet treble	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	15.5,29,27.4	●	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, its 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	15.3,19.9,17.8	●					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	37	●	●	320
●	<b>AE AE1 MkII</b>	2,000	This speaker has a lovely midband smoothness and superior image focus	18.5,31,25	●	A	24	●	●	337
●	<b>Amphion Argon 1</b>	1,179	Speaker supplies a fine midband coherence, alongside a tuneful and entertaining bass	16x31x26.5	●	A	38	●	●	353
●	<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 Phis</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



## 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>Meridian DSP3200</b>	3,750	Flexible speaker with excellent resolution. Tested with the Meridian Audio Core 200 preamp	24,4X32X24,6	●	A		●	●	353
●	<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	29,156,5,42,5	●	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>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 Rainmaker</b>	1,100	A fine communicator with a lively, transparent and coherent character	17,3X35,5X23	●	A	25	●	●	353
●	<b>Totem Sttaf</b>	1,695	This speaker delivers good scale with a fine midband	16,85,24,2	●	A		●	●	340
●	<b>Totem Arro</b>	2,025	A compact speaker that's sonically very refined, with brilliant vocal expression and coherence	13X85X18	●	A	52	●	●	353
●	<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>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**

A fantastic combination of elegant design, well-thought out room-tuning features and superb sonic performance. A 2010 Product of the Year

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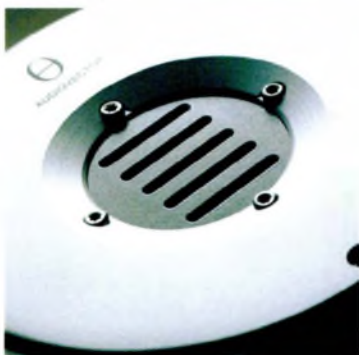
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## Equipment supports

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	<b>MDF</b> 302
●	<b>Blok Stax 300</b>	180	A simple and effective design that gives some useful isolation across most of the audio band	40,46	3	<b>MDF</b>	334
●	<b>Custom Design Inert Matt</b>	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit	40x25		<b>Metal</b>	311
●	<b>Custom Design XL4</b>	380	Simple construction pays off in smart looks. Sound contribution is minimal	60,42	4	<b>Glass</b>	293
●	<b>Custom Design Milan</b>	509	Good-looking stand with nothing more to complain of than slight muddying of detail	57	48,39	4	<b>Glass</b> 302
●	<b>Hi-Fi Racks Podium</b>	500	A keenly priced piece of high-class furniture that also happens to sound great		59,5		<b>Wood</b> 320
●	<b>Isonoe Isolation feet</b>	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables				<b>Alloy</b> 327
●	<b>Magic Racks MR1</b>	600	At its best it's very effective and gives real isolation across the audio band	59			<b>Rubber</b> 344
●	<b>Pro-Ject Ground It</b>	255	A very simply designed isolation base, with is very effective when reducing vibration		50,40	5	<b>MDF</b> 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	<b>MDF</b> 334
●	<b>Russ Andrews Torlyte Rack</b>	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49	4	<b>Torlyte</b> 240
●	<b>Townshend Seismic Sink</b>	400	Pricely platform, that makes an obvious difference to any turntable's performance		50,40		<b>Steel</b> 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 Welded	Shelf type	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 Zz</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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#### Diablo Phono Amplifier

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HIFI CHOICE, ISSN 1526-0555, is published Monthly, 13 times per year twice a year. Printed by WHOLEBERRY STORE, c/o USAC AV Media Ltd, 5th, Copple Hill, Powerdown Way, Suite 515, Pittsburgh, Michigan, 48124. Printing and production by Seymour Distribution Ltd, 2 Epsom Road, London SW20 7BQ. Printed in the UK. For advertising enquiries contact HIFI CHOICE, c/o ExpressMag, PO BOX 2762, Pittsburgh, PA, US A-15201-0762.



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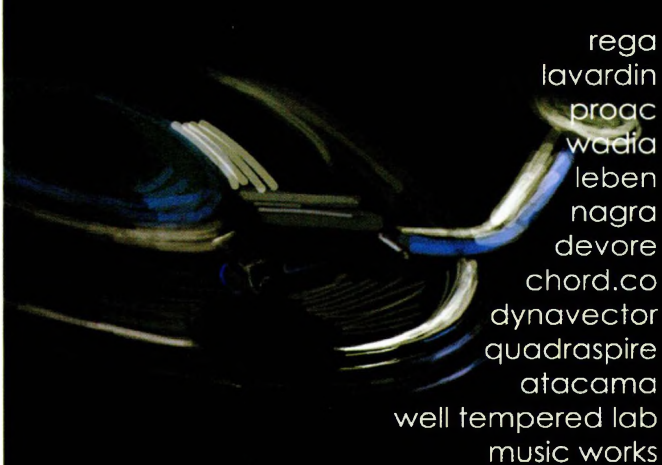
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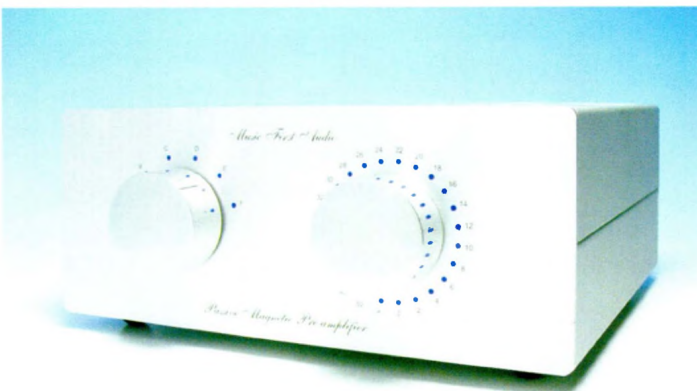
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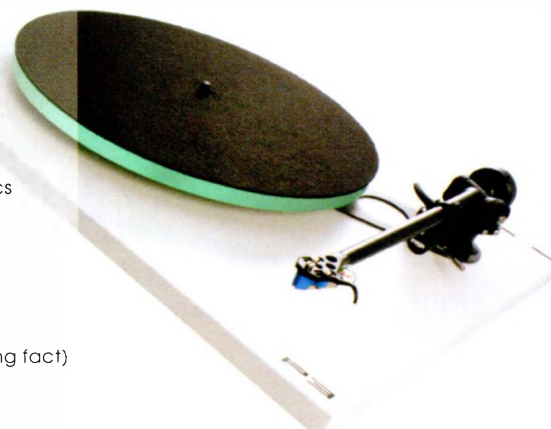
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# Subwoofers

**Richard Stevenson** joins *HFC* predicting 2012 will be a good year for subwoofers and stylish footwear

**S**ubwoofers are the hi-fi equivalent of Marmite in Cuban heels. Loved by some, loathed by others and swinging in and out of fashion for decades. They were lost to home cinema in 1997, but are all set for a grand return to hi-fi, as well as becoming an essential part of high-end audiophile music reproduction. This sea-change is driven by a new breed of large, extremely powerful active subwoofers with advanced PC-based EQ systems. True full-range music reproduction in the home will become a reality, for the first time ever.

I can see readers in the 'loathed' camp about to blow a gasket already.

The trouble with producing deep bass with piston drivers is that physics demands a cabinet the size of a small shed and enough power to raise Frankenstein's monster! Traditional speakers are simply not big enough and hi-fi amplifiers are just not powerful enough. Most high-end speakers are 6dB down by 20Hz and a typical 100-watt amp gives large drivers all the rapid direction change ability of a cross channel ferry. The solution is seamlessly integrating audiophile loudspeakers with a top-spec subwoofer, although I grant you that's easier to say than achieve.

Subwoofers have always intrigued me. I have tried any number of configurations to realise full range stereo and I fondly remember my first noise abatement order. Latterly, when I moved half mile away from anything but sheep and bemused pheasants, the madness peaked at a multichannel system with 10 subs. I integrated a REL R-series with each of the seven main speakers and had three REL Stentors for LFE. It was unworkable of course. It was damn near impossible to balance and the music room had more boxes than a ParcelForce warehouse.

In fact, I blame Richard Lord of REL for this particular fetish. I fondly recall those London hi-fi shows where Richard would wax-lyrical about his sub-bass systems and wobble the gizzards of any audiophile who cared to listen. It was magical stuff and I was hooked, but it wasn't perfect. Integrating those early REL subs was tricky business, the results varying with whim and wine in equal measure.

Then subwoofers got hijacked by home cinema. Not just conceptually either. Most subs built since the late 1990's have been designed with a penchant for AV; tuned to deliver a peaky 50Hz-60Hz punch rather than attempting to achieve anything like a flat response down to 20Hz. Two recent innovations have changed this. Class D

amplification has made cool-running kilowatt class amplifiers feasible and high-speed DSP has given rise to multi-point EQ systems far more accurate than any analogue filter or crossover network. That said, mating this technology with suitably powerful drivers and massively engineered cabinets is not cheap. Take Paradigm's Sub 2 at £9,500 and Velodyne's DD18plus at £5,800 – and ideally you need two.

Having used a pair of older DD18s, I took one listen to the DD18plus and had to raid the piggybank. They are tighter, dryer and deeper, and the new PC-based DSP system uses a CD sweep tone. This delivers an EQ map that takes into account the characteristics of every component of the replay system. Integration with my Tannoy Dimension TD12s is as seamless as I have ever achieved with any subwoofer set up. The Velodynes don't simply add bass, they create a full range system that delivers a greater perception of richness throughout the spectrum. Female vocal has more presence and space, strings are blessed with a greater sense of depth and realism, and there are subsonics in Mahler's 5th I have just not heard before.

I would be the first to admit that deep bass is not neighbour friendly, parametric EQ is not a panacea and that good subs are a domestic elephant – expensive, bulky and cosmetically challenged. If you can live with all that and still want to achieve true full-range music reproduction, then it might be time to dust off those old Cuban heeled winklepickers.



The trouble with producing deep bass with piston drivers is that physics demands a cabinet the size of a small shed and enough power to raise Frankenstein's monster!



**RICHARD STEVENSON**  
From hi-fi retailer to trade magazine editor and audio consultant, Richard has been tackling hi-fi hands-on for over two decades

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