

Arcam rDAC: verdict in



Long-awaited digital convertor is here at last!

Turntables compared

Roksan, Michell, Clearaudio, Thorens and more from £1,000



Hi-Fi Choice

PASSION FOR SOUND

www.hifichoice.co.uk

Issue No. **338**

November 2010 **£3.99**

Guiding **Lites**

Marantz shows the way for next-gen hi-fi with £999 KI Pearls

WORLD EXCLUSIVE

Rok-solid

Exclusive! World's first review of Roksan's Caspian M2 CD and amp

25

essential reviews including: Castle Acoustics, Pro-Ject, Triangle and Mark Levinson



All-Linn one

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How many CDs do you own but never play?



Comes with credit card size remote control

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

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

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

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

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

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

Small enough to pick up with one hand yet big enough for a lifetime of music, the Brennan JB7 is one man's brilliant idea for everyone's forgotten music. Starting at just £359* it's only available direct from Brennan at www.brennan.co.uk.

Key features

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



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

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

The Brennan JB7 is available in Cobalt Blue or Titanium Metallic



Money back guarantee

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

The face behind Brennan

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

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

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

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



Martin Brennan

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

brennan

Hi-Fi Choice

PASSION FOR SOUND

YOUR EXPERTS



PAUL MESSENGER
EXPERTISE: SPEAKERS

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



JIMMY HUGHES
EXPERTISE: SYSTEM OPTIMISATION

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



RICHARD BLACK
EXPERTISE: TECHNOLOGY

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



JON MARKS
EXPERTISE: DIY AND VINTAGE

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



ALVIN GOLD
EXPERTISE: PERFORMANCE AUDIO

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



JASON KENNEDY
EXPERTISE: TURNTABLES

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



MALCOLM STEWARD
EXPERTISE: EMERGING TECH

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

Welcome...

www.hifichoice.co.uk Issue No. **338** November 2010



We've been having a ball at the *Hi-Fi Choice* office this month, working on three issues at once: the one you've got in your hands; our high-end special *The Collection* (on sale later this month); and we've been very busy judging the best hi-fi money can buy for our *Awards issue*. So you can expect to find some very special editions of *HFC* on the newsstand in the coming weeks – be sure not to miss these two essential hi-fi guides.

Back to this issue and I don't know where to start! How about our exclusive Marantz KI Pearl Lite review, or our exclusive review on Roksan's most important hi-fi of the year, the new Caspian M2 CD and amp? There's a fabulous spread of other brands inside, too including Mark Levinson, Arcam and the 'new' Castle. As mentioned, we had a ball this month, we hope you like it, too.

Dan

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

FUTURE PUBLISHING, 2 BALCOMBE STREET,
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OUR PROMISE TO YOU

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



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PMC FB1i and TB2i Signature Editions – Celebrating 10 years of success!

The FB and TB have received accolades from all corners of the world and are viewed as the benchmark in the realm of the audiophile. In celebration of ten years production of these 'audio classics' two limited edition signature models have been conceived.

Dubbed the Signature models, they display all the ultra high definition and finesse of the current i series designs with added refinement and transparency in the mid, vocal range. The key to this enhancement is the fine tuning to the crossover networks which has been carried out Peter Thomas himself – designer and founder of PMC.

Such is the confidence in build quality and engineering excellence the warranty period has been doubled to match the ten phenomenally successful years since their launch.

The beautifully handcrafted British cabinets are finished in the distinct and rare Rose Palissandre veneer. A chic enhancement for any modern or traditional interior.

The exclusive, limited edition models include:

- PMC ATL™ (Advanced Transmission Line)
- PMC/SEAS® 27mm SOLONEX™ soft dome tweeter, ferro fluid cooled
- PMC designed 170mm Doped LF driver with cast magnesium chassis
- Improved vocal transparency over standard 'i' series
- 10 year extended warranty
- Luxury Rose Palissandre finish
- Hand signed certificate from Peter Thomas, designer & founder
- Brush aluminum serial number plate & nickel fixings

Both FB and TB share the same professionally proven six and half inch bass unit and the precision built SOLONEX™ domed tweeter which results in a vast, vivid audio picture and deep rich bass which can be experienced throughout the room. The FB1i Signature's longer ATL™ (Advanced Transmission Line) it provides even greater bass extension and therefore has the ability to fill a larger listening room with real aplomb.

Available now. Call Jordan Acoustics to find out more.



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PMC®

Major Event Announcement

(Jordan Acoustics exclusive)
Experience 'Multi-Channel Wide Bandwidth Soundscape' presented by the legend that is **Ken Ishiwata**.



This is the first time that this **exclusive event** has been performed in the UK. Having won critical acclaim in Hong Kong, this is a unique opportunity to experience what can only be described as 'State-of-the-art high resolution SACD multi-channel audio'.

Ken Ishiwata in conjunction with **Jordan Acoustics** will be personally hosting this very exciting demonstration. Ken will also be available to answer questions after each presentation.

Super Audio Multi-Channel

We are demonstrating the ultimate in **Super Audio Multi-Channel recordings**. Read on...

! These closed door demonstrations will be strictly limited so please book early to avoid disappointment.

Saturday 25th	Sunday 26th
11.00am	12.00pm
12.15pm	1.15pm
1.30pm	2.30pm
2.45pm	
4.00pm	

Source

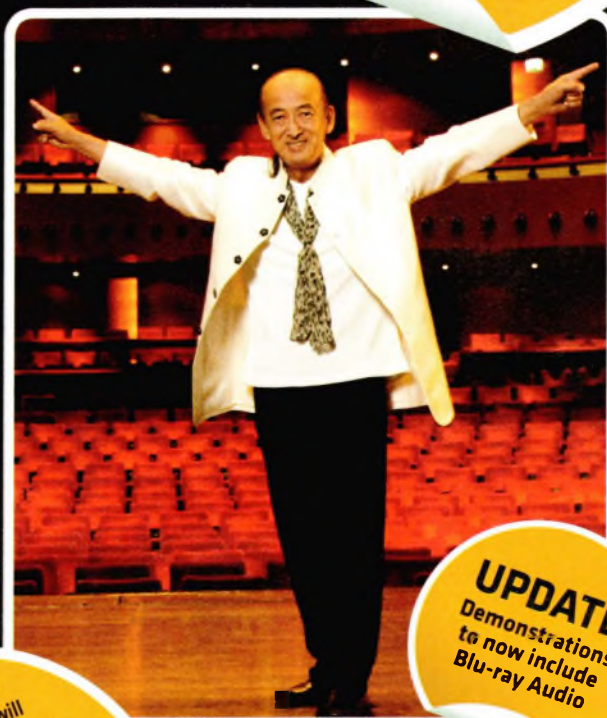
For the source, the **multi award-winning Marantz UD-9004 Blue Ray/SACD Player** has been chosen to provide the high resolution signal.

Utilising the highly acclaimed **SA-7 S1's main soundboards**, the UD-9004 has proven itself to be the universal player of choice for the discerning music lover.

marantz




National Audio Show 2010
September 25th-26th 2010
Ground Floor
Syndicate Room 11



UPDATE
Demonstrations to now include Blu-ray Audio

Amplification

Amplified via 3 'cascaded' **Marantz PM11-S2 stereo integrated amplifiers**, the PM11-S2 was designed around the **Legendary Series SC-7 Pre-amplifier** and **MA-9 monoblocks**. Not only does it have similar circuitry but it also keeps the 'cascade' feature, which allows up to **6 pre-amplifiers** to be cascaded giving **12 channels!**

Speakers

Wilson Benesch Trinity satellites will be deployed to achieve both the **wide bandwidth data** and lightening fast transient response of the **Marantz Integrated amplifiers**. **Infrasonic sound** to be delivered by the **patented Wilson Benesch Torus infrasonic generator**. **A demonstration not to be missed!**

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We're being asked to engage with a virtual music collection having spent most of our lives building a real one

Jimmy Hughes, Opinion p27

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Audiofile

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

Fab four

Quad brings in the Elite range to replace the long-serving 99 Series

PRICE: £600-850
AVAILABLE: NOW
CONTACT: 01480 447700
WEB: QUAD-HIFI.CO.UK

Quad has replaced its popular 99 Series with an all-new range of separates, including a CD player, radio tuner, preamp and two power amps.

According to the manufacturer, the new components retain the distinctive look of the 99 Series models, with enhanced build quality and subtly updated styling.

Like their predecessors, the Elite Series is compact and designed with versatility firmly in mind.

The initial lineup comprises the Elite CDS CD player (£800), the Elite FM tuner (£600), the Elite Pre preamp (£850), the Elite Stereo stereo power amp (£700) and the Elite Mono monoblock power amp (£650).

Two more products will join the range by the end of the year: a second CD player that incorporates digital preamp functionality and an additional stereo power amp to replace the existing 909.

The Elite Stereo and Elite Mono power amps boast new ultra-low noise transformers and are said to deliver 80 watts and 150 watts respectively. The Elite Pre preamp sports Quad's Tilt control, which tailors the entire frequency response to suit the user's preferred balance. It also includes bypass-switchable filter adjustment for bass and treble, along with Quad Link connectivity, which enables users to control several pieces of Quad kit with one remote control. What's more, Quad's Amp Bus delivers



The Elite Series represents the best solid-state component range that Quad has ever produced

balanced audio and control signals between the preamp and amp.

Several power amps can be daisy-chained together using Amp Bus, enabling the user to bi-amp or even tri-amp with relative ease.

The Elite FM features an FM stereo decoder with discrete Class A stages for audiophile quality.

All models in the Elite range are equipped with conventional RCA sockets for connection to components from other brands.

According to Peter Comeau, director of Acoustic Design for IAG (Quad's parent company), the Elite Series represents the best solid-state component range that Quad has ever produced. "Listening to the Elite pre/power with the Elite CD player as its source, I am struck by how clean, clear and effortless the musical delivery of this combination is," says Peter. "This Elite system has now taken pride of place in my listening room". ●

THE QUADFATHER

FOUNDED IN 1936 by Peter Walker, hi-fi specialist Quad is well-renowned for its Reference Series loudspeakers.

Under the Performance Series banner, Quad offers a versatile selection of ranges including the L2 – a follow-up to the original L-Series. The manufacturer's hi-fi arsenal also includes the L-Active, which are powered versions of the famous L-Series speakers, with all products in the range featuring two amplifiers per speaker.

Along with a 5.1 home cinema system and a soundbar, Quad also offers a comprehensive range of valve amps as part of its Classic Series, along with the Classic ESL Series of electrostatic speakers.



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Britain gets bronze

Monitor Audio gives its Bronze BR range a polish

Monitor Audio has given its budget Bronze BR loudspeaker range a facelift – resulting in the Bronze BX.

The new range is said to blend the best of its predecessors with the technologies from Monitor Audio's Platinum and RX ranges.

Comprising seven products, the new collection kicks off with the two-way BX1 (£200), offering a single 5.5-inch C-CAM bass driver and a one-inch C-CAM tweeter in a system that is designed to defy the usual assumptions concerning size and performance.

The BX2 (£250) builds on the talents of its award-winning BR2 forerunner with a new 6.5-inch C-CAM bass driver and a one-inch C-CAM tweeter. The svelte BX5 (£500) is said to offer a re-tuning of the acclaimed BR5 floorstanding speaker.

The flagship BX6 (£650), "offers the fluid neutrality of the BX5", says Monitor Audio and also offers the scale of its larger 2.5-way system. Meanwhile, the BX-FX (£250) uses angled baffles to fit the BX technical wizardry into a compact chassis.

The BX-LCR AV speaker (£150) is said to complement the driver architecture of other BX series speakers for pin-point centre and surround imaging.

Completing the range is the BXW-10 subwoofer (£450), which features a powerful 200-watt Class D amplifier in a sealed cabinet.

The BX range is available in four vinyl wood finishes: Walnut; Natural Oak; Rosemah and Black Oak.



PRICE: £150-650 **AVAILABLE:** NOW
CONTACT: 01268 740580 **WEB:** MONITORAUDIO.CO.UK

NAD radio is go!

NAD debuts eco-friendly new FM tuner

Audiophiles will welcome the new C426 FM/AM tuner, says its manufacturer, NAD Electronics.

Sacrificing DAB support for the enthusiasts' tuner of choice, the unit employs a MOSFET RF front-end design, along with high-quality components and a careful PCB layout, in order to get the "optimum performance from the airwaves", says NAD.

Priced at £230, the tuner offers ultra-low-power consumption during standby, thanks to a completely redesigned power supply.

Along with 30 station presets, the new model

features RDS and RT capability for displaying station names and any other available information.

The energy-saving C426 tuner is available now in either a Graphite or Titanium finish.



PRICE: £230 **AVAILABLE:** NOW **CONTACT:** 01279 501111
WEB: NADELECTRONICS.COM



Sound solution

MERIDIAN is replacing its F80 all-in-one with the new M80, which has the added advantage of an iPod dock.

Priced at £1,500, the M80 contains a powerful Meridian 2.1 DSP loudspeaker system and is finished in a range of British hand-stitched leathers in Obsidian Black, Chestnut or Ivory.

As well as CD and DVD compatibility, the unit boasts DAB, FM and AM radio tuners along with a mix of analogue and digital inputs.

The i80 iPod dock is supplied with every M80 and makes it possible to listen to, or charge, an iPod. Your choice of music can be selected using either the M80 front panel, or from across the room via the remote control. The M80 is hand-assembled in Meridian's Cambridgeshire factory.

PRICE: £1,500 **AVAILABLE:** NOW
CONTACT: 01480 445678
WEB: MERIDIAN-AUDIO.COM



Touchy radio

REVO has introduced a compact DAB/internet radio equipped with a colour touch-screen.

The AXiS can also stream digital music files from any connected PC or Mac and also features a conventional FM radio with RDS.

The 3.5-inch touch-screen display is controlled using an icon-based user interface for quick and easy navigation around the radio's features.

The AXiS also doubles up as an iPod dock and boasts an eight-watt class D amplifier, along with NXT's Balanced Radiator loudspeaker technology.

PRICE: £200 **AVAILABLE:** NOW
CONTACT: 01555 666161
WEB: REVO.CO.UK

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

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FI-8N(R) FI-8N(G)

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Visit us in room 209 !



Get active!

Unity Audio debuts its first active domestic speaker

Hi-fi distributor Unity Audio has unveiled its first domestic hi-fi speaker, known as The Rock.

Following on from the release of the studio version, The Rock boasts a specially designed amplifier, created by Esoteric Audio Research guru Tim de Paravicini. The 100-watt amp features a discrete A/B design with custom-wound transformers and dedicated LF and HF sections with overload/clip protection.

Equipped with both XLR balanced and unbalanced connections and a rear panel level control, it is possible to connect them directly to a CD player without the need for a preamp.

In order to add density, mass and rigidity to the speaker, the front baffle is manufactured from Corian and then bonded to the plywood baffle. Rather than relying on the

commonly used MDF, the closed-cabinet design employs 12mm, nine-ply Baltic Birch, along with a bracing system that has been designed to stop cabinet flexing.

A new folded ribbon tweeter, featuring a new neodymium magnet system, has been designed for higher efficiency, superior linear frequency and phase

response. "The frequency response of the tweeter can go as high as 50kHz", says Unity Audio.

A 180mm woofer with a 0.2mm aluminium foil is chemically bonded to a rigid pulp fibre cone. This has been designed to insure that the woofer cone will remain symmetrical at all frequencies.



PRICE: £1,750 **AVAILABLE:** NOW **CONTACT:** 01440 785843 **WEB:** UNITYAUDIO.CO.UK



Rush of radios

ROBERTS RADIO has unveiled a comprehensive range of new radios due to hit shops in time for Christmas. The new line-up includes the Revival iStream (£200) – an updated version of the maker's popular retro-styled model, which now includes Wi-Fi internet radio alongside DAB and FM.

Also new is the Sound 66 DAB/RM RDS digital sound system (£150), which is equipped with an iPod dock, along with the ecologic 7 (£90) claiming 150 hours of battery life.

Roberts is also expanding its Wi-Fi range with the introduction of two new models. The Stream 205 (£130) offers Wi-Fi as well as DAB and FM and also comes with a free 30-day trial of Last FM. This nifty technology recommends other music that you might like, according to what you're playing.

Meanwhile, the Stream 63i (£350) offers DAB, FM, CD, USB and Wi-Fi, all in an acoustically tuned wooden cabinet with a gloss-black finish.

Roberts will also offer the Expression (£100), with a built-in battery charger and over 100 hours of battery life.

Other additions to the Roberts lineup include a range of new colour options for the retro-styled DAB/FM Revival (£150), along with two new analogue models priced at £20 and £30.

PRICE: £20-£350 **AVAILABLE:** NOW **CONTACT:** 01709 571722 **WEB:** ROBERTSRADIO.CO.UK

Audiolab arrives

Two debut CD players make up the new Audiolab 8200 Series

Audiolab is kicking off its latest generation of audio components.

The well-connected 8200CD sports a USB port, so that the player's internal DAC can be used to enhance the sound quality of digital audio playback from a PC or Mac and also enables the player to be upgraded.

Any computer-based media player, such as iTunes, can be controlled using the deck's remote handset.

Priced at £900, the 8200CDQ sports the same features as the 8200CD, along with the added bonus of a complete digital/analogue preamplifier in a chassis of the same size.

PRICE: £700 (8200CD)/£900 (8200CDQ) **AVAILABLE:** NOW **CONTACT:** 01480 447700 **WEB:** AUDIOLAB.CO.UK

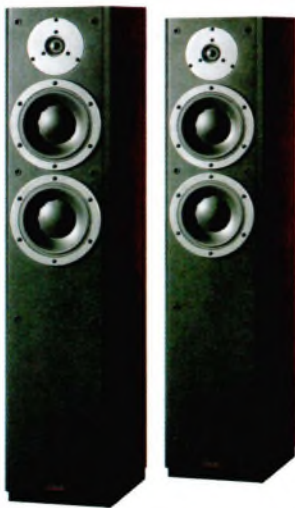


NEWS IN BRIEF

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



• **PURE** has teamed up for the second time with guitar amp firm Marshall to resurrect the EVOKE-15 Marshall DAB radio. Price £120. pure.com



• **DYNAUDIO** has expanded its entry-level speaker range by adding the DM 3/7 floorstander (£1,299) and the DM Centre centre channel speaker (£450). dynaudio.com



• **THE CHORD COMPANY** has introduced the Cadenza interconnect, which is based on its popular Chorus cable and is available for £185 per metre. chord.co.uk

• **CORRECTION:** The Editor's Choice badge was missing from the review of the Theta Digital Compli Blu-ray player featured in *Hi-Fi Choice* 337. thetadigital.com

Memories in Midlands Music

Midlands-based charity event to include stars' memorabilia in celebration of local music scene

Memories in Music C.I.C (Community Interest Company) is staging a month-long charity event in Birmingham, featuring memorabilia that celebrates the rich history of Midlands-based pop, rock and blues music.

Running From 18 September until 17 October, the event will be held at St Pauls Gallery and proceeds will go to Macmillan Cancer Support, the charity dedicated to improve the lives of those affected by cancer, as well as Task Brasil, a charity aiming to support the needs of abandoned children living on the streets of Brazil.

Among the items on display will be Steve Winwood's personal photograph collection, Fairport Convention's instruments and a selection of Blaze Bayley's stage clothes.

What's more, exclusive items from the The Marquee Club's archive will also be on display.

Memories in Music is looking for fans, journalists, musicians and interested members of the public to contribute to the event. For details of how to do this and help raise money for Macmillan Cancer Support and Task Brasil, please contact:

WEB: MEMORIESINMUSIC.COM

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FOR MORE INFO CONTACT: MEMORIESINMUSIC.COM STPAULSGALLERY.COM

DESERT ISLAND DISCS

Richard Stevenson, director of RS PR Media Solutions, selects four choice cuts from his LP stash



ANE BRUN
CHANGING OF THE SEASONS
This album from the Norwegian songstress is pure and simple beauty. The title track is a heart rending masterpiece and the cover of *Big in Japan* is sublime.



BOB DYLAN
TIME OUT OF MIND
This classic recording is a magnus opus of blues that captured the mood of the mid-late 90's. Mellow, atmospheric and emotional, this is truly an album that never tires.



METALLICA
AND JUSTICE FOR ALL
One of the best metal albums of all time. Fast, potent and cleanly recorded. The track *One* on vinyl convinced me to sell my soul for a Michell Gyrodek back in 1988.



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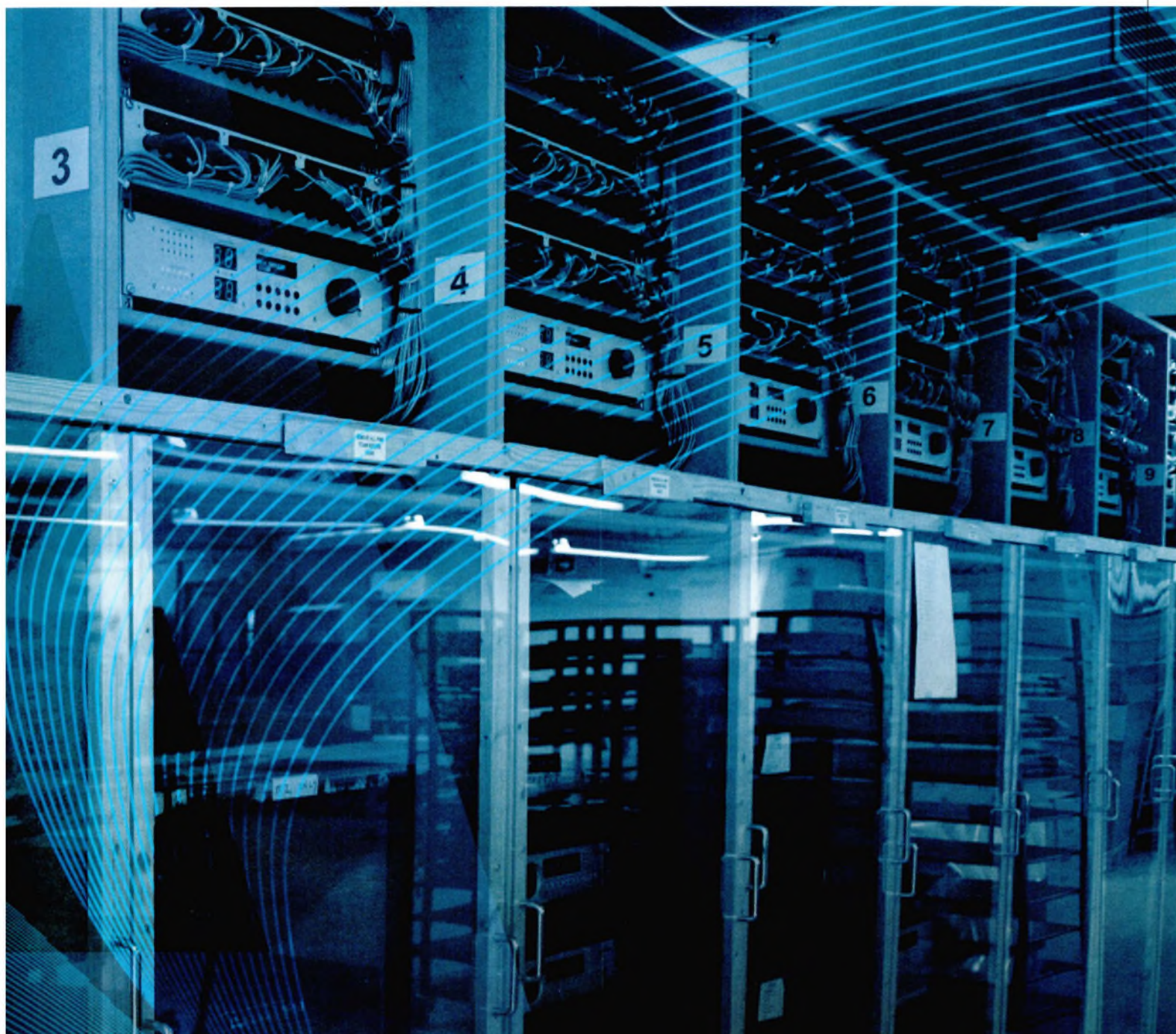
Arcam talks tech

Adam Hartley chats to Arcam's MD and founder about the company's history, philosophy and its latest plans for streaming and portable technologies

Since its inception in Cambridge in the early 1970s, Arcam has built a solid reputation for making decent, well-priced hi-fi. From its relatively early adoption of compact disc in the 1980s through to today's latest streaming, DAC and portable iPod-friendly products, the company has never shied away from embracing new and exciting technologies.

Arcam now plans to follow up the launch of the all-in-one streaming Solo Neo with its new rDAC and is gearing up to unleash the rCube, one of the best-looking iPod music systems we've come across.

We recently paid a visit to the company's Cambridge headquarters to meet up with Arcam founder John Dawson and Managing Director Charlie Brennan, to find out more about exactly what it is that makes them tick. What is it about hi-fi that still gets them excited? And what links the Arcam of 2010 with those early student experiments with amplifiers in a Cambridge attic back in 1973?



What is the plan for the new rCube iPod dock?

"For such a small thing it really does sound like a serious system," says Charlie Brennan, clearly very proud of the intensive research and development behind it.

"From our point of view it is still very early days in terms of having very good-quality portable systems. Some other systems from our competitors just don't sound as controlled and tight as the rCube. There's a lot of that sort of American boom, that overblown and indistinct bass which seems to put audiophiles off."

At £500 for an iPod dock, it's expensive, but it's not crazy money. You can also stream to it from your computer, or stream from one rCube to the next, linking up to eight around the house in total. The rCube also uses Kleer's wireless technology in a dongle for your iPod (or your laptop), so you can control it from wherever you are, which, Brennan inform us, "we've had great fun with at barbeques and parties."

The Arcam MD's hope is that the rCube will be a game-changer simply because, for him, "you end up listening to a lot of music in different parts of

your house and when people realise how easy it is to plug it in and just play music from their iPhone then everybody suddenly wants to be the DJ."

What about the new rDac? Who do you see buying that?

"The audio output of the average laptop is not at a high performance digital-to-analogue stage," explains Arcam's Senior Engineer, Andy Moore. "You can get a sound out of it, which might be acceptable, but it's not a performance audio stage behind the audio output."

"If we can extract the data from the laptop via USB or



Arcam joins the party with the rCube

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The new rDAC is reviewed in full this month on p54

optical or coax, we can almost certainly do a better job of the audio conversion," he continues. "The phenomena which has been the enemy of digital audio since day one is 'jitter' – which is a measurement of data inaccuracy.

"If you think back to the early 1980s, to the dawn of CD, if you ever hear one of those early CD players, they are pretty brash, pretty robotic and wholly unrealistic. Sonically, CD was a bit of a disaster, from day one."

Arcam has a very close working relationship with dCS, the number one when it comes to D-to-A conversion. "They approached us about 18 months ago and said they had an interesting new technology, which they thought we might be able to use, called an 'asynchronous USB input' that feeds a reference clock back to the laptop and thus completely minimises the jitter, which allows us to then accurately make our 'ones and zeros' into steps in a sine wave, to extract the cleanest signal."

The company is one of the first to market with this new asynchronous USB technology. And it makes a hell of a difference to the sound. "The listening reference that we used when we were developing the rDac was the dCS Elgar," says Moore. "The rDac wasn't referenced against the direct competition, but against the best that there is. And we have even managed to fix the jitter problem wirelessly, because with the rDac we have developed a small USB dongle for your computer which uses both this dCS tech and Kleeer's streaming tech."

Can you get a decent sound from a compressed MP3?

Charlie Brennan certainly thinks so, claiming that the rDac really does clean up any digital audio source you use, whether that be a low-bitrate MP3 or an

uncompressed WAV file, though he is quick to add: "Obviously, we are trying to recommend that people go for the very best files that they can get."

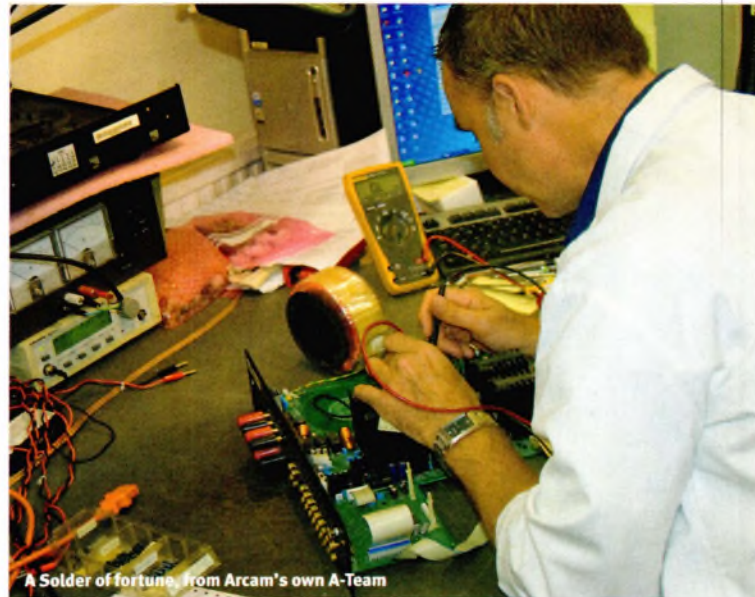
The Arcam MD sees, "a lot of interest from young people in particular, that tend to have a vast amount of music on their computers, but they've never heard it sound this good. And then once they hear it, they immediately want it. We need to create a new generation of

"We need to create a new generation of music-lovers and high-performance aficionados."

music-lovers and high-performance aficionados that really want a good amplifier and good speakers and so on, so that they don't just live with a pair of white buds in their ears for the rest of their lives.

"It is what keeps me interested in this company and this industry," adds Brennan, warming to his theme. "The whole idea of better music for more people is what has driven the company since its inception. When John made that little A60 amplifier, it was affordable. One of the problems still with high-end hi-fi is that too many people are still excluding themselves from enjoying great music.

"What really frustrates us is that most people still live in



A Solder of fortune, from Arcam's own A-Team

blissful ignorance of good sound and, as an industry, we have people saying things to us like "oh my ears aren't good enough, so I wouldn't hear the difference", yet I have never met anybody who couldn't hear the differences if you clearly demonstrate them."

What do you say to critics that claim hi-fi is becoming too elitist?

"I say they are quite bloody right," laughs Brennan. "I think if people want to spend a bit of time and a bit of money getting something good, provided it is installed well and the stands aren't rocking and the speakers are properly positioned, you can make an amazingly good sound for £500 to £1000. If we could bottle that, of course, we could start to take over the world! But the point being, you don't necessarily have to spend ten grand.

"To go back to the rCube, if we are able to use some of the engineering experience we've got to provide decent loudspeakers, proper enclosure

THE PINK PANTHER

ARCAM'S Senior Engineer Andy Moore gave us a simple, but effective demonstration, using Arcam's Solo Neo, of what he calls "five different flavours of compression" by playing *The Pink Panther Theme* in 128kbps, 192kbps and 320kbps MP3s, FLAC and WAV formats. Moore explains that compression works by removing, "the sound behind the sound, which is exactly what gives the system body and a sense of depth and space."

While even the lowest quality 128kbps compressed MP3 still sounds pretty good, it is still a little bit thin and constrained when compared with less compressed files. This is particularly obvious when you listen out for those immediately recognisable cymbals in Mancini's classic. "It is only when you hear the high resolution that you start to realise the bits that are being chopped away," Moore explains.

"At 320kbps, the size of the sound stage has just grown by a couple of feet and the cymbal is now starting to sound just that little bit more realistic. There's enough information there to start filling in the gaps. And then when you listen to the FLAC and WAV versions of the tune you can hear even more of a difference. Sadly, the goal to provide music to a mass audience is not performance."



The Arcam Solo Neo. See our full review in HFC 336

design, clever DSP technology and distil it all into a box like that, then you can get really high-quality sound to a much wider audience. My hope would be that some of the people that end up buying that system will get into hi-fi.

"We are trying to get people to focus on buying something that is built to last and to be enjoyed. You don't necessarily have to fall victim to the 'upgrade-itis' that comes along with technology. Just do it right and spend as much as you are comfortable doing. Spending money is no guarantee of quality."

How can dealers' reach out to this wider audience?

"One problem is that the average hi-fi shop is often just too intimidating for the average guy to walk into," argues Brennan. "And that is why we have still to get to the bigger audience. It's not because people don't appreciate this stuff, they are just a bit scared. And I understand that reticence."

Outside of specialist retail channels, Arcam is seeing a lot of interest in the rCube from stores such as John Lewis, Selfridges and Harrods, for the fairly well-heeled customer that just wants something a lot better than average.

"The specialist dealers will have customers that want it, of course," says Brennan. "But they don't have a lot of traffic. What has really shocked us mostly has been the reaction to the portability, because there is really very little high-end performance portable audio. It will stir things up, I think."



Arcam founder John Dawson recalls the days of making amps in a student attic

What about those more into gadgetry than audio quality?

"Well lots of people will say I'm not a foodie and then you take them to a brilliant restaurant and they then say, 'wow, I've never had anything like that!' It's a bit like that in audio. Our job is to get them interested enough to go and experience it.

"Unfortunately, you just have to change the world one person at a time. I don't think there is any short way of doing it. I mean, the industry has been going for 50 to 60 years and some of the best companies in the world are based in Britain. And you would have a very similar conversation with the people up at Meridian or down at Naim or up in Scotland at Linn.

"We've all got all these brilliant products, so how come it is too often seen as an undiscovered upmarket niche? And the thing I've found interesting at Arcam is that we can make really high-performance products at sensible money. We are not about £16,000 CD players."



Arcam's classic A60 Amplifier was the product that kickstarted the company in the 1970s

How does your experience with CD relate to the rDac?

"Back in the 1980s we went down to the capital markets and managed to get some venture capital, on the back of compact disc," recalls Arcam's founder John Dawson. "Which was clearly a growing thing and we started making CD players in 1987, still fairly early on in the game.

"Arcam invested in the manufacturing license, bought a bag of chips and a drive from Philips and put a lot of attention into the power supplies, the de-coupling, amplifiers and so on and it sounded, well, not brilliant, but distinctly better and less edgy than a lot of the players on the market. To put it crudely, it became the CD player than Linn dealers would sell.

"We are trying to get people to focus on buying something that is built to last."

"The next thing we did was to develop a product that had an outboard digital-to-analogue converter in that would make the average CD player sound better.

"I remember taking it home and plugging it into my £500 CD player. I could hear more music and that is the acid test. We called it the Arcam Black Box, it cost £250 and won all sorts of awards."

For Dawson, it has now come full circle, with the rDac, because "back then, a lot of the reasons that you did the DAC outboard was because the environment within a CD player, with all the servos and motors and things was pretty dirty, like a PC." ●

HISTORY OF ARCAM

ARCAM started off as a hobby business when John Dawson was at the University of Cambridge in the early 1970s. "They asked me to do a PhD in Material Sciences, which I spent the following three years not really doing. Instead, we started this business called 'Amplification and Recording Cambridge' providing amplification for live music and hardware for discotheques, live gigs and the like.

"Slowly, but surely, we decided that we would like to do something and take it through to production and small scale sales of our own. And it was not a very difficult choice to make a hi-fi amplifier. We felt there was a gap in the market between what the Japanese were offering, which were big robust boxes that didn't sound great and the few more innovative British companies that had better products but, frankly, they broke quite a lot of the time.

"We'd learnt from the mixing work how to make sure that things we made didn't break, because if they did and a band was in the middle of a gig, then you might get your feet nailed to the floor! So by 1976 we had produced the Arcam A60. We thought that we'd build around 50 or so to sell to our friends, mainly, for around £100 each."

Arcam has owned the site where its Cambridge factory is based since the early 1980s



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Jonathan Valin | The Absolute Sound | Jan 2010

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Magnetic attraction

Magnets have been at the heart of audio for a century, **Richard Black** explores the science behind the scenes

A couple of products that have come my way recently have relied on magnets for bearings, which is a bit unusual, though, of course, we take magnets completely for granted in loudspeakers, headphones and cartridges. We've all played with magnets in school and know what they do – attract or repel each other depending on orientation, basically.

There's a bit more to it than that, though. Let's consider magnetic bearings, as they are probably the simplest applications, conceptually. One of them supports a tonearm using magnets that attract, while another supports the platter of a turntable using magnets that repel. Clearly, in each case, there has to be something opposing the magnetic force or things will jam together (in the former case) or fly right apart (in the latter). It's obvious what's opposing the repelling magnets in the platter application – gravity! 10kg or so of platter is opposed by an equivalent force from the magnets, keeping the platter a few millimetres clear of the chassis so that it is free to rotate. In the arm bearing, a wire ties the arm down so that it doesn't fly up and stick to the attracting magnet.

The big advantage of magnetic force in both these applications is that it doesn't involve friction. If you are trying to support something with mechanical bearings, there will always be some degree of friction and worse, with use things get worn down and the friction can increase, leading (in a turntable application) to noise, possible speed instability and general audio distress. Modern magnets are very stable and can keep their strength up for years, so there's no friction now or in the future.

Alto-Extremo's Neoflex isolation feet use opposing magnets to support equipment placed on them



There are disadvantages too, more or less easily dealt with. Stray magnetic field is one of them, and in a turntable you really don't want that as it can interfere with the correct working of the (magnetic) cartridge, even to the extent of lifting the cartridge clear of the groove (I've seen it happen in an experimental prototype). With care and a bit of distance, though, this can be reduced to a level where it's harmless.

Another disadvantage of repelling magnets is stability – a problem they share with many kinds of mechanical bearing. You fix this by having a mechanical reference that isn't load-bearing and, therefore, produces less friction (still some, mind you) than a fully mechanical bearing. In the platter support bearing this would be a vertical bearing pin.

Spring in your step

And then there's the business of 'springiness'. Mechanical bearings are effectively rigid, but magnetic ones behave much more like a spring, which leads to their use in isolation mounts (and we've seen one or two of those here recently, too). There's a difference between magnetic force and spring force, however, in the way they vary with distance. Conventional springs are linear, so double the extension or compression and the force doubles. Magnets roughly follow a 'square law': double compression requires four times the force. Because of this, while spring-supported objects bounce at a pure single frequency, magnetic supports introduce harmonics in the bounce – they might start at 4Hz, say, but soon add 'sub-bounce' harmonics at 8Hz, 16Hz and so on.

That may not matter much in practice and other advantages come into play, such as the lack of the (much higher-frequency) 'twang' that you get with metal springs due to resonance within the spring material. Where the non-linearity is critical in transducers (cartridges, speakers etc.), as it can introduce distortion in the audio signal. In this case, designers wrestle with the problem by various means, which mostly boil down to ensuring the movement is small enough, relative to the size of the magnet, that it is within the linear range which applies very close to the magnet. Loudspeakers sometimes have a magnetic gap that is 20-30mm long, with a short voice-coil inside it, which leads to very large and expensive magnets.

Magnets have been at the heart of audio for a century. As they get better and cheaper, they will doubtless find new uses. ●

Modern magnets are very stable and can keep their strength up for years, so there's no friction now or in the future



RICHARD BLACK

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

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Up in the clouds

Martin Pipe discovers how having heard a song on the radio, you can buy it at a touch of a button, thanks to radio expert PURE

In the fast-moving world of IT, one of the current 'hot topics' is something known as 'cloud computing'. Here, resources such as software and data are provided to computing devices via the internet on an 'on-demand' basis. Although there are obvious implications for network congestion (and availability) and security, its key benefit is a major one – global access to exactly the same resources you would have in your office. No need to worry about forgetting that contacts database, spreadsheet or article. Thanks to the cloud, you'll always have access to it if some kind of Internet connection is available.

Cloud computing will also impact the 'digital lives' that many of us now lead; indeed, it already is with services like webmail. It could also revolutionise the way in which we consume music, if a new service from digital radio manufacturer PURE catches the public imagination. 'FlowSongs' is the latest development in electronic-retailing ('e-tailing').

Lounge lizard

I'm sure that music lovers of a certain age have, on at least one occasion been entranced by a song playing on the radio. Moments after the DJ opened his mike, we hurriedly scribbled down the relevant details on a scrap of paper before rushing into town to buy the single.

The days of singles (ah, for the crunchy old seven-inch vinyl!) are long since gone and we're now in the era of the downloads chart. Although buying a track you first heard on the radio isn't quite as involved as it used to be, a certain amount of hassle is still involved.

However, radios equipped with PURE's 'Flow' feature – all of which are network-enabled – do indeed provide instant musical gratification. Press the 'Flow' button when a song takes your fancy and behind the scenes a 10-second chunk of the song is processed by PURE and sent, via the Internet, to the well-known Shazam music-identification service. If a match is found, the details of the track are sent back to the radio and displayed on its screen. Any radio station works, regardless of whether it's carried via DAB, FM (not AM) or the internet. If it's analogue, an A-D converter in the radio converts the music into Flow-compatible form.

You can then opt to buy the track – prices range between 79p and £1.29 – by entering a PIN, provided that you've set up a FlowSongs account. Two versions of your purchase are provided. The first is an instantaneously available 'streamed' version of the song, which



Hear it, identify it, buy it!

is held 'in the cloud' and can be played wherever a network connection is available. You'll find it, together with all of the other music you've purchased via FlowSongs, in a personal on-line library known as the 'The Lounge'. Any Flow-compatible radio registered in your 'Lounge' can access this personal music collection, which can be sorted alphabetically or by artist and so on.

The streaming format is 128kbps MP3, which is hardly hi-fi but will suffice for the portable radios that represent the first wave of Flow-equipped products. Remember too, that many DAB stations are 128kbps and use the older and less-efficient MP2 codec.

The second version is downloaded, on demand, to a computer. This is a 320kbps MP3 file and has not been treated with DRM (digital rights management). As a result, you can transfer it to portable players, make copies for yourself or burn it onto a CD with the appropriate software. If the downloaded version is 'lost' in, for example, a hard-drive crash it can be re-downloaded free of charge five times. To minimise the risk of piracy some kind of digital watermarking process, a PURE technician told us, will uniquely identify the purchaser. The 'music store' part of the operation is being provided by an established company called 7Digital, which has access to over 10 million tracks in its 'warehouse'. ●

Cloud computing could revolutionise music, if a new service from PURE catches the public imagination



MARTIN PIPE

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

WHAT DO YOU THINK?

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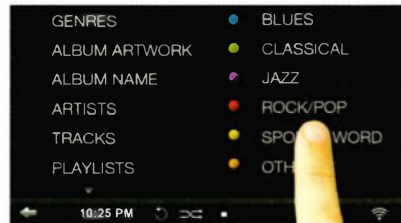


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The Collection

Jimmy Hughes looks back at the good old days of physical media – LP, CD and cassette

Being of a certain age, I'm old enough to remember the days when recordings of music were expensive and aspirational. For many of us, buying an album had a psychological component – it gave you ownership of that recording so that you actually felt you possessed the music/performance.

Prior to the arrival of CD in 1983, LP was the undisputed king of music formats. Cassette was popular for a while, but never a serious rival. Few enthusiasts took the MC seriously. Cassettes were for the car and casual non-critical listening – notwithstanding the fact that some pretty amazing cassette decks were produced.

A problem was created when CD came along – did one buy the LP or the CD, or (groan!) both? Speaking personally, it took several years before I felt happy just to have an album on CD. For a long while, I felt I didn't really 'own' a recording unless I had it on LP. To me and thousands of others, the LP was 'real'.

As time rolled on, this situation eventually reversed itself. Suddenly, the CD became 'real', usurping the LP. I'd look at certain LPs in my collection and feel compelled to buy them again on CD. Although I didn't duplicate all my LPs with CDs, I did end up buying a fairly high proportion of my collection over again.

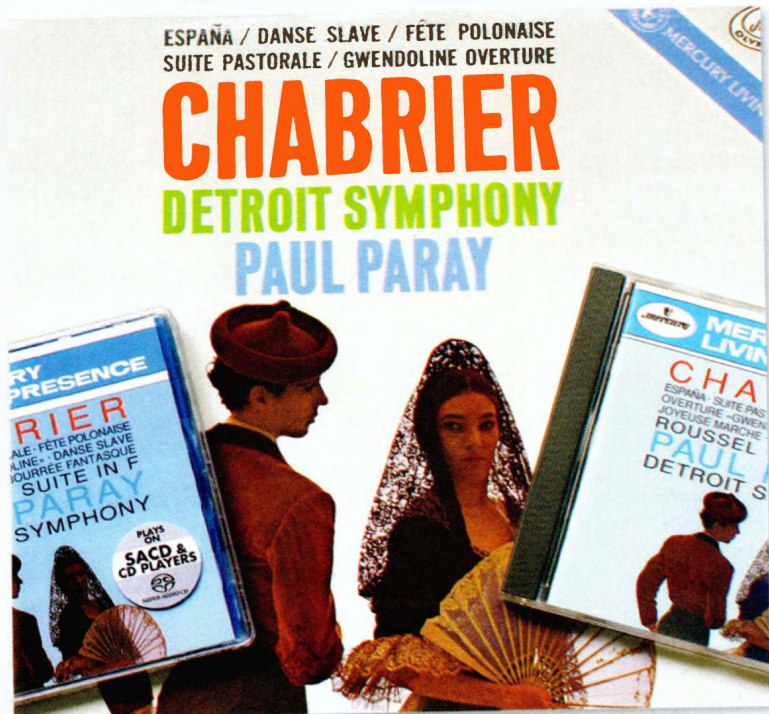
Punters like me make record companies very happy – and rich! All they have to do is trot out a new improved format every ten or so years, and – chances are – I (and others like me) will invest in it. Thus I duplicated many of my Mercury Living Presence CDs with SACD versions – despite (minor point) not owning an SACD player!

But – at least SACD was a disc in a jewel box with a booklet. Now, we're being asked to download music for storage on computer hard-drives. For those of us accustomed to thinking of recordings as physical things, this is an entirely different concept compared to previous music formats.

True, you can burn the download to a recordable CD and print your own booklet. But, for me, that's a copy – and I hate copies. From time to time friends give me copy discs – usually things you can't get anymore – and I'm grateful to have them. But, as soon as the opportunity arises, I replace the copy with a proper disc.

False reality

But – suppose the download came from 24-bit/ 192kHz studio master tapes? The sound should be hugely better than even the best CDs, which are only 16-bit/4.1kHz.



Compared to music downloads, are LPs and CDs, the real McCoy, or unnecessary audio ephemera?

Faced with a significantly superior end-product, which is the 'original' now – the medium-resolution CD or the high-resolution download?

Speaking personally, I want to keep my computer separate from my hi-fi. At least I thought I did. But, given the inordinate amount of time I spend on it – whether writing articles or surfing the net – being able to play music in very long continuous stretches and using the computer to control everything, makes a lot of sense.

My hang-up is probably a generational thing. Younger people, it seems, have little concept of music as a thing to possess. They don't feel the need to buy an album physically to 'own' it – just having it in compressed form on an MP3 player is often sufficient. Access is all that's required – not ownership as such.

But for us older dudes it's a problem. We're being asked to engage with a virtual music collection, having spent most of our lives building a real one! Least that's how it feels right now. But, maybe in five years time, it'll be the LP and CD that no longer feels 'real'. Downloads will be all the reality we need... ●

Younger people, it seems, have little concept of music as a thing to possess



JIMMY HUGHES

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

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A cracking listen

I'm experiencing an annoying problem with my turntable (a Michell Gyrodec with Techno arm), which seems to be suffering quite badly from static. The 'crack' as I turn over an LP can be heard quite clearly through the speakers.

Do you have any advice on how I can eliminate the problem, given the fact that the turntable is correctly earthed to the phono stage? Can static build up in an arm or cartridge, will some decent record cleaning fluid solve the problem? My amp is a Roksan and the speakers are Monitor Audio RS8s.

Woody, via email

HFC We asked HFC's Technical Consultant Richard Black to respond: *Static is a frequent problem on turntables and because it explicitly affects parts that don't conduct electricity (the disc, the platter mat or, on a Michell, the plastic platter) you can't just earth things and expect to cure it. The best solution is probably the Milty Zerostat gun, which you 'fire' at the LP before lifting it off. It costs a bit but lasts years with no consumables.*

Good-quality inner sleeves and some fluid treatments can help but usually only partially. All sorts of other things contribute to static – your clothing, your carpet and even your skin, but you can't do much about that!

HFC's Jon Marks has also been on the receiving end of vinyl kilovolts: I used to get zapped in precisely the same way when changing records on a number of previous turntables, particularly a Pink Triangle Export. Mind you, I wasn't doing anything to help matters by listening in a heavily carpeted room, which required quite a lot of heating in winter, thereby drying out the air in the room and making static more likely to occur. The problem disappeared when, years later, I finally tracked down a Trio/Kenwood L-07D direct drive, with its steel mat and aluminium platter.



Milty's Zerostat: the Magnum .44 of the anti-static world

Desperately seeking treatment

As a regular subscriber to Japanese high-end audiophile magazine MJ (Musen to Jikken), I'm consistently impressed by how many Japanese listeners seem to invest considerable sums of money in room treatments. The magazine runs monthly room-measurement articles, where they visit listener's rooms and tweak them to optimise their characteristics and there are plenty of readers' systems which involve remodelling or treating of rooms.

I realise that Japanese audiophiles can be pretty hardcore when it comes to their hi-fis, but I'm still puzzled by how few listeners here in the UK seem to invest in room treatments.

twochannelonigiri, via email

HFC One of HFC's resident Japanophiles, Jon Marks, comments: *I think there's a couple of points to bear in mind when it comes to how much*

treatment a room is going to get. One of the main ones is how well-heeled the owner is, since a thorough sorting of a room's acoustics can be quite expensive. Japan has a long tradition of buyers who take their equipment very seriously indeed and spend commensurately large sums on it.

Another is that traditional rooms will also tend to be quite reflective, as they feature woven bamboo tatami matting on the floor and lack soft furnishings, which can help tame low-frequency resonances and other nasties.

Some of the rooms are small as well and yet it's not unusual to find a pair of massive horns with vintage drivers dominating such a tiny space.

I agree with you that a little bit of appropriate treatment can go a long way in the average British living room, assuming of course that the other party in any relationship is happy to go along with what look like beanbags in corners and strange polystyrene

panels behind the sofa. On the other hand, fully loaded bookcases can work fairly well as diffusers and strategically placed wall hangings can reduce the scale of early reflections from side walls.

Call the professionals

Why is it that audiophiles turn their noses up at pro gear when a lot of it is built to take a real caning, as well as pumping out plenty of watts?

We've already been told that having an amp with sufficient reserves of power to handle peaks easily and cleanly is a great idea, and most professional amps do that at an affordable cost.

On the other hand, most 'audio-grade' amps don't, especially valve amps. I realise that my Brystons wouldn't be everyone's idea of budget, but there are loads of cheaper offerings out there.

absordietrying, via email

HFC *Some pro gear, intended for bedroom set-ups and manufactured by unknown brands, is a bit like car audio gear: it'll claim 250watts per channel into four ohms, but when you lift the lid, you'll find a single pair of power op-amps rated at 75watts RMS each.*

Gear from better names will meet its spec most of the time, but a lot of pro amps are designed to work in clubs where it's so hot the sweat is dripping down the walls and they're fitted with fans which can make a real racket in a quiet living room.

Probably the principal reason pro amps generally don't make it



Behringer's A500: small, cheap and 300WPC into four ohms

into domestic systems is that a lot of them are frankly unspectacular by the standards set by the typical high-end listener. Yes, compared to home-specific gear they may have buckets of power on tap, but that doesn't automatically translate into a musical, natural or three-dimensional presentation.

HFC's own Jon Marks, commented that a friend of his is an ex-studio engineer and put a great deal of time and effort into not just persuading clients to record at 15ips on carefully adjusted reel-to-reel recorders (because of the sonic benefits), but also into trying to track down decent amplification for the studio.

After going through most of the standard pro names, he settled on some of Sansui's monster, fan-cooled power amps, as they had power allied to finesse and great build. Obviously, Sansui's finest were created a few decades ago, but a similar dichotomy in sound quality persists.

There are, of course, exceptions to this rule. Crown and Hafler have real followings, as does the output of Yamaha's professional wing. Behringer is worth investigating too (and not just for amplification).

Bryston is also highly respected in both camps. Certainly, no-one should shy away from checking out pro amps, or pro active speakers for that matter, as there are gems out there.



Pet sounds

After letters from readers trying to remove the unmistakable odour of, ahem, 'leaking' cats and advice to fill speaker stands with cat litter (HFC 334), I realised that cats must clearly be the audiophiles of the animal kingdom. They know which side their LPs are buttered and only seem to hang around better quality systems.

My cats love a snooze on top of my Cyrus amps, though they weren't that chuffed when I decided on a complete overhaul and swapped my Lowther Acoustas for Bowers and Wilkins 802s: they ricocheted off the spherical heads three or four times before they gave up!

kingcantilever, via email

HFC Richard Holliss, Hi-Fi Choice's production editor and cat maestro, had originally surmised that cats were simply drawn to the heat given off by amplifiers and the like, but over the years has come to accept that there might be sound reasons to suspect there's more to this 'attraction' than meets the eye. Cats seem happy to roost on speakers, turntables, in fact just about any piece of hi-fi as long as it's easy on the ear, as the picture from audiokarma.org shows.

Send us your cat-on-hi-fi pictures by email. There's a prize for the best one.

"Look into my eyes. You need to buy another three power amps this weekend..." or "Yeah, your 10k is down half a dB mate."

LETTER OF THE MONTH

Flat frequency response



I'M GOING to be moving flat in a couple of months, as the place I'm in now has the sort of paper-thin walls which guarantee annoyed neighbours if I so much as drop a paperclip. I like my heavy metal/industrial music played at reasonable levels and am usually lumbered with headphones. What should I look for in a new flat so I can crank up the volume?

satanatemyrecords, via email

HFC Ah, the classic flat-dweller's paradox. If you're careful about where you next choose to live, you can go a long way towards pensioning off your headphones, but there's only realistically a slim chance of ever reaching headbanger decibels if you fancy a bit of solo moshing.

The best starting point is to go for a purpose-built block of flats – conversions often suffer from landlords skimping on soundproofing. After that, you'll want to be on the ground floor, so there's no-one below you to complain about bass lines cracking plaster off their ceiling.

A flat on the outside of a block eliminates neighbours to one side of you, while making your listening den one of the rooms against the outside wall will reduce the SPLs leaking next door. All that remains is to engineer a stone-deaf nonagenarian above you and listening pleasure is yours once again.

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How we test

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



Hi-fi reviews

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

EXPERT TESTING

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

Listening

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

Measurement

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

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

Straightforward presentation

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

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

OUR AWARDS



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



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



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

STATE-OF-THE-ART HI-FI TECH

HFC's test equipment is the most advanced kit available



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

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

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

Unrivalled group tests

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

BLIND-LISTENING TESTS

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

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

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

SIGHTED LISTENING

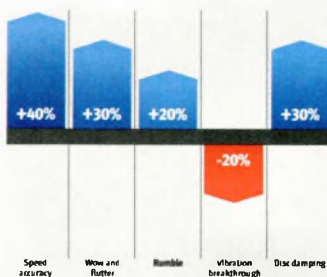
IN ADDITION to the 'blind' test, the author also spent a longer period listening to each system with various items of partnering equipment and a wider range of music. Apart from the obvious fact that this is how most people listen most of the time, this also has the advantage that interesting aspects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

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

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

TECH LABS

RESULTS AT A GLANCE



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

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

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

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

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

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

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

TESTING EQUIPMENT USED

Cartridges:
Goldring 2300
Highphonic MC-A3
Phono stages:
Cambridge Azur 640P
EAR 802
Amplifiers:
Exposure 2010
EAR 519
Loudspeakers:
B&W 803S
ATC SCM20
Cables:
van den Hul
Furukawa
Kimber

TEST MUSIC USED

ASLEEP AT THE WHEEL:
VERY BEST OF ASLEEP AT THE WHEEL



PINK FLOYD:
THE WALL



TCHAIKOVSKY:
'MANFRED' SYMPHONY



JOHN OGDON:
FAVOURITE ENCORES



THIS ISSUE'S BLIND PANEL

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



ROGER BATCHELOR
JOB: MARKETING CONSULTANT

ROGER IS a freelance product manager and training consultant. He also continues his 20-year association with Denon UK.



DAVE DENYER
JOB: PUBLIC RELATIONS CONSULTANT

DAVE HAS worked in the hi-fi industry for over 20 years, previously in hi-fi retail, manufacturing and distribution.



STEVE HARRIS
JOB: MARKETING AND COMMUNICATIONS CONSULTANT

STEVE HAS run his own business for almost 12 years, since leaving the post of MD of Mordaunt-short and EPOS.

DEFINITIVE VERDICTS

No other magazine offers an equivalent listening programme

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

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

TESTED THIS MONTH: TURNTABLES
TURN OVER NOW!

naim
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- ANTHONY GALLO ACOUSTICS
- ARCAM
- ATLAS Cables
- audiolab
- AUDIOVECTOR
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- CHORD COMPACT
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- CHORD
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- GRADO
- IMAGE
- IsaTek
- JVC
- KF
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- marantz
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- MUSICAL FIDELITY
- NAD
- naim
- neat
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B: Malcolm in the middle
C: Malcolm Steward

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STREAMING TECHNOLOGY was added to Arcam's legendary Solo one-box system for the first time with the new Neo (tested HFC 336). Already a big-seller, the mighty one-box solution is now, therefore, even better as it allows you to access an additional world of music via internet radio and stored music

files. It retains real 'hi-fi' qualities, too and can easily replace a stack of hi-fi and its associated cables without missing a trick.

Its 65 high-quality watts should prove plenty for most users and notable points include an excellent CD player section and wonderful internet radio reception.

In our recent review, Malcolm Steward enthused that: "the Solo Neo is a very capable performer and would certainly trounce most older separates". He gave the Neo a well-deserved five stars and a Recommended badge, making this month's ready-to-play prize rather special, we think.

TERMS AND CONDITIONS To enter the Arcam Neo competition, you can either (a) text your answer to 87474 at any time between 16.09.10 and 13.10.10, or (b) enter online at www.futurecomps.co.uk/mega with your entry being received between 16.09.10 and 13.10.10. By sending your entry you agree to these competition rules and you confirm you are happy to receive details of future offers and promotions from Future Publishing Limited and carefully selected third parties. If you do not want to receive information relating to future offers and promotions, please include the word STOP at the end of your text message or at the end of your postal entry. Texts will be charged at £1.00 plus your standard network tariff rate.

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Blind-listening Group test

TURNTABLES £1,140-£1,400

How much for an audiophile turntable?

Well, says **Richard Black**, it's not as much as you think. In fact, just over £1,000 will secure you a deck that's big on both innovation and performance

TURNTABLE SALES ARE UP, LP sales are up – welcome to the second decade of the 21st century! There are all sorts of reasons for the continuing resurgence of analogue black discs, of course, with sound quality certainly one of them, but the whole general 'user experience' also playing a part.

Quite simply, it's more fun than a CD, the sleeve is more informative and easier to read, it more readily puts you in the right frame of mind than idly fiddling with a computer mouse and overall it somehow makes you feel more proactive and involved with the music.

What is absolutely clear is that sound quality is paramount. Even record shops can't shift scratchy, knackered old discs – we only recently heard of a load going in a skip in central London. Scratches, mistracking and distortion are no fun at all, but a well-made and cared-for disc is a thing of beauty and a good turntable is its obvious companion. We had very little trouble pulling together half-a-dozen such machines in the near neighbourhood of £1,200 and we thoroughly enjoyed them, too.

If you remember the peak of vinyl popularity, the current crop will have some familiar features. The basic operation and function is obviously the same and the business of loading a disc and cueing an arm is absolutely unchanged. But some design features are different. For instance, metal platters

“A cared-for disc is a thing of beauty and a good turntable is its obvious companion.”

used to be the norm, with glass an occasional finding and plastic a bizarre oddity. Here, five turntables have a plastic platter and the sixth glass. DC motors are far more common than they once were, while drive belts are more likely to be round- or square-section than flat.

Does any of this matter? In the smallest detail the answer would be yes, but in terms of comparing two products arguably not. What's important is what the designer has done with all the bits.



On the face of it, these turntables are very closely grouped in pricing, though the business of arms and cartridges confuses the issue. As it happens, the cheapest here includes both items, while the dearest would be bumped up by a hundred pounds or so for a typical cartridge and the ever-popular Rega RB250 arm. A lid/dustcover would add a few tenners to all but Pro-Ject. Even so, this is a pretty closely matched group.



ON TEST



Clearaudio Concept £1,100 P37
The central concept is fuss-free set up, a novelty in the world of turntables which often take a good hour to assemble and line up. Clearaudio's solution to this challenge involves some clever thinking, including the magnetic arm bearing. Simple construction hides attention to detail, especially in the way of damping resonances.



Michell Gyro SE £1,140 P39
Budget entry to the wonderful world of Michell, still futuristic-looking after all these years. The full company name includes the word 'engineering', which is amply illustrated by the beautiful fit and finish of every part, as well as details like the oil-pumping bearing. The suspension uses springs in tension, good for long-term reliability.



Pro-Ject 6 Perspex £1,280 P41
Sold as a unit with Pro-Ject's own carbon-fibre arm, this turntable is relatively mundane-looking. That's deceptive, though, as the magnetic suspension is unusual and the ceramic main bearing is a high-tech component. The arm is impressively featured for the price, too, with high-grade bearings and various measures against resonance.



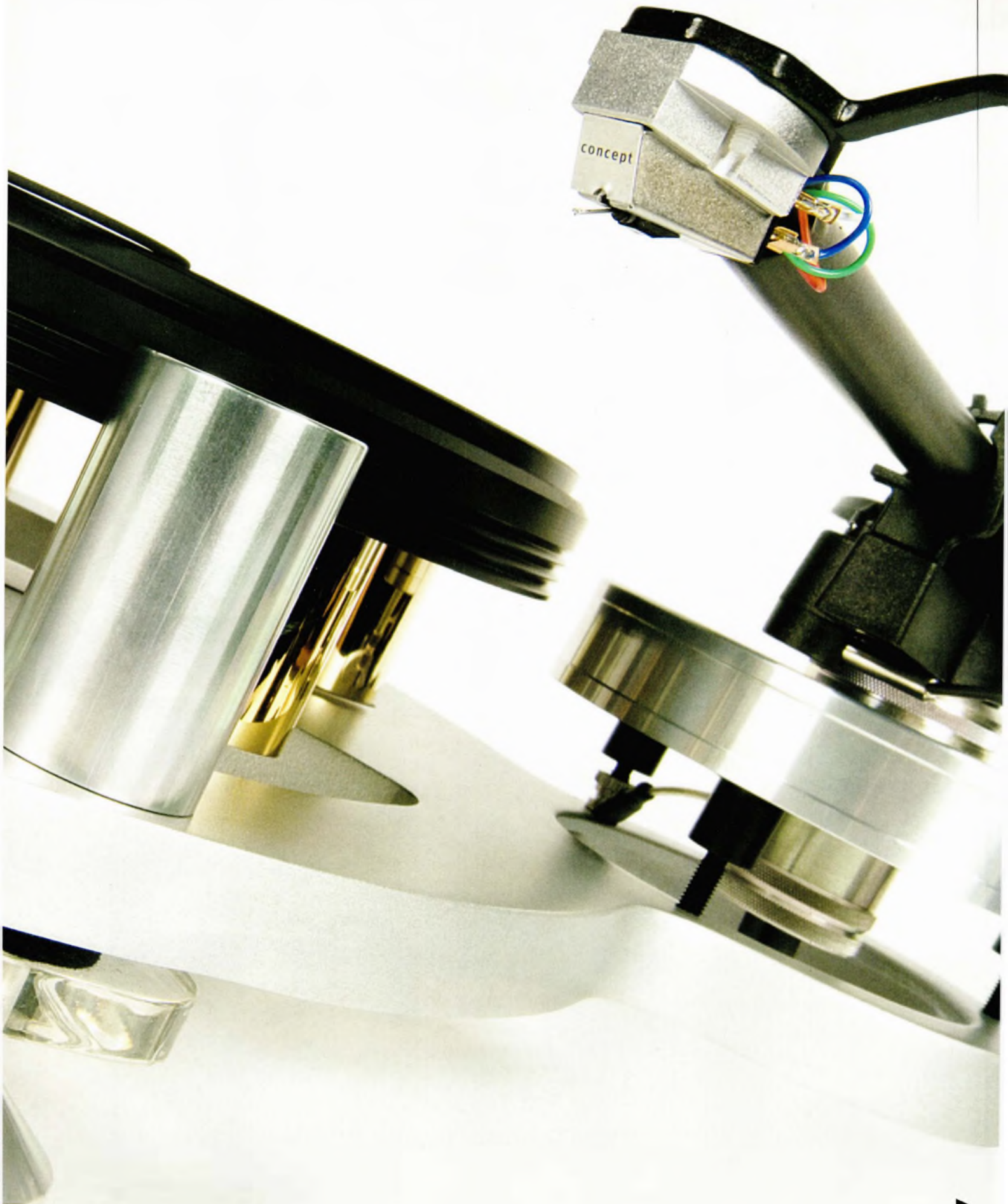
Roksan Radius 5.2 £1,399 P43
Like the Volkswagen Beetle, the Radius has stayed the same for many years while continuing to evolve. The latest version comes with a new bearing, revised feet, new drive belt, repositioned motor and changes to the included Nima arm, too. What's the same is the distinctive shape of the subchassis and the unipivot operation of the arm.

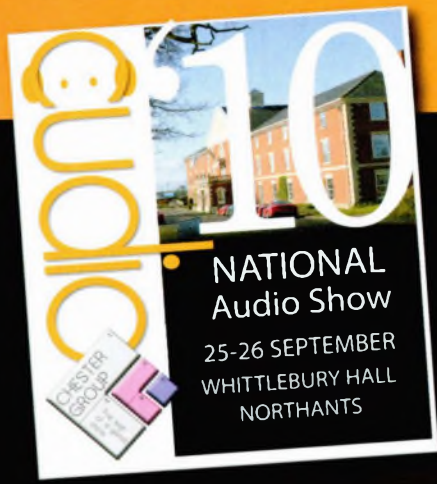


SRM Arezzo Kinetic £1,248 P45
The basic Arezzo can be had for £699, the Kinetic modification being based on the additional flywheel which is interposed between motor and platter. The multiple belts that link this to the platter make speed changing a palaver, but it's a very smart and unusually low-profile deck with a lot of clever design thinking in it.



Thorens 309 £1,250 P47
No relation whatsoever to the SME arm of similar name, this is a new and fashionably irregularly shaped addition to the venerable Thorens range. The feet conceal a full spring suspension and the arm and cartridge supplied with it make it a low-stress purchase, though it needs a little more setting up than the Clearaudio.





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- Jordan Acoustics
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- Loricraft Audio
- MIT
- Music First
- Music Works
- Nordost
- NVA LTD
- Origin Live
- Palmer Audio
- Renaissance Audio
- Revolver
- Russ Andrews
- Accessories
- Select Audio
- Sim2
- Stamford Audio
- Sonos
- Sound Fowndations
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Clearaudio Concept **£1,100** (inc. arm and cartridge)

Budget-priced deck with an almost plug-and-play versatility offers stiff competition to its higher-priced peers

DETAILS

ORIGIN: Germany

WEIGHT: 7.5kg

DIMENSIONS:
(WxHxD)
420x140x350mm

FEATURES:

- Arm and cartridge included and pre-adjusted
- External power supply
- 33, 45, 78rpm
- Replaceable arm lead

DISTRIBUTOR:
Audio Reference

TELEPHONE:
01252 702705

WEBSITE:
www.clearaudio.de



One of the undeniable advantages of CD players over turntables is that you can take them out of the box, plug them in and use them, with no fancy setting up required. The Concept turntable, however, very nearly equalises on that score, with arm and cartridge factory-set and user set-up limited to putting the platter in place (pretty hard to get wrong, really).

One big no-no that has traditionally stood in the way of this is transporting an arm with the counterweight in place, which is usually a good way of busting the bearings, but the Concept's arm has a unique magnetic bearing which can't be damaged in this way. It's effectively a unipivot, but using very powerful magnets, opposed by a tie wire which stops the arm slamming into the top of the bearing yoke. It's clever, though it does share the usual unipivot drawback of a high pivot point and adding the possibility of arm movement fore-and-aft.

At a very competitive price (bearing in mind it includes arm and cartridge), the Concept clearly has to save money somewhere, so it's an unsuspended design, with basically no isolation from the support surface.

The chassis is made of MDF, but treated against resonance with a polymer top-coat and an aluminium

edge trim. Despite the plug-and-play aspect, it's fully adjustable if you want to tweak or change cartridge or arm, with the arm board allowing for offset and VIA adjustment. The motor is a DC type and the electronic control provides for all three speeds, 33; 45 and 78rpm.

A flat drive belt drives a plastic subplatter, while the platter itself is also plastic, with a thickness of 30mm. There's no lid, but that's about our only complaint and the standard of finish is particularly high: the cheapest turntable in the group, but it really doesn't look like it.

Sound quality

One thing we've learned from years of group tests is that some products can really divide opinion among listeners and this is one of them. As always, that's because its basic presentation isn't to everyone's taste. But there is, indeed, a distinctive quality to the presentation here, which is strong on detail and quite dynamic too, if a little shy in the bass.

Not everyone is vastly sensitive to the deepest bass, but one of our listeners clearly missed it and, as a result, found the sound unsatisfying. Another found it overall very satisfying. He did identify a slight lack in the lowest reaches, although it clearly didn't prevent him enjoying the dynamic and spacious sound.

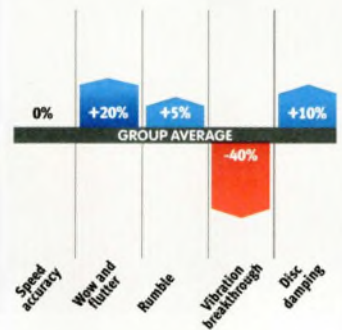


TECH LABS

LAB REPORT

Just about the only area where this turntable looks a little weak compared to the others is in vibration breakthrough, hardly surprising given its near-complete lack of isolation. Even so, this could be worse: tapping the Concept's support feeds through but doesn't seem to excite much in the way of resonance, giving instead a dull thud with just a hint of something around 450Hz. The same frequency shows up in the arm resonance test, but it's fairly well damped, and damping of the disc is good. Speed accuracy is perfectly acceptable at 0.3 per cent slow, just about the smallest error that even a trained musical ear might pick up, while wow and flutter are very low at 0.03 per cent, close to the limit of reliable measurement.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Lively presentation with good space and detail; dynamic too
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Slight lack of the lowest bass can undermine good quality
- BUILD QUALITY** ★★★★★ **WESAY:** A plug-and-play turntable, it offers good value and will revive many a forgotten LP collection
- FEATURES** ★★★★★

OVERALL



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



 **Pro-Ject**
AUDIO SYSTEMS
Worth the odd sacrifice.

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www.henleydesigns.co.uk, e-mail - info@henleydesigns.co.uk



Michell Gyro SE £1,140

With Michell proprietary technology such as TechnoWeight, this turntable has a few surprises up its tonearm

DETAILS

- ORIGIN:** UK
WEIGHT: 8kg
DIMENSIONS: (WxHxD)
 460x150x360mm
FEATURES:
- Arm not included
 - 33, 45rpm
 - Various armboards available
 - Disc clamp available
 - External power supply
 - Free-standing motor housing
- DISTRIBUTOR:** Michell Engineering
TELEPHONE: 02089530771
WEBSITE: michell-engineering.co.uk

The Michell look is distinctive and eye-catching and this turntable is no exception.

To what extent, though, does form follow function? Many aspects of the Gyro's design are highly functional, for instance those brass weights hanging below the plastic platter. Yes, a flat disc of brass (or other metal) would have achieved the same aim of adding rotating inertia, but it wouldn't have done it any better - probably a little worse.

On the other hand, the skeletal metal casting which forms the subchassis of the Gyro SE is, if we're honest, more attractive than effective. It's only moderately well damped by the weights screwed to it, and once the deck is set up and operating, a gentle tap on it will reveal a ready source of sonic character.

But there are many clever touches. The suspension uses tension springs - much easier to set up than compression ones - and they are beautifully easy to adjust by simply removing the decorative 'towers' and twiddling a knurled shaft. The deck is a little daunting to assemble when one opens the box and we're not sure the instructions are quite what they might be, but despite the multiplicity of component parts it all fits together easily and surprisingly quickly. The motor is a low-voltage DC-type in a large housing, which stands within

the subchassis, but is not actually connected to it in any way - it rests on the shelf beneath.

The Gyro doesn't officially come with an arm (various armboards are available), but our sample was supplied with a Rega RB300 with a couple of Michell's own modifications - the 'TechnoWeight' and a VTA adjuster. The former is underslung to put the arm's centre of gravity nearer the optimal position, in the plane of the disc's top surface, while the latter consists of a couple of knurled rings that allow the arm to be easily adjusted for height. No lid was supplied, but one is available as an option and several other options are listed on the Michell website.

Sound quality

The treble would seem to be the most distinctive tonal region of this turntable. According to our listeners' observations, it is a little on the bright side but with just enough to add a touch of sparkle to some sounds and, on occasion, also to give the impression of a slightly pepped-up tempo. It makes for very good vocal intelligibility, a point strongly made by one of our listeners who felt this was perhaps the best turntable in the group on that score. But it can make disc surface damage, especially scratches, a little more obvious.

Piano also seems to work well via the Gyro SE, but the variety of

brightness is a function of very high frequencies and merely highlights the harmonics of the piano rather than making it hard-edged.

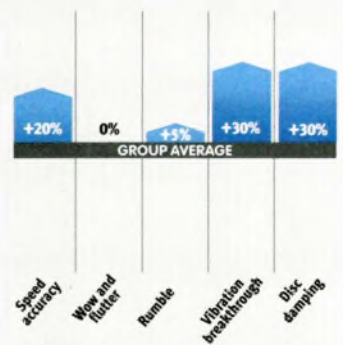
Down in the bass and lower midrange the balance is fine, with decent weight and a good sense of rhythmic drive. There's also some good detail, although occasionally this is mildly compromised by a busy upper midrange. On the whole, though, there's a good 'hear-through' quality to the sound.

TECH LABS

LAB REPORT

Arm resonance testing reveals a lot about the arm, of course, but here it apparently also shows up characteristics of the deck itself, with a sound to it distinctly reminiscent of that made mechanically when one taps the deck's subchassis. Resonances around 300Hz, 550Hz, 1,100Hz and 1,600Hz are clearly visible in the spectral analysis and they ring for quite a while, noticeably longer than in basically the same arm mounted on the SRM Arezzo. They are certainly instrumental in colouring the deck's sound and probably largely account for the muddling of detail noted. Vibration breakthrough via the feet is low, thanks to the deck's undamped suspension and speed stability is good if not class-leading. Speed accuracy and disc damping is good.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★★
FEATURES ★★★★★
- LIKE:** Lovely open quality in the high treble picks out acoustic cues well
DISLIKE: Upper midrange not always quite as clear as it might be
WESAY: Much less fussy about sitting than most, the Gyro suits small-scale music beautifully

OVERALL



DEFINITIVE AUDIO

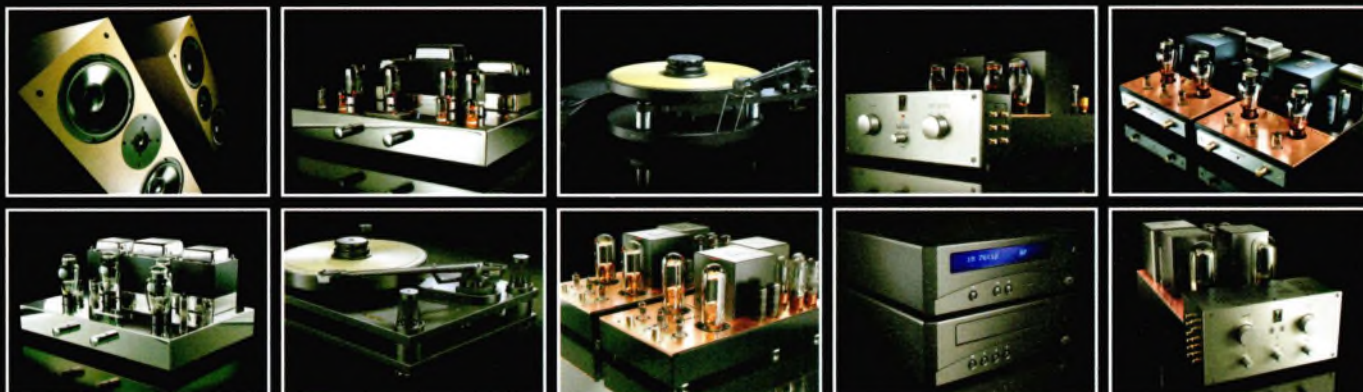
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LIVINGVOICE

Loudspeaker Systems

Main Image: Living Voice OBX RW loudspeaker in Santos Rosewood



L to R: 1. Living Voice IBX R2 2. Art Audio Concerto integrated amplifier (GE) 3. SME 10 & Series V arm 4. KSL Kondo Neiro integrated amplifier
5. KSL Kondo Gakuoh 300B mono amplifiers 6. Art Audio Argento 300B integrated amplifier (WE) 7. SME 2012 & KSL Kondo lo-J cartridge
8. KSL Kondo Gakuon 211 mono amplifiers 9. Resolution Audio Opus 21 CD player 10. KSL Kondo Ongaku 211 integrated amplifier



Pro-Ject 6 Perspex £1,280 (inc. arm)

Stylish-looking and fitted with a dust cover, the 6 Perspex promises a great deal with its performance

DETAILS

- ORIGIN:**
Austria/Hungary
- WEIGHT:** 10.5kg
- DIMENSIONS:**
(WxHxD)
460x160x365mm
- FEATURES:**
- Arm included
 - 33, 45rpm
 - External power supply
 - Replaceable arm lead
 - Lid included
- DISTRIBUTOR:**
Hentley Designs
- TELEPHONE:**
01235 511166
- WEBSITE:**
project-audio.com

Joy of joys – a turntable with a lid, which even if it doesn't quite enclose the whole machine, will certainly reduce the dust problem considerably. Beneath it resides a suspended turntable with some interesting ideas built in. The Perspex of the name is hardly a surprise these days, but the subchassis is made of Corian, a material which Pro-Ject claims has 'no resonances at all'. We'd question that, but it does seem to be less resonant than the more common MDF and it looks smart, too. It's supported on a rather stiff suspension which turns out to rely on magnetic force rather than springs.

Magnetic suspension is not by any means a cure-all and is difficult to get right, but this implementation seems to work very well. It doesn't fix all the problems of conventional suspensions and, for instance, the subchassis of the 6 Perspex is very willing to yaw, or rotate about the spindle. However, if provoked externally it seems to bounce vertically rather than twisting, which is all to the good. An AC motor is used, fixed to the chassis and therefore not suspended, and it drives the edge of the platter via a square-section belt.

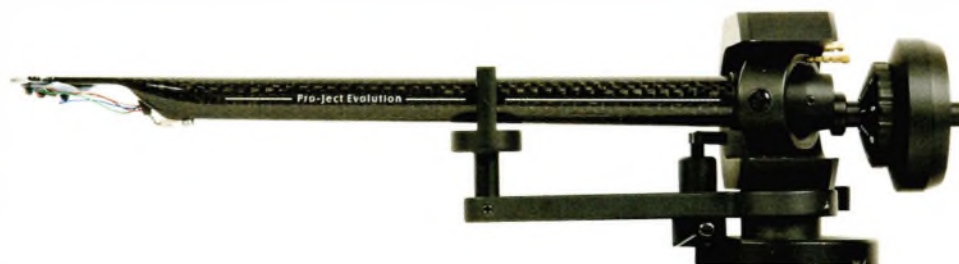
The 9cc Evolution arm fitted to this deck is something of a beauty. It's made of carbon fibre composite material and is conical, which helps reduce resonance. As our photo shows, it has a truly huge bearing yoke which contains precision ball races in a gimbal arrangement, which gives a great combination of structural rigidity and freedom of rotation, but does mean that the bearing axis is a little too high.

Flexible wires from the arm lead to a pair of phono sockets: Pro-Ject includes interconnects but does not supply a cartridge as standard.

Sound quality

The 6 Perspex was much enjoyed by two listeners but less so by the third, who identified a slight lack of bass as his main concern. The odd thing here is that the low bass is, according to our own listening, a touch on the over-full side, but higher bass and low midrange does seem a touch shy, if only by comparison. But the overall effect clearly pressed all the right buttons for the two who liked it.

Dynamics are a particularly strong point, wide-ranging but absolutely natural-sounding. We've all heard hi-fi components, particularly turntables, which have great dynamic extremes but seem oddly lacking in



the middle. This one is beautifully balanced across the board, with dynamic swings which happen smoothly and convincingly.

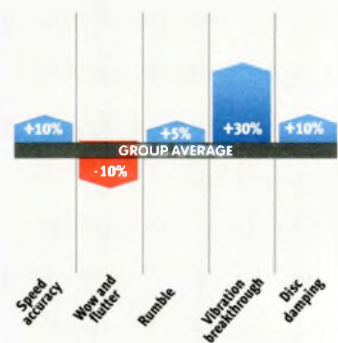
There's plenty of insight, too, aided by a tonal balance that's just a shade lifted in the highest treble, bringing out the best in well-made natural recordings. Imaging is wide and fairly deep and a hint of depth compression is one of the few weaknesses we could put a finger on.

TECH LABS

LAB REPORT

Generally a very good set of results here. Of particular note is the very good arm resonance test (not featured on our bar graphs because some decks don't include an arm as standard), which shows that the carbon-fibre arm really does its stuff in resisting resonance. There are two resonances visible, around 650Hz and 1050Hz, but they are well-damped and barely audible in the saved impulse. Rejection of external vibration is very good too, thanks to the magnetic suspension, while damping of the disc by the platter is a little better than the (very good) group average. Speed accuracy is fine. We wouldn't mind seeing wow and flutter just a little lower in level: there's an unusually high level of flutter (more rapid speed fluctuations), though evidently not high enough to be directly audible.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
★★★★★
- VALUE FOR MONEY**
★★★★★
- BUILD QUALITY**
★★★★★
- FEATURES**
★★★★★
- LIKE:** Plenty of detail and good rhythmic qualities: dynamics effortless and natural.
- DISLIKE:** Slightly uneven performance in the lowest bass can be a little disconcerting for some.
- WE SAY:** A very revealing turntable that's practical.

OVERALL





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www.sevlondon.co.uk

Distributed by SCV London: benchmark@sevlondon.co.uk



Roksan Radius 5.2

£1,399 (inc. arm)

Putting the competition to shame in terms of rhythm and pace, the Radius 5. 2 has much to recommend it

DETAILS

- ORIGIN:** UK
- WEIGHT:** 7kg
- DIMENSIONS:** 430x150x350mm (WxHxD)
- FEATURES:**
 - Arm included
 - 33, 45rpm
 - Captive arm lead; unipivot arm
 - Clear or black finish
- DISTRIBUTOR:** Henley Designs
- TELEPHONE:** 01235 511166
- WEBSITE:** roksan.co.uk

The Radius design has undergone so many changes over the years that practically no single part is left of the original, yet it is instantly recognisable as the same model. In current guise, it is an all-acrylic, semi-suspended turntable, with the familiar Roksan 'egg' shape for the subchassis. Three compliant rubber mounts support the subchassis, while the motor is mounted compliantly in a housing which in turn is supported on the plinth. The arm, included as standard, is the Nima unipivot.

The subchassis shape is certainly visually attractive, but its original justification was to do with control of resonance. Regular shapes tend to be more resonant than irregular and this one is sufficiently irregular to improve matters considerably compared to, say, a circle or rectangle. The platter, of course, is unavoidably regular, but its acrylic material is in itself fairly 'dead', one of the reasons it has become so popular. It's supported on a new, close-tolerance main bearing and driven around its periphery by a silicone belt.

Compliant motor mounting is another Roksan speciality – that is, highly compliant, to the extent the motor very visibly wobbles as it starts up. It's not immediately obvious what the pros and cons of this are, though

clearly it's likely to limit the amount of motor vibrations getting into the structure. Similarly debatable, are the benefits of unipivot arms (of which the Nima is an example). It has a metal tube with a slightly decoupled counterweight mounted at the rear and an acrylic headshell at the front, all supported on a single needle bearing. The slight downside of this is a very high pivot point, though low friction is an advantage. The arm lead is captive and is securely fastened to the plinth.

Sound quality

Roksan has always set great store by rhythm and pace and our listeners seemed to agree that these are particularly well handled by the Radius. There was considerable praise for these, but if anything there was even more praise for bass definition, control, and detail. Possibly not what the Roksan stereotype would suggest – which is exactly why we're so fond of blind listening!

That said, it seems the tonal balance isn't entirely neutral across the board and one listener did point to a degree of coloration, most obvious with the piano recording, which interfered with his enjoyment. However, the others seemed much less bothered by that and were able to appreciate the fine information retrieval this deck is able to achieve.

Along with that it manages very good imaging, and was among the best in the group at portraying both width and depth of an image.

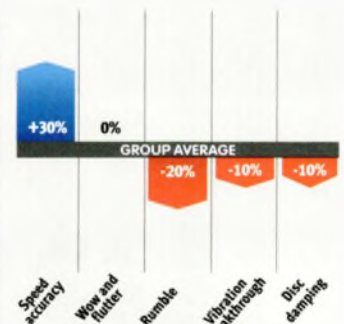
In terms of timing, one of the listeners pointed out that the percussion in *The Wall* not only started, but also stopped, with notable precision when played on this deck. That makes for very persuasive rhythm all round, and the sound is indeed highly convincing in just about every genre.

TECH LABS

LAB REPORT

Roksan always likes to use a relatively powerful motor and this has one evident drawback here in a higher level of rumble than any of the other turntables in the test. That said, it's still a pretty good figure and we're doubtful that many real-world LPs out there have a low enough level of intrinsic rumble for this very mild motor hum of the Radius to show up in practice. By contrast, speed accuracy is quite beyond reproach and speed stability is good too, with most of the speed variation being low-rate and therefore low in audibility. Vibration breakthrough is about average for the group, quite low in raw level but with a surprising peak around 1000Hz which increases potential audibility. Disc damping is a little below par and arm damping too, the Nima arm having resonances at 130Hz, 400Hz and 650Hz, which give it a distinctive character.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Good detail, firmly extended bass and lovely imaging
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Coloration is in evidence with many recordings
- BUILD QUALITY** ★★★★★ **WE SAY:** Unipivot arm takes some getting used to and sound isn't to all tastes
- FEATURES** ★★★★★

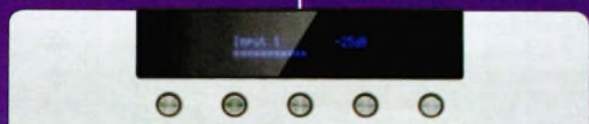
OVERALL





AMR 777 SERIES

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



1. AM-777S



3. PH-77T

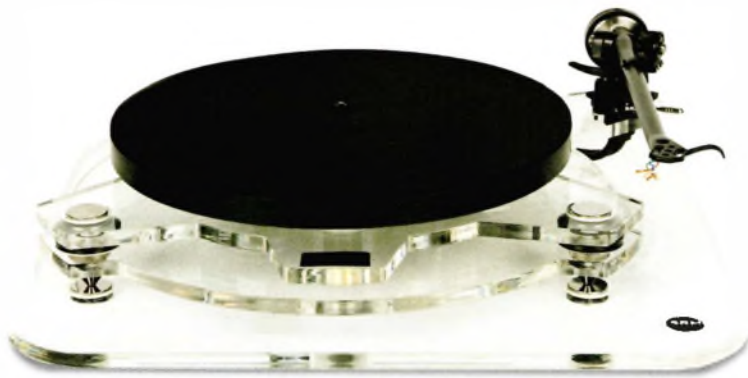


Abbingdon Music Research

"Analogue, Musically, Realism"



2. CD-777B



SRM Arezzo Kinetic £1,248

At home with most types of music from classical to rock, here is a turntable with a wide appeal

DETAILS

ORIGIN:
UK

WEIGHT:
6.5kg

DIMENSIONS:
(WxHxD)
440x125x390mm

FEATURES:
• Arm not included
• Rega arm compatible
• 33, 45rpm
• External power supply
• All-acrylic construction

DISTRIBUTOR:
SRM

TELEPHONE:
01767 313691

WEBSITE:
srm-tech.co.uk

SRM first came to our attention in 2009 (*HFC 325*). In fact, its basic Arezzo model won our coveted award for Best sub-£1,000 turntable (*HFC 326*).

The full range includes the aforementioned Arezzo; the Arezzo Reference; Ultra and the Kinetic. All are supplied with similar features, but the Kinetic adds just one more, albeit a significant one: a flywheel which is interposed between the motor and the platter.

Obviously the platter of any turntable is supposed to rotate at a constant rate and one thing that helps this happen is the inertia of the platter itself, which together with the compliant drive belt filters out any small-speed irregularities due to the motor or its supply. The Kinetic's flywheel is driven from the motor by a single square-section belt and then passes the impetus on to the acrylic subplatter via a further four belts, giving relatively stiff coupling. In this case, the rotational momentum of the flywheel almost exactly equals that of the platter, so the effect is similar to doubling the weight of the platter.

The motor itself is a low-voltage AC type, which is attached to the subchassis. This is a semi-suspended

design, with the subchassis stood off from the plinth on sorbothane mounts which are reasonably compliant but don't give quite as much decoupling as springs. The plinth stands on conical feet on a further level of acrylic, but the three-level construction is still quite low-profile. The armboard is also acrylic and is to some extent decoupled from the subchassis.

Our review sample came fitted with a Rega RB300 arm (not included in the price), complete with SRM's 'counterweight resonance controller' – basically a thick rubber band which wraps round the outside of the counterweight. A dust cover is available as an option.

Sound quality

Once again, tonal balance could prove a deciding factor for many listeners – in this case a small lift in the upper bass. That's going to vary in effect with different loudspeakers, of course, and with the extended but neutral Bowers and Wilkins 803S we used for most of our sighted listening, it was perceptible but not bothersome. That's pretty much a constant: deep bass can suffer if the turntable is not isolated at least somewhat from a suspended floor.

That apart, the Arezzo Kinetic does a lot of things very well. It has

a direct, even forceful, presentation and places considerable emphasis on the rhythmic side of things. One listener used the word 'confident' in describing the sound and we could easily see what he meant by that, with dynamics and attack both full-on.

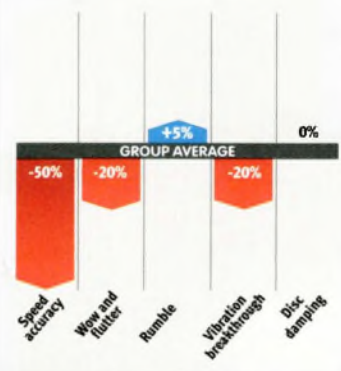
The clarity the Arezzo achieves in the midrange is very welcome in separating voices from each other and from the accompaniment: it's the highest frequencies that occasionally seem a little blurred. Despite this, imaging is good, if not outstanding.

TECH LABS

LAB REPORT

Wow and flutter is rather higher than average here, despite the 'Kinetic' drive system. Or rather, we suspect, because of it: the problem with multiple drive belts is that they can tend to 'fight', giving a rather higher-frequency characteristic to the speed variation (wow and flutter, in other words) which increases the weighted figure even though the raw level may be low compared to a single belt. We're also a little concerned about absolute speed accuracy, 2.5 per cent being nearly half a semitone and easily enough to be heard by any acute ear. It's enough, in fact, to change the character of familiar voices. For the rest, results are fine, with slightly below-par sensitivity to external vibration but good arm resonance results suggesting that the basic construction is largely non-resonant.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

★★★★★

VALUE FOR MONEY

★★★★★

BUILD QUALITY

★★★★★

FEATURES

★★★★★

LIKE: Forthright, no-nonsense music reproduction

DISLIKE: Detail, especially in the treble, is not always the best

WE SAY: If ultra-precise detail floats your boat you may be disappointed, but the ride is great fun

OVERALL

★★★★★



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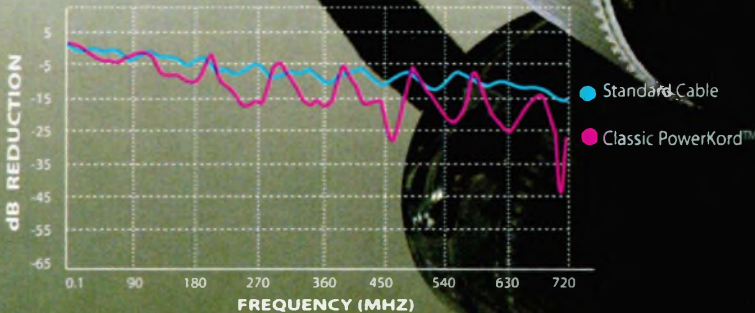
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HiFi Choice magazine

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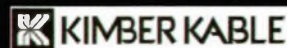
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What Hi-Fi? Sound & Vision Ultimate Guide to High End Entertainment, Sept. 08

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Thorens TD 309 **£1,250** (inc. arm and cartridge)

Calling on a century of expertise, this new Thorens turntable has an enviable tonal quality

DETAILS

ORIGIN:
Germany

WEIGHT:
6.5kg

DIMENSIONS:
(WxHxD)
470x125x430mm

- FEATURES:**
- Arm included
 - Cartridge included
 - 33, 45rpm replaceable arm lead
 - External power supply
 - Available in black or red

DISTRIBUTOR:
UKD

TELEPHONE:
01753 652669

WEBSITE:
thorens.com

Few names in hi-fi can match Thorens's track record. 107 years is a pretty good innings and the company continues to build on the reputation it built in the 1960s for audiophile LP decks. This model is a new addition to the range, its shape and general design bang up-to-date, even more so in the optional red finish. Sold as a package, it includes the TP92 tonearm and an Audio Technica AT-95 cartridge (interestingly, this was the obligatory fitment to budget decks in the late 1980s!).

Although some more recent Thorens models have been unsuspected, the company is best known for fully suspended designs and this is one of them. It has what its maker calls 'Tri-Balance' suspension, which reflects the fact that it uses three suspension points (as usual) with weight distribution arranged so that the deck bounces evenly. To assist in this, it is supplied with a steel weight which is intended to be placed over the front left suspension support, but can be moved around a little to optimise weight distribution. We don't entirely see the point: if the deck were supplied without an arm this would make more sense, but as things stand the only variable is the weight of discs and who's going to fuff with a

balance weight every time they play an unusually light or heavy disc?

Still, the suspension is neat and effective and seems very stable in use. It's supplied pre-adjusted, but can be tweaked and is assisted by the use of flexi-leads from the arm to the chassis, with phono sockets ready to receive your choice of interconnect.

The arm is also both well made and practical. Drive is from a DC motor in the mechanically favourable position of front-left, with a flat belt and electronic speed selection (trimmable). The platter is glass and once again we must lament the absence of any kind of dust cover for the deck.

Sound quality

Tonally, this is evidently one of the best of the group, with a good balance overall which doesn't prevent it making a good impression on our listeners for bass reach and power. It's also quite fleet of foot, leading to comments about lightness of touch which, taken along with the observations on bass, clearly shouldn't be taken as meaning bass-light. In the orchestral track it was very good at separating the instruments and their lines, without at any point sounding as if it was dissecting the music.

It also had a handy knack of keeping everything together and sharply in focus when the music gets loud and demanding. To some extent

that may be down to the cartridge, but our subsequent experiments with the same Goldring that was used (at least part of the time) on all the other decks suggested that, in part, it's a function of the deck itself.

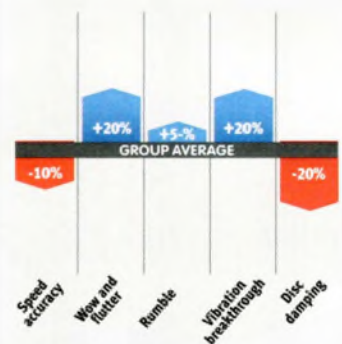
Still, there's good detail to be had and the extension at both bass and treble extremes is very welcome, giving particularly gratifying results on a tricky voice and piano recording which demands both extremes simultaneously. Imaging is good laterally, but a little flat: not the TD 309's strongest suit.

TECH LABS

LAB REPORT

Speed appears to be a weakness of this turntable, but in fact it's adjustable so although our measurement suggests a rather casual factory adjustment, you can at least get it spot-on with the aid of a stroboscope disc and a screwdriver. Speed stability, meanwhile, is about as good as it gets, suggesting that Thorens' engineering tolerances are as good as they ever were. Vibration breakthrough is good, thanks to those suspension feet. Disc damping is a little less good than the other turntables in this group, due to the platter materials used – basically the felt mat does very little to damp the disc, but it doesn't add resonance either, so the disc impulse test gives quite a high level impulse but next to no subsequent ringing. The arm is quite non-resonant, but a component at 160Hz rings on for a while.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

★★★★★

LIKE: Very good tonal balance from top to bottom

VALUE FOR MONEY

★★★★★

DISLIKE: A little limited dynamically, could do with more pace

BUILD QUALITY

★★★★★

WE SAY: Offering some good sounds, but a little too polite for unqualified recommendation

FEATURES

★★★★★

OVERALL

★★★★★



Conclusions

It's official – serious sound quality is possible for under £1,500

ONE OF THE REALLY ENJOYABLE things about reviewing turntables is that they all seem to be very good. Maybe it's simply that with 60 years of LP to look back on, manufacturers have learned the mistakes to avoid. Anyway, we thought the standard of this group was really rather impressive and if some got praised more than others it doesn't mean there were any turkeys in the group.

Scoring lowest were the SRM and Thorens. They're still both fine turntables and they have their own strong points. The SRM is a high-energy performer which gets straight to the heart of the matter and we only missed a little of the detail that keeps one listening, enraptured, after the initial strong impression has worn off. The Thorens, ironically, is almost the dead opposite

– a little too civilised and in need of a touch more pace and excitement. But again, very capable and perhaps most appealing to lovers of classical music.

We rated the Roksan just one point higher in aggregate, just tipping the balance into formal recommendation. What really recommends it, of course, is its sound and we just loved the strong rhythmic qualities and also the good resolution imaging and bass solidity it achieves. The Michell Gyro scored identically but sounds quite distinct, though lower treble seemed to us a touch compromised in terms of detail.

Clearaudio's Concept is appealing for ease of set up and the sound offers plenty of life, detail and dynamics. The bass is sometimes on the shy side, but at its price the deck is good value. ●



PHONO STAGE:
 Lehmann Black Cube Statement **£335**
 Particularly good with moving-magnet cartridges.

AMPLIFIER:
 Creek 5350 Evolution **£1,075**
 An amp that's full of life and energy – internal phono stage included!

LOUDSPEAKERS:
 PMC FB1i **£2,100**
 Sweet in the treble, strong in the bass, and not easily upset by a little subsonic rumble.

THE WINNER IS...

WE'VE HAD PLENTY of good experiences with Pro-Ject's turntables and the 6 Perspex continued the trend. It seems the most confident all-rounder in this group, its only weakness (and one not spotted by all the listeners) is occasional inconsistency in the lowest bass. It has tons of detail, great energy and a lovely open quality overall and we have no hesitation recommending it to listeners of all tastes.



RESULTS AT A GLANCE

Make/model	Clearaudio Concept	Michell Gyro SE	Pro-Ject 6 Perspex	Roksan Radius 5.2	SRM Arezzo Kinetic	Thorens 309
Price	£1,100	£1,140	£1,280	£1,399	£1,248	£1,250
Sound	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Conclusion	A plug-and-play turntable that offers good value for money and a dynamic sound	Much less fussy about siting than most, the Gyro suits small-scale music beautifully	Plenty of detail and good rhythmic quality. All in all, a very revealing turntable	The unipivot arm takes some getting used to but the sound and imaging is well-detailed	Forthright, no-nonsense music reproduction although detail in the treble is lacking	Very good tonal balance, although a little limited dynamically and too polite for recommendation

Key features

Arm included?	Yes	No	Yes	Yes	No	Yes
Cartridge included?	Yes	No	No	No	No	Yes
Speeds	33/45/78	33/45	33/45	33/45	33/45	33/45
Electronic speed change?	Yes	No	No	No	No	Yes
Motor type	DC	DC	AC	AC	AC	DC

Lab conclusions E = Excellent | G = Good | A = average | P = poor

Speed accuracy	-0.3% G	+0.1% E	+0.2%	+0.05% E	-2.5% P	+1.1% A
Wow and flutter	0.03% E	0.06% G	0.07% G	0.06% G	0.08% A	0.03% E
Rumble	<-80dB E	<-80dB E	<-80dB E	-75dB G	<-80dB E	<-80dB E
Vibration breakthrough	-40%	+30%	+30%	-10%	-20%	+20%
Disc damping	+10%	+30%	+10%	-10%	0%	-20%

Roksan

Warranty Notification

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

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

* terms available upon request



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





Pearly Kings



In our world exclusive review, **Alvin Gold** tests Marantz's new, Ken Ishiwata-tuned, cut-down Pearls – the £999 KI Pearl Lite SACD and amp

The new Pearl 'Lites' are two of the more obvious and predictable introductions following the original Pearls, which emerged from the Marantz stable about two years ago, as a celebration of Ken Ishiwata's 30-year or so reign as the public face of Marantz. Given the effort that reportedly went into their design, there had to be a follow-up.

The Pearls were limited to a production run of 1,000 units combined for the SACD player and the amp – 500 units apiece – which even with the premium pricing they commanded probably didn't represent a pot of gold.

The obvious requirement, then was for a slightly simplified version of the two units that could be sold at a more attractive price than the Pearls, and in much larger numbers, and this is exactly what the Pearl Lites promise.

Ken was also the prime mover behind a number of other enhanced models over the years, most with an 'SE' or a 'KI' designation, derived from standard components, that were often sold alongside the regular models, or in different markets.

No lite weight

'Lite' in the context of this review means 'much more affordable', but that doesn't mean the Lites have been stripped to the bone. The amplifier is still usefully powerful in practice (though significantly less so than the Pearl) and has a broad range of inputs including an MM phono, three line inputs and two tape circuits.

The SACD player also has a USB input on the front panel and a full set of S/PDIF and optical TOSLINK in and outputs. It can be used as a D/A converter, typically with an iPod with a digital output, or to provide a digital feed for a recorder.

We had half-anticipated that the player would lose its SACD status in the move to reduce the price, but on inserting the first disc, we noticed the

familiar SACD logo near the display and breathed a sigh of relief. In common with the regular Pearls, this is a two channel player, so any multichannel mix is not recognised by the machine and cannot be played. As usual, the digital outputs are disabled when playing the high-resolution layer of SACDs.

The amplifier includes preamp outputs and a direct power amplifier input. Two pairs of speakers can be connected and switched independently and headphones are connected via a volume control, but the SACD player has its own headphone socket and associated volume control.

We were also amused (bemused rather) to see that the unit is equipped with not the usual two tone controls, but three – bass, midrange and treble. The reason according to Marantz is that with compressed audio media in the ascendant, something needed to be done to

“Voicing is handled with real grace and passion and reproduced with sweetness and flair.”

improve sound quality with these frequently inadequate sources. We questioned this at first (see our interview with Ken, opposite page), but at least we can agree that it gives you another fine-tuning option and many systems may well benefit from a touch of left hand up or down on the midrange control.

Marantz hasn't completely lost its marbles here as it has included a 'source direct' switch so that the tone control stage and the balance control can be bypassed. This made quite a substantial change for the better: the sound becoming fuller and palpably more focused and less 'grainy' with the 'direct' mode engaged. But it is

DETAILS

PRODUCT: Marantz SA- and PM-KI Pearl Lite
ORIGIN: Japan
TYPE: CD/SACD player and stereo amplifier
WEIGHT: (SA-KI) CD player 7.8kg; (PM-KI) amplifier 12kg
DIMENSIONS: (WxHxD) (SA-KI) SACD player 440x128x344mm; (PM-KI) amplifier 440x128x329mm
FEATURES:
 • SA-KI CD/SACD player:
 • Disc types supported: CD, SACD (two-channel only), CD-R, CD-RW, MP3, WMA
 • 2x USB inputs, for PC, iPod etc
 • Compatible with S/PDIF output of iPod
 • PM-KI integrated amplifier:
 • Bass, mid and treble tone controls
 • Direct switch bypasses tone and balance circuits
 • 70 watts per channel (8 ohms)
DISTRIBUTOR: D&M Audiovisual Ltd
TELEPHONE: 02890 279830
WEBSITE: marantz.com

Q&A...

HFC CAUGHT UP WITH KEN ISHIWATA, 'BRAND AMBASSADOR' FOR MARANTZ



HFC: What distinguishes the Pearl Lites from the original Pearls?

KI: The Lites subscribe to much the same set of ideas as the Pearls. What has changed, however, is that we felt there was a need for a slightly warmer characteristic in the mid and mid-high frequencies. Most modern recordings carry too much emphasis in this area. This was the direction Saul B Marantz took when he was developing Marantz amplifications in the 50s and 60s.

We try very hard to avoid altering other information on the original recording, in particular three-dimensional localisation of musical instruments and singers. I feel that the KI Pearl System has a real strength in its ability to reproduce a recorded sound stage and the same applies with the KI Pearl Lites.

For you, which parameters are the most important?

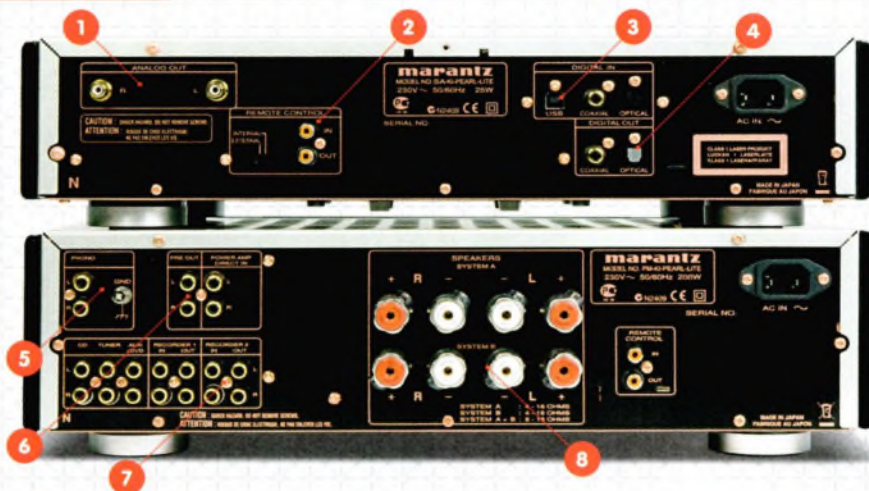
The source must be able to pick up all information from the disc and make sure nothing is lost, while adding a touch of mid and high warmth. Here we're dealing with very low voltages and currents, although dynamic range is very high. This means you must make sure the noise floor is extremely low and does not interfere with the analogue audio which is difficult since there are so many digital signals floating around.

How about customised components?

It would be easy if just adding better parts meant better sound, but it doesn't work this way. Currently we are still using both HDAM SA2 and SA3 output circuits. Both have distinctive characteristics and they are used in different areas of the circuit. The SA3 has a higher slew rate and is less prone to temperature drift, but it is mainly developed to work in integrated amplifiers, while the SA2 is more appropriate for SACD players.

Elna, Cerafine and Silmic are excellent capacitors, but they have completely different characteristics. That's why you'll often find both types in the same product in different circuits areas. Components are like people, each has a different personality.

CONNECTIONS



- 1** Unbalanced outputs
- 2** Remote interface
- 3** USB and digital inputs
- 4** Digital out to external DAC
- 5** MM phono stage
- 6** Pre-out to control external amp
- 7** Facilities for recorders (dubbing)
- 8** Two sets of binding posts for speakers

quite possible that stripping out the tone control circuits in their entirety would result in a further improvement in sound quality. That certainly seems to be the case historically, where a direct comparison has been possible. Either way, the Marantz tone circuits are not completely transparent and our advice is to engage the bypass for all 'serious' listening.

Both units are well made, which is practically a given with the brand, but that is not to say it compares with the original Pearls. The controls are well-weighted and act smoothly as does the player mechanism and key construction-related features (like a dual-layer case) included for stiffness, have been retained. The two units have a chunky, stable feel, but overall the duo are of a much lighter build and the covers, to give an example, are distinctly tinny in comparison.

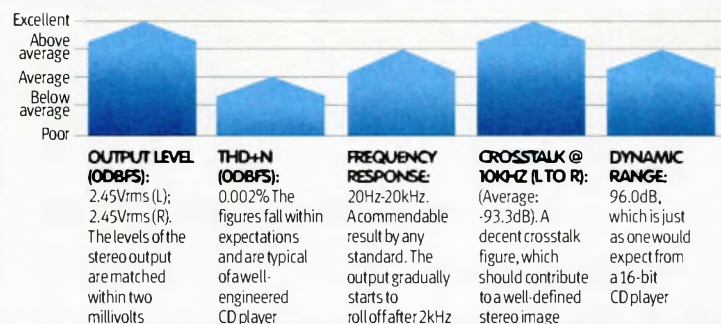
Listen and you'll see

Lite by name they may be, but the newbies still wear the Ken Ishiwata KI imprimatur. The SACD player designation is SA-KI Pearl Lite and likewise for the amplifier, which is known as the PM-KI Pearl Lite. Marantz says a number of high-quality passive components have been specified, based on its extensive listening tests – Elna Cerafine and Silmic capacitors and double-shielded transformers for example – and, as usual with the brand, the disc player has Marantz's favoured HDAM-SA2 discrete output module.

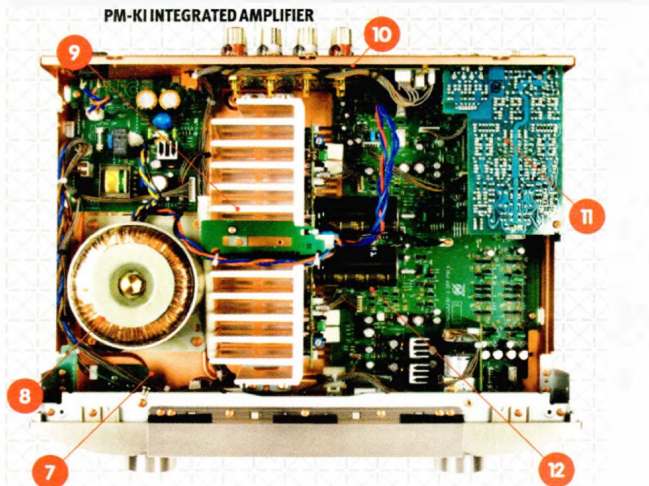
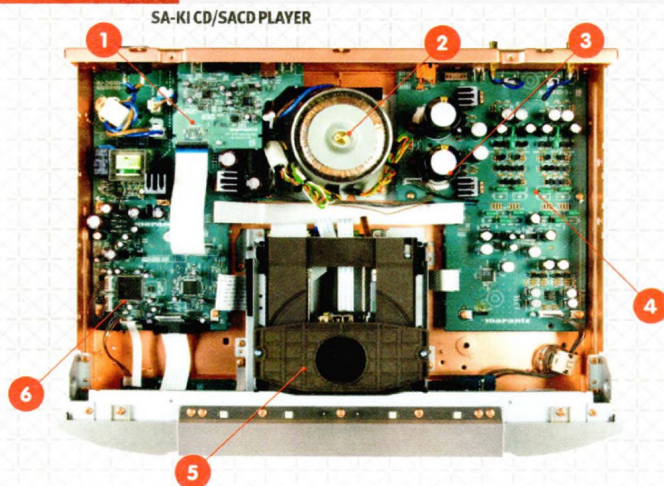
The amplifier also employs a discrete current feedback, instead of cheap and cheerful op-amps at the output. It also uses the same Xyron mechanism and the Cyrus Logic CS4398 DAC that is specified for the Pearl SACD player.

TECH LABS

RESULTS AT A GLANCE: SA-KI CD PLAYER



HIDDEN TECH



- 1 DAC Mode board with USB Type B input
- 2 Toroidal transformer for instant power supply
- 3 Mains capacitors
- 4 Output stage with HDAM (modules)
- 5 Disc mechanism with Xyrontray
- 6 USB front input processor for iPod

- 7 Copper-plated chassis
- 8 Toroidal transformer with vibration-shielding
- 9 Solid aluminium heat sink for stable operation
- 10 Marantz's own developed solid speaker terminals
- 11 Audiophile phono equaliser
- 12 Large main capacitors

Smooth operator

The Marantz duo saw active service on test with a wide range of speakers, but the highlight of the test period was a brand new model from Triangle called Quarter. The Marantz combination proved to be a surprisingly good match, capable of driving this admittedly quite sensitive speaker, about 91dB higher than expected. It also managed a similar feat with the much less sensitive Amphon Krypton (see our high-end special *The Collection*, on sale in September), whereas the similarly priced Roksan M2 integrated (see p72) was clearly less at ease.

Somewhere in the pile of information we've accumulated on the Lites, Marantz makes the suggestion that the Lites are balanced to sound a little warmer than usual through the mid and upper frequency band. We don't want to make too much of this,

because there is no way the sound of this combination could be described as tonally dull or lacking in detail, because neither is true, but there is a subtle loss of the excessive sharpness, the exaggerated sense of detail that is often a part of contemporary amplifier design and the result is almost valve-like, but in a positive sense.

The disc player is simply excellent, and in keeping with the amplifier, creates a combination that is easy on the ear, with expansive, stable imagery, and a very open kind of voicing that makes for easy and consistent long-term listening.

Pearl and sheen

Voicing is a particularly good word in this context, as voices in particular are handled with real grace and passion (examples include Jan Chaplin (*Songs of Stevie Wonder*) on SACD and Christiane Stotijn (Mezzo



TALKING POINT
THE PEARL Lite amplifier resurrects an old Marantz technology, adding a midrange control to the standard bass and treble controls. Media files are often streamed from the internet or downloaded as MP3s, which are often deficient sonically and the mid-control gives a nice tool to fine-tune the sound, although 'Source direct' is still available.

For the disc player, Marantz added a so-called DAC MODE function. The SA-KI player can function as a D/A converter, via the optical and coaxial input, but it also offers a USB Type B input, where you directly connect a PC for streaming content via a media player with the minimum compromise.

There's also an iPod USB input on the front. iPod music files can be output via the digital output of the player. Both USB inputs can handle external hard discs, too and include additional circuitry to reduce jitter to a minimum.

Soprano) in Brahms *Alto Rhapsody* on CD, both of which were reproduced with an unusual sweetness and flair.

Understandably, the Lites don't quite have the weight of the Pearls, but in combination they are, indeed, a great stereo package. ●

Hi-Fi Choice

SA-KI LITE SACD

- SOUND QUALITY ★★★★★
 - VALUE FOR MONEY ★★★★★
 - BUILD QUALITY ★★★★★
 - FEATURES ★★★★★
- LIKE:** A key stereo SACD player at an attractive price, with support for digital
DISLIKE: Nothing to dislike at this price
WE SAY: Accomplished SACD replay, good with CD too; great ability to integrate with computer-based audio and iPods



Hi-Fi Choice

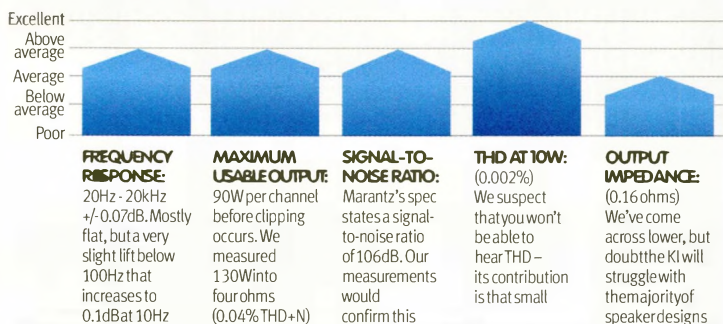
PM-KI LITE AMP

- SOUND QUALITY ★★★★★
 - VALUE FOR MONEY ★★★★★
 - BUILD QUALITY ★★★★★
 - FEATURES ★★★★★
- LIKE:** Great all-round ability and strong drive; three band tone control
DISLIKE: Some signs of price cutting over the Pearls, (although expected)
WE SAY: Great all-rounder, and attractively priced, the Pearl Lite amplifier transcends its £999 price



TECH LABS


RESULTS AT A GLANCE: PM-KI AMPLIFIER





DAC to the future

Arcam, one of the pioneers of off-board DACs re-enters the market. **Ed Selley** finds out if the wait was worth it

 ver 20 years ago Arcam produced the Back Box standalone digital-to-analogue converter. This was one of the first (for obvious reasons, the claim to exactly who was first is hotly contested) devices

that could bypass the output of an existing CD player via an S/PDIF digital output and convert it to an analogue signal via a higher-quality output stage than the CD player had internally. Consequently, the Black Box was highly regarded and sold well.

DETAILS

PRODUCT: Arcam rDAC
ORIGIN: UK
TYPE: Digital-to-analogue converter
WEIGHT: 0.7kg
DIMENSIONS: (WxHxD) 160x40x110mm
FEATURES:
• Built around the Wolfson WM8741 digital-to-analogue converter
• Asynchronous USB technology from dCS
DISTRIBUTOR: Arcam
TELEPHONE: 01223 203200
WEBSITE: arcam.co.uk

During the late 1990s, research into jitter and a change in philosophy saw the DAC fall out of favour and Arcam's output at this time was comprised entirely of one-box CD players. Now that a DAC renaissance is in full force, the company has returned to a keenly contested market with the rDAC.

As the sub-£1,000 DAC market is looking rather busy these days, it's good to see that the rDAC is far more than a 'me too' product. Central to its performance is the new Wolfson Microelectronics WM8741 chip. This is the successor to the WM8740, which has been central to some very strong CD offerings from Arcam, as well as Cambridge Audio and Rega. Boasting improved signal-to-noise measurements and detail changes to filtering, the WM8741 gives the rDAC some very strong credentials.



Wireless dongle

Arcam has made use of an ongoing relationship with high-end digital manufacturer dCS, a company that has contributed to some of its star performers over the years. This time, the relationship has gifted the rDAC, the patented dCS Asynchronous USB Technology system.

This is a relatively new take on USB transfer and allows for increased performance from this increasingly common connection. Given that a great many rDACs are likely to find themselves being connected via USB over anything else, this is good thinking on the part of Arcam.

Later on in this year, the final part of the rDAC's arsenal will become available in the form of wireless transmission. Arcam says that this will involve more technology from dCS and a wireless dongle. The transmission will handle everything up to lossless files and will open up another way of extracting audio from a computer, as well as making a great deal of sense if the rDAC is already connected into a particular computer via the USB input and you wish to use another computer 'on the fly'. As it is, the wireless input light sits on the front of the rDAC, but cannot currently be selected. The wireless version will be £100 more than the version tested here.

Red to green

As well as the USB and forthcoming wireless, the rDAC sports a relatively conventional optical and coaxial digital input and a single RCA phono output. If you need more than one of



TALKING POINT

ARCAM and dCS have had a working relationship for over a decade and at times it has been extremely fruitful. Some of the most highly regarded Arcam CD players such as the Alpha 9 have used the dCS Ring DAC to great effect. The rDAC has switched to Wolfson for its DAC chip, but the ongoing relationship with dCS has provided the Asynchronous USB software. This patented software differs from the standard USB system, in that it uses a precision clock to massively reduce the jitter that it is usually extant on most USB signals.

Much of the rDAC's sparkling performance over USB is down to this system. Asynchronous USB has previously only been seen in more expensive DACs and the implementation in the rDAC is welcome, especially at the price. We look forward to seeing what dCS has done with the rDAC's wireless section.

each particular input, or are interested in a balanced XLR output, you will need to look elsewhere, but the Arcam's specification on the whole is competitive for its asking price when the Asynchronous USB input is taken into account.

The unit itself is small, but pleasant to look at and use and is styled as part of the Solo range – although it doesn't look so different from other Arcam separates to be visually at odds if placed with them.

The chassis is all-metal and feels solid and well constructed. Input selection is via a single button on the top of the unit. The input light glows red and then switches to green when a connection is established, which is a nice touch if you should need to fault-find a connection.

“The rDAC is quick to reward the use of high-resolution files, but slow to punish compressed ones.”

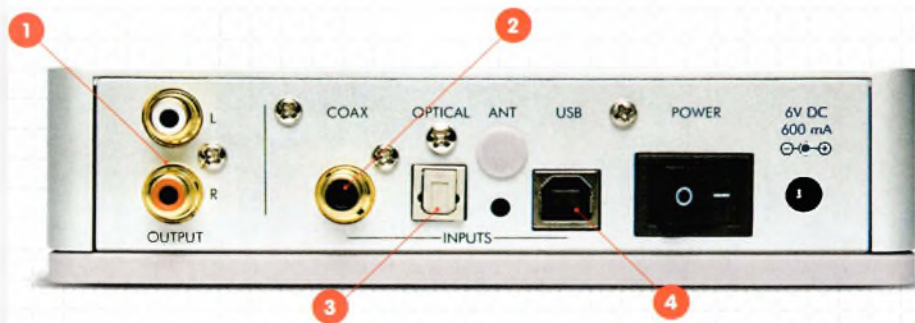
Another sign of impressive attention to detail is the USB connection. Connect the rDAC to a PC and it will display on the PC as an 'Arcam rDAC', rather than a generic USB component that so many of its key competitors will do. Connection itself is fast and effective and our sample unit connected quickly and simply to a variety of PCs and Macs during the test period.

Good things in small packages

Sonically, the rDAC is a strong proposition. Connected over USB and given lossless or better files (although 24-bit/192kHz files are limited to a transmission rate of 24/96), the rDAC is an enticing performer. It produces a natural and unforced presentation, entirely free from harshness or aggression. Indeed, its performance is free from even the slightest sense of digital sheen or artefacts, which is a huge boost to long-term listening. Given that this naturalness is an intended outcome of the design of the Wolfson WM8741, it is good news to report that this appears to have succeeded in practice.

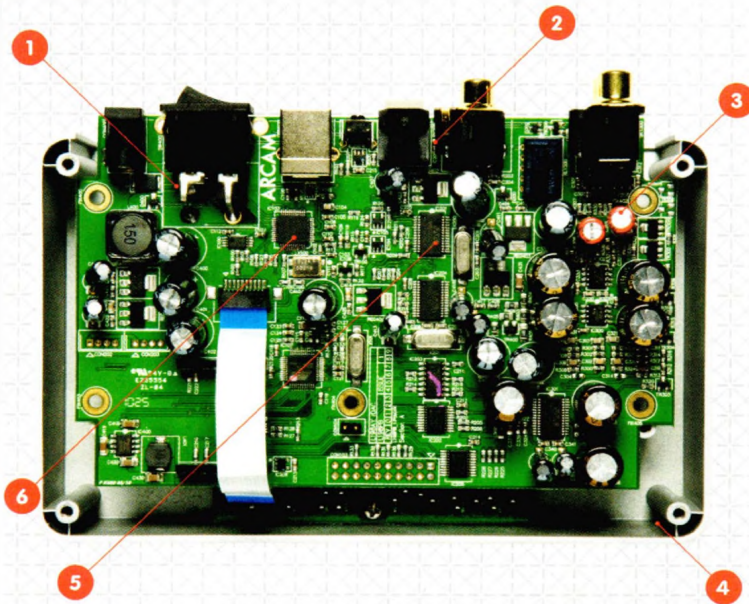
Vocals are well presented and believably real with the sense of space and decay vital for the suspension of disbelief. The rDAC will also present an excellent and well-judged soundstage, well in proportion to the recording being

CONNECTIONS



- 1** 2x RCA/phono outputs
- 2** 1x coaxial S/PDIF input
- 3** 1x optical S/PDIF (Toslink) input
- 4** 1x USB input

HIDDEN TECH



- 1** Powersupply input, switch and regulation
- 2** Coaxial and optical inputs
- 3** Analogue outputstage
- 4** Cast metalchassis
- 5** Wolfson WM8741 digital-to analogue converter chip
- 6** USB inputwith Asynchronous hardware

listened to. Further good news is that switching to compressed music, be it the 320k MP3 of Spotify or music ripped to lossy AAC in iTunes stays involving and listenable. The rDAC is quick to reward the use of high-resolution files, but pleasingly slow to punish the use of compressed ones.

Switching over to the coaxial input does not change the behaviour of the rDAC in any substantial way, although this is as much a reflection of how good the USB input actually is, rather than any deficiency on the part of the coaxial input. The rDAC always remains natural and unforced

and even poor recordings will not push it towards stridency or harshness.

Give the rDAC a typical modern recording with the levels turned Spinal Tap-style to eleven and it will manage to find the dynamics within it that have been compressed to within an inch of their life. This gets even better when you give it a CD recording which has been treated with a little more respect and the results are very nearly as good as high-resolution digital over USB. The only real downside of this control and relaxed nature is that given a genuinely exciting recording,



THE RDAC will naturally partner with the Arcam integrated amplifier range, but we are in the unusual position that a product we reviewed last month (HFC 337) – Musical Fidelity’s M3i, would benefit from exactly the qualities that the rDAC possesses.

The Arcam’s smooth natural sound and excellent tonality coupled with the absence of top-end harshness would complement the Musical Fidelity’s superb low end drive and sense of liveliness and would make for a very happy partnership indeed.

The superb USB implementation of the rDAC means that pretty much any PC or Mac will prove to be an excellent source in a computer audio system. It would then be a matter of choosing speakers to suit room size and listening preferences.

The Musical Fidelity has sufficient power to handle most suitable designs, so this should not prove a limiter to constructing a very musical system indeed.

there is a sense that the rDAC is keeping some of the dynamics and force in check. This is often apparent in the bass response which is fast and tuneful, but not as deep as some of the Arcam’s key competitors.

Those who need more excitement in their lives and are possibly willing to trade off a little of the Arcam’s extremely forgiving nature with poor recordings, may be better served elsewhere. Alternatively, this is nothing some thoughtful system-matching would not solve.

Market shake up

The rDAC marks a welcome return to an increasingly important product category from one of the original pioneers in the field. Just as importantly, the wait has also been worthwhile. The arrival of well-thought out and well-implemented Asynchronous USB at this price point is a welcome shake up to the market. That the rDAC has this and regular connections running through a desirable new DAC chip in a well-built box is even more welcome.

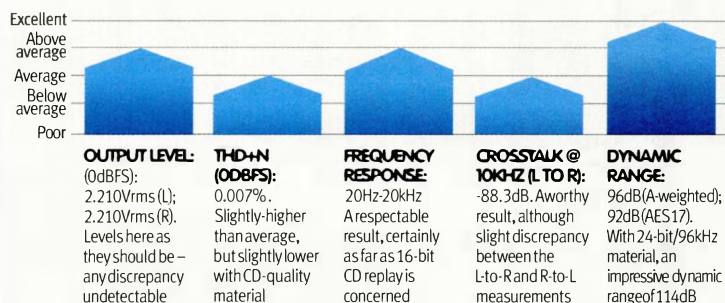
If you are in the process of going ‘post CD’ in your current system, then the rDAC is a must-audition product. It is able to achieve excellent results with computer audio and the lack of fuss or hassle – making it work with a variety of computers – bodes well for widespread compatibility.

Back in the realms of conventional hi-fi, the rDAC faces stiff competition from the large selection of very accomplished performers over more conventional digital connections, which means that it deserves a place on a slightly longer shortlist, but it certainly deserves a place nonetheless.

There has never been a better time, given the market trends, to be looking at the rDAC as an inexpensive boost to your digital replay. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Excellent USB implementation; natural sound; solid build
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Can lack pace and attack – only a single optical and coaxial input
- BUILD QUALITY** ★★★★★ **WE SAY:** Clever design with class-leading USB implementation at a great price
- FEATURES** ★★★★★

OVERALL



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King of the Castles

Castle Acoustics is back! There's a new owner in IAG and whole new range called Knight, **Dominic Todd** listens in to see if the old magic is still there

Castle Acoustics was a Yorkshire-based company started in the early 1970s. Best known for its rich, real wood veneers and refined acoustic, the firm soon established a following from those appreciating a warm, full-bodied sound. As with many of the British greats, however, Castle fell upon hard times at the turn of the millennium and came under the ownership of IAG (International Audio Group).

With IAG's impressive portfolio that includes Quad, Castle should be in safe hands and as if to prove the parent company's commitment, the all-new Knight range is voiced by IAG's Director of Acoustic Design, Peter Comeau – of Heybrook HB1 and Mission 780 fame. It has to be said that neither of these speakers has the 'Castle sound', so the question is; have his talents been successful with tuning the Knight?

Slithers of tree

There's nothing especially innovative with the design, but such a conservative approach should suit the targeted audience. Crucially, the Knight range uses high-quality wood veneer and is available in eight varieties. The veneers are genuine, book-matched and mirrored slithers of tree and not reconstituted pulp. The cabinet itself is made from 15-millimetre MDF, with bracing across both planes. A flush-mounted rear bass port is fitted with a mesh to dampen the exiting air.

The drive units consist of a soft-dome tweeter and fibre woofer. Again, very conventional, but the decision not to select a metal dome tweeter is a wise move, as their occasional edgy characteristics would not have suited the Knight 2.

The woofer chassis is an ordinary pressed steel affair, but is magnetically shielded to allow for safe placement near magnetic recordings and CRT screens. A bi-wirable crossover, with gold-plated terminals, completes the good first impressions. And with an above-average sensitivity of 90dB, we expect the Knight 2 to present an easy amplifier load.

Knight attire

Given the price, the standard of finish is exceptional. Whereas rivals such as the Mordaunt-Short Mezzo 2 (£450) and Bowers and Wilkins 685 (£380) use vinyl wraps, the Knight 2 stands out with its real-wood veneering.

The full process, including sealing and waxing, apparently takes five days and in an ideal world the veneering would be extended to the inside of the cabinet, too, as this has a beneficial effect on the sound quality.

There are no complaints with the solidity of the cabinet, in which multiple bracing adds considerable



DETAILS

PRODUCT: Castle Knight 2
ORIGIN: China
TYPE: Standmount loudspeaker
WEIGHT: 7.85 kg
DIMENSIONS: (WxHxD) 200 X 380 X 335mm
FEATURES:
 • 25 mm fabric dome tweeter
 • 150mm natural fibre cone woofer
 • Choice of eight real wood veneers
 • Bi-plane internal bracing
 • Mesh damped bass reflex port
DISTRIBUTOR: International Audio Group
TELEPHONE: 01480 447700
WEBSITE: castle.uk.com

weight and rigidity to these standmounts. Items such as the basic internal speaker cable show where costs have been cut, but this is an impressively engineered speaker.

Sense and depth

Castle fans will be relieved to hear that the Knight 2 has kept all the Castle Acoustics qualities intact. The bass response errs on the side of taut control, rather than ultimate weight and is all the better for it. Sound staging is particularly spacious with vocals being especially well portrayed. Explicit but not aggressive, the Knight 2 strikes a very fine balance.

Against the Mezzo 2, you will find the Knight lacking a defining edge with, for example, drum beats, but the smoother balance will be ample compensation for most. Acoustic music suits these speakers with vocal texture readily revealed. With classical music the Knight is one of the best speakers in its class. A true sense of space and depth creates a tension not usually found in this type of speaker and if you enjoy unforced realism, then you'll appreciate the Knight 2's subtle qualities of presentation.

Subtle charms

IAG deserves praise for not only producing a new speaker that looks like a Castle, but for producing one that emphatically sounds like a Castle, too. In fact, we'd go further by saying that this is probably the best-sounding budget Castle speaker ever made.

In addition to the traditional qualities of accuracy and refinement, the Knight 2 adds unforced detail and first-class soundstaging. Whilst it won't be the first choice for lovers of high-octane dance music, everyone else will be more than satisfied by its subtle charms. The class-leading finish cements this as a classic *Hi-Fi Choice* recommendation. ●



Hi-Fi Choice

OUR VERDICT

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

LIKE: Subtle, yet engaging sound quality, immaculate finish
DISLIKE: Some softening of dynamics
WESAY: A true resurgence for the Castle brand. The Knight 2 has a beguiling sound quality and enviable finish

OVERALL





Universal panacea



Can a preamplifier costing as much as a small car really make a difference? **Jason Kennedy** ponders the accepted order

What better time than the new era of austerity for us to discover how much difference a really good preamplifier can make to an already impressive high-end system.

Mark Levinson was one of the first to build seriously engineered high-end amplifiers. We don't mean excessively large or massively powerful, although it was ahead of the power game, we mean Rolls Royce or SME-style build quality.

It's unusual for us to review a preamplifier on its own, but the new No.326S is such a phenomenal-sounding piece of equipment that we had to tell you about it. In truth, this product has rearranged our notion of what really counts in a

high-end system and that doesn't happen very often.

Steel shield

At present, the No.326S is the only preamplifier in the Mark Levinson range, which seems a little incongruous in the context of its power amps which top out at £40K (for a pair of No.53 monoblocks), a matching reference preamp is on the way to plug that gap, but this compact beast is probably up to the job.

It has been painstakingly designed to keep all forms of noise away from the power supply and hence the audio signal itself. This is achieved with shielding in the form of steel boxes encasing both signal processing circuitry and the power supply itself.

▶ DETAILS

PRODUCT: Mark Levinson No.326S
ORIGIN: UK
TYPE: Preamplifier
WEIGHT: 14kg
DIMENSIONS: (WxHxD) 705x450x345mm
FEATURES:
• Inputs: 3x XLR, 4x RCA phono
• Outputs: XLR, RCA phono, tape
• 3.5mm trigger output
• optional phono stage
• RJ-45 connectors for Linkcomms
DISTRIBUTOR: CSE Custom
TELEPHONE: 01423 359054
WEBSITE: marklevinson.com

It is dual-mono right back to the mains transformer – there are two of these, but not for each channel – one is for the control circuitry.

Internally it's separated into three sections: power supply, signal processing and control circuitry. Incoming AC is heavily filtered using noise suppression and isolation techniques of the variety usually found in external power filters, all of which is designed to keep the signal as clean as possible.

The PCB itself is made of Nelco, which replaces Arlon in the previous incarnation and is said to have even better dielectric (insulating) properties.

In practical terms, it's an extremely flexible workhorse, with seven inputs in both balanced and single-ended varieties and for each of these you can set the gain and dial-in a name of your choice, so long as it doesn't exceed seven characters. What's more, doing so is remarkably intuitive and we managed it without a manual (all too often extra facilities means extra complication, but with the dot-matrix display this preamp is as easy to use as it is to enjoy, well almost).

Another very nice touch is the way that the volume is faded down and then up when changing inputs, which gives you a few microseconds to switch back if the next source is



too loud. Of course, if you've set input gain properly this shouldn't happen too often, but there are always rogue recordings with silly levels.

Volume is indicated in tenths of a decibel (above 23dB, 1dB increments below that) which seems a little bit on the fine side – it makes changing level with the remote a bit slow – but these steps come into their own at the top and bottom of the range where small increments are more useful.

If you want to reduce volume quickly the mute button is the best bet, especially as you can dial in just

how much attenuation you want. There are two volume attenuators inside the box, one for each channel, continuing the dual-mono theme.

Useful features include a mono setting for older recordings – the Beatles mono box set sounds significantly better than its stereo counterpart for instance – and polarity or phase inversion, both available on the remote handset.

Extra miles

The supplied remote is a comfy lump with a rubber pad on the underside

so that it doesn't slip off the sofa, plus it has a reassuringly heavy build that exudes nearly as much quality as the unit itself. But not quite, there is something about the quality of metalwork, fit and finish of Mark Levinson products that puts them at the top of the tree. Maybe it's because they were among the first to go the extra mile in this department, but whatever it is, it's certainly reassuring when you are being asked to shell out the readies.

Everything from the matte-finished buttons and knobs to the anodised



TALKING POINT

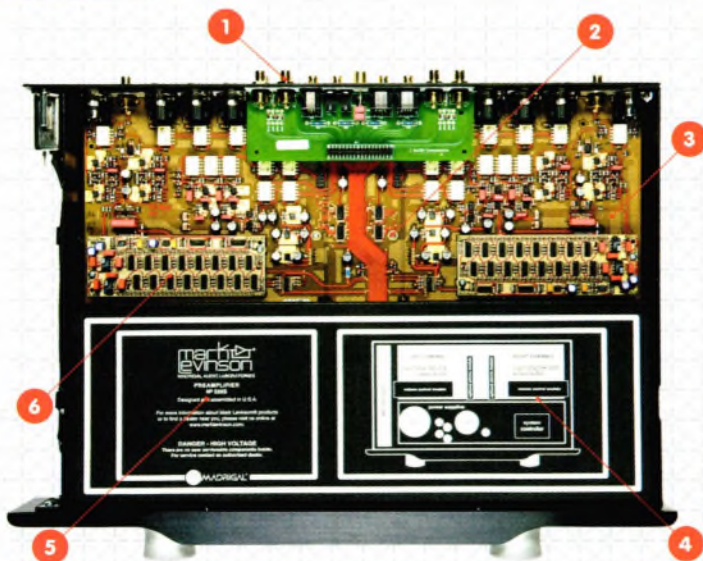
Mark Levinson amplifiers were first built by Mr Levinson himself, who launched his debut – the JC-1 transistor preamplifier – in 1972. This evolved into the ML-1 preamp and Levinson built a monoblock power amp with the snappy title of ML-2.

But it was his second power amp, the ML-3, that laid the foundations which can still be found in the company's amplifiers today. The ML-3 was a dual-mono monoblock with a 200-watt output that doubled into loads down to two ohms. It became an archetype for American muscle amps and without it the likes of Krell and Boulder may not have gone the way they did.

CONNECTIONS



HIDDEN TECH



- 1** Custom-made RCA phono sockets
- 2** Curved solder traces throughout
- 3** Arlon/Nelco-printed circuit board
- 4** Shielded control boards
- 5** Power supply incorporating two mains transformers
- 6** One of two custom attenuator boards, one per channel

metalwork of the chassis exudes quality and durability. The RCA phono sockets are made to M-Is design and are a shade smaller than usual, which is very nice when you have extremely tight-fitting plugs to deal with, as is often the case with high-end cables.

In terms of value, the No.326S looks pretty strong, it's very expensive granted, but it is built with utmost attention to detail by a company with a track record for making some of the best amplifiers in the business. Bowers & Wilkins does all its listening and tuning using a pair of Mark Levinson No.33 monoblocks and has been doing so for years.

Wonder drug

Our first impression with this preamp was not necessarily positive, because it seems to remove all the edges from the sound, smoothing things out and giving the impression of reduced detail. But it's not very long before it becomes apparent, that what has been removed is hash in the high frequencies, essentially noise that most amplifiers add to the signal in such a subtle way that it seems like part of the music, but once it's taken away the amount of musical and spatial detail that comes through is nothing short of astonishing. It's not just audiophilia either, by

SYSTEM BUILDING

THE UK DISTRIBUTOR for HPAV products, which include Mark Levinson, JBL Synthesis and JBL high-end speakers, naturally recommends you build a system around these brands.

The obvious choice for a source is the Mark Levinson No.512 Reference dual mono CD/SACD player (£12,000). This takes pretty much the same approach as the No.326S, with independent power supplies for each channel, DSD decoding of SACD and both balanced and single-ended stereo outputs.

The natural power amp choice is the No.532 dual mono stereo power amplifier (£17,000), which is a 400-watt channel beast that likes to keep things as separate as possible with regards to its two channels.

The loudspeaker of choice is sister company Revel's Studio2, the daddy in the Ultima2 range. This is a highly polished speaker in both finish and sound and as we discovered at the Music Rooms (HFC 335), it gels perfectly with ML electronics.

which we mean it's more than sound effects like sparkly highs or bone-crunching lows against an 'inky black' background. It's more of the notes, more of the acoustic, more of the production and more of the music.

It's surprising that any one component can do all this, let alone the one that changes the volume, yet this is clearly a very difficult thing to do really well otherwise the No.326S wouldn't stand out so dramatically.

Led Zeppelin III is one of our favourite albums, it captures the band as it reached its creative peak and is remarkably well recorded to boot. The preamp delivered Bonzo's chugging beats and Percy's voice at its finest, while focussing on the remarkably inventive compositions of Page and Jones. All the micro-dynamics are there to be enjoyed alongside the compressed vocals that seem so small compared to the band.

This was a revelatory experience and one that continued with every familiar album. It literally makes you cast your troubles aside and live for the music, which can't be bad at any price.

Sonic gold

What also makes this component worth its weight in sonic gold is the incredible three dimensionality it can produce, its uncannily clean sound which allows you to play at silly levels without discomfort and a world-beating sense of timing.

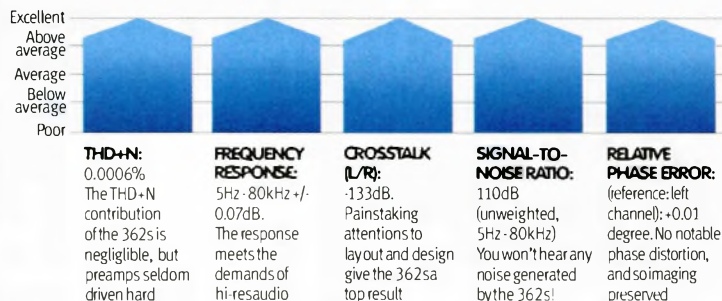
Bass lines are reproduced with a coherence and precision that is all too rare and this foundation means that rhythm and melody are delivered in a totally coherent, fluid fashion.

This and the ability to show you the fine details of the recording in the context of a gripping overall presentation makes the No. 326S an addictive bit of kit.

Okay, so the price is high, but the rewards are truly the stuff of a music lover's dream. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Excellent USB implementation, natural sound, solid build
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** We can't afford one and life seems a bit dull now it's gone!
- BUILD QUALITY** ★★★★★ **WE SAY:** We can't overstate how much insight and audio performance is offered by this amp
- FEATURES** ★★★★★

OVERALL



HOME DEMO

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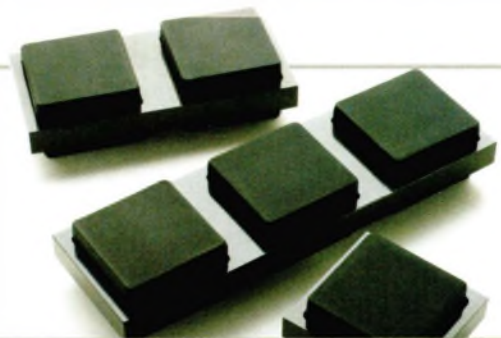
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Bigger on the inside

Pro-Ject expands its super-affordable Box Series with a new £300 CD player and **Richard Black** reckons small is beautiful

How small can a CD player be? If it's a portable with a flip lid and just one mini-jack output, the answer is little more than ten millimetres thick and a fraction bigger than the diameter of a CD. But we don't reckon front-loading players will ever come much smaller than this Pro-Ject, which has a top surface just 50 per cent bigger than one CD jewel case and height (including feet) equivalent to four of them.

It's magic

What's the trick? The transport is of course a slot-loader, which saves a lot of the space that a tray would take up and the electronics portion is a single board, about 15mm by 150mm – with a grand total of six integrated circuits on it, including power regulators.

The slight cheat is the external power supply; Pro-Ject's usual wall-wart which outputs 16v AC. But the key really has been finding the right chips to make the thing work without larger components. In turn, the crucial part of that process was selecting the DAC chip, which is a part intended for portable audio duty, including output circuits and everything else on board.

Audiophile-proof

Time was when such components had a distinctly dodgy specification

from an audiophile point of view, but the data sheet on this one suggests it is very capable – 96kHz compatible, good signal-to-noise ratio and so on.

True, it has a slightly less sophisticated digital filter than top-end parts, but the only real concession Pro-Ject has had to make is in maximum output: the DAC runs on a maximum 3.6v supply and as a result outputs just one volt, instead of the usual output of normal CD players. That means you'll need to wind up the volume control a bit further than usual, but any regular integrated amp will be driven well by one volt with volume set near maximum, so realistically this isn't a big sacrifice.

Operation is simple and efficient, with rapid disc-loading (six seconds), although searching is a bit slower. The tiny display (colour!) is highly legible and the matching tiny remote works well.

Giant sound

You don't necessarily expect the last word in refinement from a £300 component such as this, but we found a lot of detail and insight on offer. Perhaps, even more significantly, there's a lot of energy in the sound and it's easy to keep listening for a long session. Play a well-recorded rock track and you'll revel in the powerful drum kit, or play a big opera chorus and get

DETAILS

PRODUCT:
Pro-Ject CD Box
ORIGIN:
Austria/Hungary
TYPE:
CD player
WEIGHT:
1.3 kg
DIMENSIONS:
(WxHxD)
206X36X150mm
FEATURES:
• Single unbalanced audio output
• Slot-loading transport
• External power supply
• Remote control
• Steelcase
DISTRIBUTOR:
Henley Designs
TELEPHONE:
01235 511166
WEBSITE:
project-audio.com

swept up in the excitement of dozens of voices and instruments in harmony.

Smaller-scale music is well served too. There's a touch of coloration on male voices, which adds some apparent resonance, but that's not unpleasant and it doesn't seem to affect female voices much. The admirably neutral upper midrange is great for vocal intelligibility and, as a result, simple vocal tracks are really very communicative.

Above its weight

Deep bass is an interesting one. It seems very extended and has good weight to it when heard in isolation, but sometimes when there's a lot going on it fails to make quite the impact one has come to expect from a familiar disc. Bass 'drive' is mostly a function of upper bass and that's consistently fine, but really low sounds from orchestral bass drum, the bottom string of a double bass and suchlike, can be a little underwhelming.

Treble, on the other hand, is sweetly extended with a good sense of 'air' and very natural decay into silence. In the lab, the player is very well-behaved, though with some noise-floor modulation (amplitude jitter), which may explain the bass effects noted. Subjectively, it punches above its weight and will give good results in more than just office, PC and bedroom systems. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Neat and efficient; good detail and energy; sweet treble
VALUE FOR MONEY ★★★★★	DISLIKE: Deep bass occasionally a little weak
BUILD QUALITY ★★★★★	WE SAY: A player which belies both its size and its price, with sounds worthy of a decent mid-range system
FEATURES ★★★★★	
OVERALL ★★★★★	



A touch of Class

An elegant, compact and powerful network music player that, says **Malcolm Steward**, punches way above its weight

The Squeezebox Touch is nothing less than an absolute bargain. There is truly little else to say about this incredibly easy to set-up and enjoy network player. It crams a shed-load of technology into a 150mm by 110mm enclosure, which is just 10mm deep – albeit increasing to 40mm at its base to accommodate its connection sockets.

The player delivers internet radio along with music streamed from any computer(s) on your local network. It is wireless-capable, but we used it

predominantly with a Cat5e Ethernet connection to enable it to access music reliably on a computer and NAS, running the free Squeezexbox Server software, which runs on Windows, Mac and Linux operating systems.

We supplied it with rips from a £370 VortexBox Appliance 1TB NAS (HFC 337), which conveniently comes with Squeezebox Server already installed and configured – although putting it on a Windows PC is only a five-minute job.

► DETAILS

- PRODUCT:** SqueezeBox Touch
ORIGIN: China
TYPE: Network music player
WEIGHT: 0.4kg
DIMENSIONS: (WxHxD) 150X110X40mm
FEATURES:
- Wireless or Ethernet connectivity
 - Will play from SD card
 - Will play from USB devices
 - Needs free server software on PC
 - Comes with remote control

DISTRIBUTOR: Logitech

TELEPHONE: 08000 857499

WEBSITE: logitech.com

Fully featured

You can connect the Touch to a regular hi-fi system through a pair of RCA analogue sockets, or through a DAC using the coaxial or optical output. Equally, you can connect it straight to a set of active loudspeakers in an appropriately compact office or study system.

While inspecting the back panel you will also notice a USB port, into which you can plug a memory stick or drive containing music you would like to play. There is also an SD-slot on the side of the player, in case you wish to play music stored on an SD card. To use either of the sources one simply selects them in the on-screen (touch-screen) display. There is also a 3.5mm headphone jack outlet for late-night listening.

We prefer using the display to control the player rather than the remote handset, but this is mainly down to personal preference and familiarity. Either way, the interface is logical and responsive.

Touching the remote control increases the size of the display font, a feature our eyes particularly appreciated on the recently reviewed

CONNECTIONS



IT IS A COMMON dilemma for anyone used to the sound of a decent hi-end system in their living room, subsequently having to work in silence, or listening to a poor standard of music in their study.

Most studies will house an internet-connected computer, though, so the easiest solution is to plug in a SqueezeBox Touch connected to a pair of active loudspeakers from the likes of, say, Adam, Dynaudio, Focal or Genelec. This will give them an eminently listenable source of music while they work or surf.

The computer or NAS will need a copy of the free SqueezeBox Server software installed to store music although the Squeezebox can read iTunes libraries if required.

Sound quality obviously varies with the source material. Hi-resolution FLAC files naturally sound the best. They are understandably not as detailed as they are with the high-end Linn Klimax DS or the Naim HDX, but they sound vital and alive and do not sink to background or elevator music quality as one might expect. At the other end of the performance spectrum, decent bit-rate internet radio still sounds plausible and entertaining, even if it is not a completely audiophile experience.

The sound offers an appreciable degree of subtlety: for example, it clearly reveals deft brush work on a hi-hat by a drummer behind a female vocal. This really is not the sort of polished performance one expects from a £250 streamer. It is extraordinarily assured, enjoyable, and highly authentic in musical terms. Dynamically, the presentation seems slightly muted, but not to the degree that any listener is moved to complain.

The unit has an embedded version of the server software, so that it can replay music from a USB hard disk with no external assistance. The software enumerates a 160GB disk very quickly and replays tracks with the same ease that it reveals when playing from the Vortexbox appliance.

A stellar performer

The Squeezebox Touch thoroughly deserves to be a phenomenal success. It is a stellar performer and can hold its own against far more expensive competition. It strikes us as being the ideal office system: it sounds good; it looks good, it is a breeze to operate and it takes up negligible desk space. Store your music on a convenient hard disk, install Squeezebox Server, add a pair of active loudspeakers and that is it: your music is totally sorted. ●

and considerably more expensive Arcam Solo Neo (HFC 336). There is no doubt that the Touch delivers a rewarding 'user experience', one that certainly belies the budget price of the unit.

Connecting to network audio is perhaps the feature that will be most attractive to the majority of buyers, but internet radio might prove more so to those of a not especially energetic disposition. We certainly enjoyed having Radio Paradise select music for us while we sat and relaxed.

A slick package

The question of build quality does not really arise with the Touch: it is little more than a circuit board and a touch-screen, with a handful of connections pinned to the rear of the plastic case. There are no mechanical components to fail or slip out of

adjustment. Everything works as it should and the whole shebang looks sleek and shiny. Its packaging is exemplary and Logitech even thoughtfully supplies a cloth for cleaning the screen.

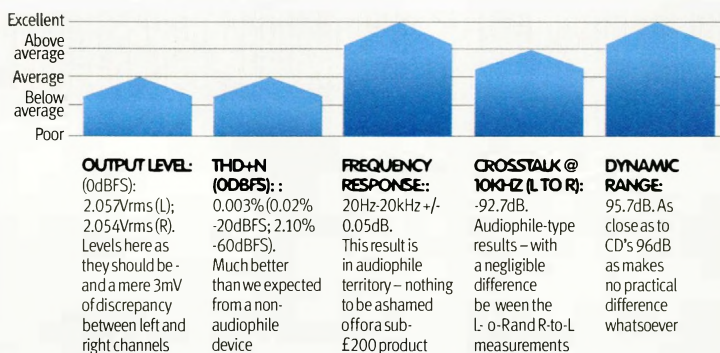
The favourable impression created by the slick packaging is reinforced when you flick through the user manual and discover just how easy it is to get the unit connected to your network and playing.

No elevator music

It truly seems churlish to criticise the Touch overall, when one looks at what one is getting for the price: streamed audio, internet radio, alarm clock functions and all for £260 or less. The sound is not a million miles away from that of the Slim Devices Transporter I and that was comfortably over £1,000. It will now set you back around £1,799.

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Sounds far better than anything should at this price

VALUE FOR MONEY ★★★★★ **DISLIKE:** Even briefly complaining about the Touch seems churlish

BUILD QUALITY ★★★★★ **WE SAY:** Performs delightfully, even with high-end partnering equipment

FEATURES ★★★★★

OVERALL





Jordan Acoustics

freephone:

0800 121 4771 / 4772

e-mail:

ask@jordanacoustics.co.uk

web:

www.jordanacoustics.co.uk

PMC FB1i and TB2i Signature Editions – Celebrating 10 years of success!

The FB and TB have received accolades from all corners of the world and are viewed as the benchmark in the realm of the audiophile. In celebration of ten years production of these 'audio classics' two limited edition signature models have been conceived.

Dubbed the Signature models, they display all the ultra high definition and finesse of the current i series designs with added refinement and transparency in the mid, vocal range. The key to this enhancement is the fine tuning to the crossover networks which has been carried out Peter Thomas himself – designer and founder of PMC.

Such is the confidence in build quality and engineering excellence the warranty period has been doubled to match the ten phenomenally successful years since their launch.

The beautifully handcrafted British cabinets are finished in the distinct and rare Rose Palissandre veneer. A chic enhancement for any modern or traditional interior.

The exclusive, limited edition models include:

- PMC ATL™ (Advanced Transmission Line)
- PMC/SEAS®, 27mm SOLONEX™ soft dome tweeter, ferro fluid cooled
- PMC designed 170mm Doped LF driver with cast magnesium chassis
- Improved vocal transparency over standard 'i' series
- 10 year extended warranty
- Luxury Rose Palissandre finish
- Hand signed certificate from Peter Thomas, designer & founder
- Brush aluminum serial number plate & nickel fixings

Both FB and TB share the same professionally proven six and half inch bass unit and the precision built SOLONEX™ domed tweeter which results in a vast, vivid audio picture and deep rich bass which can be experienced throughout the room. The FB1i Signature's longer ATL™ (Advanced Transmission Line) it provides even greater bass extension and therefore has the ability to fill a larger listening room with real aplomb.

Available now. Call Jordan Acoustics to find out more.



**0% FINANCE OPTIONS*
AVAILABLE**



PMC®

Major Event Announcement

(Jordan Acoustics exclusive)
Experience 'Multi-Channel Wide Bandwidth Soundscape' presented by the legend that is **Ken Ishiwata**.



This is the first time that this **exclusive event** has been performed in the UK. Having won critical acclaim in Hong Kong, this is a unique opportunity to experience what can only be described as 'State-of-the-art high resolution SACD multi-channel audio'.

Ken Ishiwata in conjunction with **Jordan Acoustics** will be personally hosting this very exciting demonstration. Ken will also be available to answer questions after each presentation.

Super Audio Multi-Channel

We are demonstrating the ultimate in **Super Audio Multi-Channel recordings**. Read on...

Source

For the source, the **multi award-winning Marantz UD-9004 Blue Ray/SACD Player** has been chosen to provide the high resolution signal.

Utilising the highly acclaimed **SA-7 S1's main soundboards**, the **UD-9004** has proven itself to be the universal player of choice for the discerning music lover.

! These closed door demonstrations will be strictly limited so please book early to avoid disappointment.

Saturday 25th	Sunday 26th
11.00am	12.00pm
12.15pm	1.15pm
1.30pm	2.30pm
2.45pm	
4.00pm	



UPDATE
Demonstrations to now include Blu-ray Audio

audio 10
NATIONAL Audio Show
25-26 SEPTEMBER
WHITFIELD HALL
NORTHANTS

National Audio Show 2010
September 25th-26th 2010
Ground Floor
Syndicate Room 11

Amplification

Amplified via 3 'cascaded' **Marantz PM11-S2 stereo integrated amplifiers**, the **PM11-S2** was designed around the **Legendary Series SC-7 Pre-amplifier** and **MA-9 monoblocks**. Not only does it have similar circuitry but it also keeps the 'cascade' feature, which allows up to **6 pre-amplifiers** to be **cascaded giving 12 channels!**

Speakers

Wilson Benesch Trinity satellites will be deployed to achieve both the **wide bandwidth data** and lightning fast transient response of the **Marantz Integrated amplifiers**. **Infrasonic sound** to be delivered by the **patented Wilson Benesch Torus infrasonic generator**. **A demonstration not to be missed!**

marantz





Wood you?

aircoustic
BY VIVANCO

Wood is good

for some things at least

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

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

aircoustic Wood is good
BY VIVANCO



Cartridge upgrader

Here's a novel way to enhance your cartridge's performance. **Richard Black** checks out Audio-Technica's new MC transformer

Moving-coil cartridges are wonderful things, but they suffer from a disadvantage in their extremely low output, often less than 1mV peak, or one two-thousandth of what most CD players produce. Clearly, low-noise amplification is a must. Because they have a low impedance, the self-noise of such cartridges is actually very low, but getting an amplifier to match or (ideally) better it is hard work. It can be done with transistors or valves if you use enough of them, but it can often be more practical to use a transformer to provide some initial gain before active devices are called into play.

Challenging

A transformer, being passive, provides no power gain, but it can step up voltage (reducing current inversely) by enough to make low-noise active amplification much more efficient.

As a maker of cartridges, Audio Technica is well aware of the challenges and has designed this transformer to step up the output of typical low-output moving coil designs. Unlike some 'universal' transformers, it has no impedance selection, just a single input and output per channel, but it is claimed to match cartridges with impedance between two and 17 ohms, which in practice means the vast majority available on the market.

Its voltage gain of 24dB will boost the level sufficiently to feed a standard moving-magnet input.

Screwless

The transformers inside the case are small, under 40mm each way (actually by the standards of MC transformers that's quite big!) but the case is this size for a reason. Small-signal transformers are made of materials that are sensitive to mechanical shock and their electrical performance can be permanently affected by dropping them. They can also be mildly microphonic.

AT has taken the unusual step of fixing these transformers by surrounding them with soft plastic foam: no screws or other metal fasteners are used. Around that is the case made of a high-permeability grade of magnetic material that provides effective magnetic screening – though you're still advised to keep the unit away from mains transformers and anything else that might generate hum fields.

Noise reduction

We happened to have an aged, but honest AT cartridge on hand, plus models from Denon, Goldring and Ortofon, plus various phono stages too, so we were able to try this

DETAILS

PRODUCT: Audio Technica AT2000T
ORIGIN: Japan
TYPE: Moving-coil step-up transformer
WEIGHT: 1.2kg
DIMENSIONS: (WxHxD) 140x90x125mm
FEATURES:
• 70 per cent Permalloy E-I transformer core
• Anti-shock transformer mounting
• Fixed ratio
• Earthing point
DISTRIBUTOR: Henley Designs
TELEPHONE: 01235 511166
WEBSITE: eu.audiotechnica.com

transformer under a range of conditions. It's impressively capable, and we mean it as a compliment that we were never really aware of its presence, except in one very valuable respect: it really does reduce the noise compared with even the best phono stages we could lay our hands on.

Transformers are not strictly noise-free because they have stray resistance and other factors which limit their performance, but this one approaches the ideal very closely. As a result, it gets the most out of high-quality cartridges, making the replay system quieter than even the run-in groove on most LP pressings. The net difference while music plays may only be a couple of dB of signal-to-noise ratio gained, but subjectively that's well worthwhile in terms of extra resolution, veils lifted and so on. Our Ortofon MC2000 (an oldie, but a goodie) sounds perhaps clearer than we've ever heard it, producing images of real solidity and stability, with a much better-defined acoustic around the performers than all-active amplification produced.

Sweet extension

Transformers are sometimes accused of compromising the frequency extremes, but even with slightly mismatched cartridges (impedance over 20 ohms) we couldn't hear any such effect. Indeed, the unusually low noise makes the bass even clearer than ever, with a shade more weight to it but immaculate control and precision (the treble is very sweetly extended and open).

There's no hint of coloration in the midrange: as with bass, the AT2000 makes things even purer here, simply because one's ear isn't trying to filter out quite so much noise and hash.

In the lab, we found bandwidth is superb and dead flat across the audio band plus, at least, an octave each end, while distortion is low at both high- and low-signal levels. ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Very clear gains in detail and resolution
VALUE FOR MONEY ★★★★★	DISLIKE: Not so well suited to cartridges above 20 ohms
BUILD QUALITY ★★★★★	WESAY: A superb step-up that really gets the best out of a wide range of MC cartridges. In context, it's very good value
FEATURES ★★★★	

OVERALL





Prince Caspian

Alvin Gold chronicles the all-new Roksan Caspian M2 CD and amp combo and finds himself gripped



Roksan organises its electronics into several ranges of which the Caspian M2 range is half way, senior to the Kandy K2 and one step short of the Platinum series (which includes component pre and power amplifiers). The Kandy and the M2 series are quite different internally, though surprisingly it is the Kandy amplifier which, on paper, is the more powerful of the two.

The M2 replaces the original Caspian range (which was launched the best part of 12 years ago) and the Caspian M1 series electronics, which underwent significant improvements internally.

The M2 is, in essence, a complete new model range and the CD player

and amplifier are intended to leverage the performance of the company's mainstream electronics products upwards, while retaining a mainstream price.

Stylish pairing

Both the M2 components are unusual in the way they're presented. Although the fascia is an aluminium diecasting, the top panel is made from stainless steel, a harder material than aluminium and not easy to work with. But it has an excellent appearance and can be formed much thinner than aluminium. It's structural properties mean it can be used to make a slimmer, smoother exterior, especially where it wraps around the

DETAILS

PRODUCT: Caspian M2 series

ORIGIN: UK

TYPE: CD player and integrated amplifier

WEIGHT: CD player 10kg, amplifier 12kg

DIMENSIONS: (WxHxD)
CD player 432x808x330mm, amplifier 440x128x329mm

FEATURES:

- Disc types supported CD, CD-R, CD-RW
- 3x digital out – TOSLINK, S/PDIF, AES/EBU balanced
- Single-ended and balanced analogue audio out
- Two preamplifier outputs
- Power amp input (requires modification)

DISTRIBUTOR: Henley Designs

TELEPHONE: 01235 511166

WEBSITE: henleydesigns.co.uk

base. It also gives the units a very distinctive and, we think, unusually attractive appearance.

Above all, the M2 is a well-turned out and arguably stylish pairing, though they are essentially classic stereo components with a bare minimum of flimflam. They are presented well, with a contrasting black slab fascia and display windows, which are curved in characteristic Caspian style. The rest of the structure is also well finished and typical of Roksan's great build.

The M2 components are each supplied with an identical remote control, the design of which we haven't encountered elsewhere, though presumably it comes from a standard OEM supplier. It is a full system remote, pre-programmed for both components in the Caspian and the Kandy ranges, but with enough buttons to control the amplifier and CD player, without needing to select the specific component. The unit also includes an impressively large, clear backlit LCD display. The same handset will also control the matching tuner from each range.

Short-circuit protection

The updated M2 Caspian are simple looking, but internally sophisticated mid-market products, senior to (and more expensive than) the base level



Kandy range. Power output of this bipolar design is 85 watts per channel, which surprisingly is quite a bit less than the cheaper Kandy, which has a MOSFET output stage and is rated at 125 watts. But the differences in output stage architecture make direct comparisons of this kind problematical.

So what do you get for your money? The amplifier has six inputs, including one for tape, plus a tape out and two pairs of preamplifier outputs, which allows the Roksan to drive one or two external power amplifiers – if more power is needed (one example would be a bi-amplified system).

One of the inputs is also available in an alternative balanced XLR connection, matching a similar output provision on the CD player. There is also a power amplifier input too, though this needs to be activated internally.

The internal design includes two main transformers, a 350VA torroid for the high-power stages and a smaller 60VA torroid for the preamplifier. Both are described as ultra-low-noise, low-leakage designs.

A mains input filter is also included and output protection is provided by a thermostatically controlled cooling fan, short circuit protection and power supply failure detection. This

“The Roksan has solid stereo imagery and helps the ear interpret delicate ambient information.”

cuts the output until the cause of the problem has been resolved (relays protect the output stage). The various fan and protection circuits are more comprehensive than with the Kandy which, according to Roksan, is due to the fact that the amplifier has a very wide, open bandwidth and a correspondingly rapid rise time – which can trigger momentary high current flow. The Kandy appears to be a much slower circuit. And, in any case, MOSFETs are inherently self-limiting, at least to some extent.

Only the key features – source selection and volume, plus a mode switch and tape select are available on the front panel of the two M2 units. Other features can be accessed from the remote control.

The partnering CD player feature set corresponds almost exactly to what you would expect of a standard CD player. The display is of good quality and informative, though it is mounted below the disc loading tray,



THE CASPIAN M2 amplifier is fitted with extensive protection circuitry, which didn't all behave by the book during the test. The fan cooling was triggered several times, with the amplifier running relatively cool to the touch, while the fan itself was noisier than expected.

Twice during the test, the output relay protection was triggered, though the amplifier reset itself within a half minute or so.

“With the earlier versions of the Caspian” explained Roksan’s Touraj Moghaddan, “if the output protection was triggered after the amplifier became too hot, you would have to wait for the amplifier to cool down before the amplifier would reset. That’s why we included fan cooling”.

which means it is not necessarily readable if the player is positioned below the eye line and the drawer is open. The front panel controls take care of the basics: track access, play, pause and stop and the quick-acting loading drawer.

Around the rear are the usual single-edged outputs and the XLR balanced connectors to match the amplifier provision. There are also no less than three digital outputs – a TOSLINK optical, S/PDIF electrical out and an AES/EBU balanced output via an XLR connector. A surfeit of riches!

A clear edge

The two M2 components don't appear to need extensive running in and in day to day use are fully on song within less than half an hour. Most of the listening was done using balanced interconnects. Latterly Roksan's own Pulse cables, which worked particularly well, easily outperforming a relatively low-end Nordost cable.

The CD player has particularly good timing and a more crisply defined and propulsive quality than some of the better known players in the same price territory. The same applies to the amplifier, which is sharp and on the button, almost as though it is balancing on the balls of

Q&A...

WE SPOKE WITH ROKSAN'S OWNER AND CHIEF DESIGNER, TOURAJ MAGHADDAN.



HFC: Please explain how the Caspian range fits in with your other ranges of electronics?

TM: Since we introduced Caspian 10 – 12 years ago, there was one major change when we introduced the M1. This involved some small cosmetic changes externally, but the insides changed a fair bit. We stopped integrated amp production about two years ago and announced there would be an M2 series, with remaining stocks on dealers shelves being filtered through the system. The Caspian series has always been above the Kandy and one step below the Platinum pre and power amplifiers.

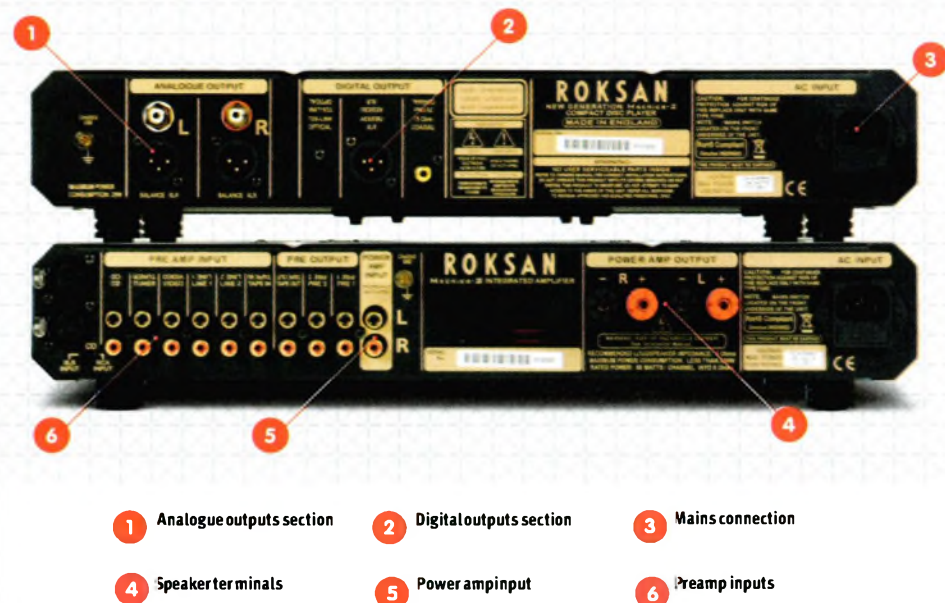
But the Kandy amplifier (currently M2) has a higher power output than the Caspian. How came?

One of the reasons for this is that Caspian is a much more modular system. Rather than making all kind of compromises for a better headline specification, we went for the highest performance consistent with its remit and said that if you need more power, go for extra power amplifiers and biamping your system.

The Caspian will drive two external Caspian stereo power amps, which have the same transformers and double-bridge rectification. They are rated at 100 watts each, though they give a little more in practice. If that is still not enough, we suggest using external power amplifiers like the Platinum, which delivers more than 130 watts into eight ohms and double that into four ohms.

There is a difference in the way the Kandy and the Caspians deliver power. The Caspian has a low output impedance and a very high damping factor. Although the quoted power output figures for the respective models are correct, the Caspian sounds a lot more powerful, and better controlled. It has stronger current drive. Everything gels more with the Caspian and it just sounds better all round. The Kandy has a lower damping factor. It's similar to a car, if you don't have strong torque, what's the point of having a lot of power?

CONNECTIONS



of its feet, making some of the more prominent pretenders to the title of best disc player in its price class, however smooth and polished they may sound, seem a little slack.

In fact, there are no complaints about the M2 CD player. Yes, we missed the fact that it lacks SACD compatibility, but based purely on sound quality there is not usually a lot to choose between the two formats, except that the best hybrid SACDs sound just a little sweeter, more organic and less processed. But there are plenty of individual titles which contradict this, or that don't show a specific advantage in either direction.

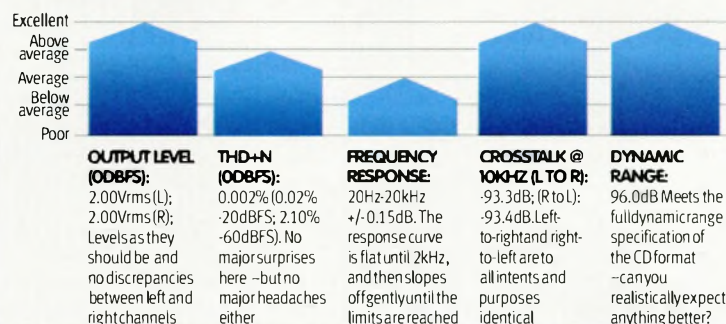
Much the same can be said of the amplifier. Again, the M2 can sound a little rough around the edges, but its muscularity and drive gives it a clear edge over most competitors, most of the time. It has solid stereo imagery

and is even capable of the kind of subtlety that helps the ear interpret delicate, low-level ambient information as clues to depth imagery. Think of Mahler's off-stage band in several of his symphonies, or the kind of depth that helps create the sense that you are listening to a recording made in an identifiable acoustic of a particular size, which can often be sensed almost subliminally in live recordings.

The amp has the kind of punch and dynamics that you would expect of a grown-up model and even more than the CD player. Its excellent timing, for example, works really well with difficult and large scale material. It is also most effective at moderate or even fairly high volume levels, though it is not completely even in the way it treats music. It is not the answer to all musical requirements

TECH LABS

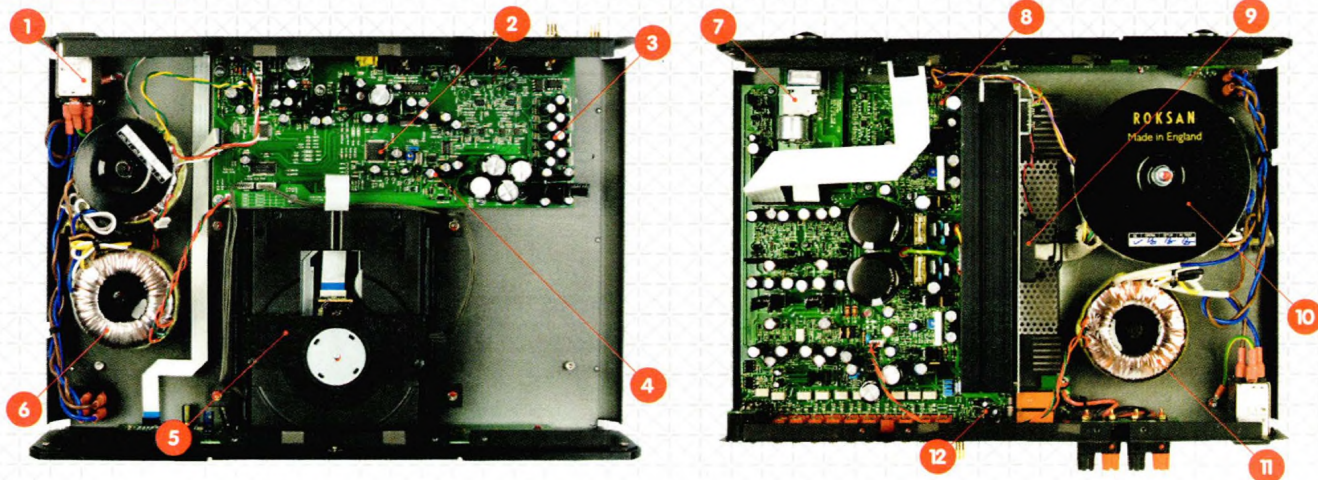
RESULTS AT A GLANCE: M2 CD PLAYER



HIDDEN TECH

M2 CD PLAYER

M2 AMPLIFIER



- 1 Mains input filter
- 2 Data Acquisition IC
- 3 Analogue output power supply section
- 7 Motorised analogue volume control
- 8 Logic circuit power supply section
- 9 Thermally controlled cooling fan
- 4 Custom-made master clock
- 5 Dedicated CD playback mechanism
- 6 Dedicated analogue output P/S transformer
- 10 350V main P/S transformer
- 11 Dedicated preamp circuitry transformer
- 12 Speaker output protection section

and if it runs out of steam it can sound a little harsh and messy.

But this is the exception. Selecting almost at random from discs that saw service during this test and which were not preselected for any compelling reason, the amplifier and CD combination worked really well with a recording of Britten's *War Requiem* (Rattle/CBSO), especially the male voices, Scott Walker's *Tilt* and some Alison Krauss and Union Station recordings. All the above found the Roksan combination's sweet spot.

Some recordings – an example being Jennifer Warnes *The Well* (SACD version) – seems to chime better with the (cheaper) Marantz KI Pearl Lite SACD player (see review on p50), as well as benefitting from the DSD recording.

Others, an example being Schoenberg's *Gurrelieder* (Esa-Pekka

Salonen/Philharmonia) sounds slightly rougher around the edges through the Roksan as a DSD recording and as a Red Book CD, especially at the high volume levels that this music demands. But at reasonable levels within the compass of the amplifier, Roksan offers a bold, gripping and undeniably authoritative sound.

Persuasive and gripping

The M2s are very nearly the complete package, despite being a little uneven in their qualities and clearly not ideal for every disc it played. But this is a criticism that can be made of just about any comparable amplifier and disc player at this price level.

Other similar combinations (the Marantz Pearl Lites are obvious examples) are sometimes tidier, but often less successful at scaling



HOW IT COMPARES

PART OF THE SUBTEXT of this review was to see how two amplifier/disc player combinations from different sources compare. The other, which is also reviewed in this issue, is the Marantz Pearl Lite SACD/amplifier, though the Roksan is the senior on price grounds, costing about 60 per cent more than its opposite number. Bear in mind also that the Marantz player is SACD compatible, the Roksan is not.

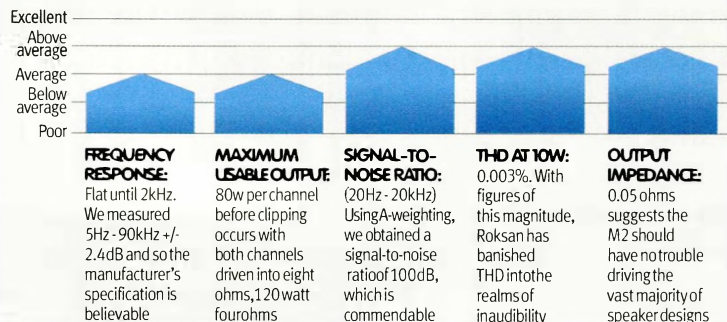
The Marantz disc player is a little less detailed from CD and it often appears to sound more three dimensional. But SACD offers a useful step up. With the right programme material the Marantz can sound more sophisticated.

The star of the show, however, is the Roksan amplifier. The £999 Marantz amplifier is easy and relaxed-sounding, but the odds definitely favour the £1,600 Roksan, whose amp offers crisp, musical definition and sure-footed timing.

the heights the Roksan was able to reach. So, in conclusion, the M2s are often the more persuasive and gripping choice. The two components are also attractively designed and built, and their compact dimensions are a definite plus. ●

TECH LABS

RESULTS AT A GLANCE: M2 AMPLIFIER



Hi-Fi Choice

M2 CD PLAYER

- SOUND QUALITY** ★★★★★ **LIKE:** Well-designed; fine remote control; good basic sound quality
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Awkward positioning of drawer and display
- BUILD QUALITY** ★★★★★ **WE SAY:** Impressively engineered CD player is punchy and dynamic, with excellent timing
- FEATURES** ★★★★★

OVERALL



Hi-Fi Choice

M2 AMPLIFIER

- SOUND QUALITY** ★★★★★ **LIKE:** Excellent control of load, bold sound and extensive protection
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Cooling fan is noisier than expected. No headphone socket
- BUILD QUALITY** ★★★★★ **WE SAY:** This muscular-sounding amp is load tolerant and more powerful in practice
- SPECIFICATIONS** ★★★★★

OVERALL





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Outdoor pleasures

PURE's new 'weatherproof' Oasis Flow radio takes DAB, FM, web radio and music streaming outdoors. **Richard Black** puts up his umbrella

Hot on the heels of the PURE Avanti Flow radio (see *MiniTest* in *HFC* 337), comes the latest PURE model, the name Oasis Flow suggesting, quite correctly, that it has some connection with the great outdoors.

Indeed this is a 'weatherproof' model (we wouldn't strongly recommend using it during a heavy rainstorm), but it has a good degree of protection from the elements, including rubber plugs for the sockets and an all-plastic case that looks pretty well sealed up. A mains adaptor is supplied, but outdoors most people will probably rely on the built-in rechargeable battery, which is good for several hours' use.

Wired or wireless

Functionally, this is a DAB and FM radio with the additional feature of internet radio and the ability to play files stored on a local computer.

In order to connect to the internet, it relies on the usual wireless networking shenanigans and any computer connected (wired or wirelessly) to the same network can be used as a media server. It's necessary to install the PURE Flow Server software, which runs harmlessly in the background and makes files visible to the Oasis – MP3 and WMA files seem to work fine, but full-format WAV files don't seem to play properly.

Future-proofing is provided in the shape of DAB+ compatibility (though there aren't any broadcasts yet) and the possibility of upgrading the Oasis via the wireless network or the USB socket on the unit. Rather more prosaically, it will accept a normal

analogue line input and, of course, there's a stereo headphone output. A second speaker can be added for stereo. The radio features a carrying handle and the antenna can be quickly unscrewed and clipped out of harm's way at the back for transport.

Lounge settings

With all those features on offer, operation naturally gets a little complex. The Oasis has a reasonably generous display: it's only monochrome but it shows several lines of text (menus etc.) and some graphics, as well as operating to a limited extent as a touchscreen, assisting the two push/twist knobs



DETAILS

PRODUCT: PURE Oasis Flow
ORIGIN: UK/China
TYPE: Portable radio
WEIGHT: 2.2kg
DIMENSIONS: (WxHxD) 155x230x140mm
FEATURES:
 • DAB, FM, internet radio, media server, line in
 • Outputs: Second loudspeaker, headphones
DISTRIBUTOR: PURE
TELEPHONE: 0845 148 9001
WEBSITE: pure.com

and the standby switch. We found the user interface takes some getting used to, to say the least. One frustration was that the 'settings' menu has an option for 'The Lounge settings' (The Lounge being PURE's internet radio portal), while another option further down the list – not visible until one scrolls down – simply offers 'The Lounge': and that's where one tunes in stations. Frankly it's a bit of a pain and while one eventually learns the routine we could imagine this aspect of the radio done better.

Weatherproofed

One doesn't necessarily expect the heights of audiophile refinement from anything weatherproofed and you don't get it here, to be blunt. What you do get is a pretty satisfying combination of grunt, midrange neutrality and sheer volume. PURE radios haven't always been great on the volume front, but recent ones seem to be much better in that regard and the combination of a 10-watt amp and what's clearly a pretty robust 100mm driver in the Oasis can put out plenty of decibels surprisingly cleanly.

Noise levels

At the point where midrange becomes treble there's more than a hint of coloration and voices can sound a bit scratchy. Funnily enough, though, this proves quite easy to live with in most kinds of music and although detail is obviously rather compromised there's plenty to enjoy in any half-decent radio broadcast or streamed file. FM radio reception is decent, too, with just a little 'crunching' when receiving BBC stations in a strong-signal area. Incidentally, we found we could hear some intermittent background noise from the speaker with the volume set low – it's very quiet, but just audible in a quiet room and we'd really rather live without it! ●

Hi-Fi Choice

OUR VERDICT

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

LIKE: Robust radio that will play an impressive range of sources
DISLIKE: Sound is a little coarse and operation can be frustrating
WESAY: A handy product for bringing web radio outdoors

OVERALL





Towering strength



Triangle's new Lyrr boasts a whole lot of driver tech for just a modest sum. **Paul Messenger** checks out the finer points of this french fancy

Founded some thirty years ago in North East France and one of three major French speaker brands to make a serious impression on the international stage, Triangle's success is primarily due to its very distinctive drive unit technology.

The £3,300 per pair Lyrr is the largest of three stereo pairs in the Genese range, which itself occupies the middle ground between the inexpensive Esprit EX series and the seriously upmarket Magellan range. Both the smaller Genese models, the Quartet floorstander and the Trio standmount, have been reviewed previously in *Hi-Fi Choice* (HFC 302 and HFC 334), with, it must be said, somewhat mixed results. While both had distinctive and attractive characteristics, both also had their fair share of weaknesses, too.

Drumskin behaviour

The common ground between the three Genese models is unmistakable. All share the half-external horn-loaded tweeter on the top and the curved veneered enclosure sides. In truth and since

both are floorstanding three-ways, the Lyrr is much closer to the Quartet, with similar pleated-surround midrange drive units and steel plinth arrangements.

The Lyrr's three-way driver line-up has three 160mm bass units with 120mm fibreglass/carbon fibre cones and high-excursion rubber roll surrounds. This impressive-looking collection is mounted with one above and two below a twin 'Siamesed' port arrangement and takes up much of the front panel. The large moulded twin port, divided by a central horizontal divide, is presumably arranged to load the driver above and the two below separately, reflecting an internal divide that creates two distinct sub-enclosures.

Above the multi-driver bass section and positioned unusually high off the ground, is one of Triangle's unconventional midrange drivers. This also has a 160mm-diameter cast alloy frame, but in this case it is fitted with a plain 133mm-diameter paper cone and a short-travel pleated surround. The point is that a driver that only covers midrange frequencies doesn't require cone



The Lyrr's substantial steel plinth with large rubber feet ensures stability. If preferred, the speaker is also provided with four massive spikes for carpet penetration

DETAILS

PRODUCT: Triangle Genese Lyrr
ORIGIN: France/China
TYPE: Three-way floorstanding loudspeaker
WEIGHT: 30kg
DIMENSIONS: (WxHxD) 230x303x1133mm
FEATURES:

- Pod-mounted half-external tweeter
- Twin combination 'Siamese' port
- SPEC (single point energy conductor) front cone/spike
- 25mm horn-loaded
- Very substantial spikes
- Twin socket/binder terminal pairs
- Finished in high-gloss black or black/mahogany
- Recommended 30-80m³ room volume

DISTRIBUTOR: Triangle Industries
TELEPHONE: 0033 323 753821
WEBSITE: triangle-fr.com



HI-FI CHOICE HAS only reviewed a couple of models recently in the £3,000 and £4,000 price band.

The Zu Essence fits neatly and is a fine loudspeaker in its own way, but so totally different from the Lyrr in presentation terms. One could also cite the Tannoy DC8T, but again it's a very different animal.

Perhaps its closest competitor is the PSB Synchrony One (HFC 318), which is even smoother if rather less sensitive, while the Audiovector S3 Super (HFC 328) is also well worth another look, especially in its more upmarket Signature or Avantgarde variations.

excursion – the cone actually behaves a little like a drumskin and the surround's job is merely to absorb the vibrations that get to the edge of the cone and avoid re-radiating them. (There are obvious parallels with the FST driver Bowers and Wilkins uses in most of its three-way models.)

Above that midrange driver and actually well above seated ear height, the Lyrr's tweeter is a horn-loaded 25mm titanium dome, mounted in a pod that's half in and half out of the enclosure proper. Although the mounting arrangements would seem to promote wide dispersion, in fact this is likely to be cancelled out by the relatively narrow distribution created by the horn.

“The Lyrr's most distinctive character is its unusual height, which somehow aids the precision of the stereo image.”

Massive spikes

The whole thing sits on a proper steel plinth, which comes fitted with rubber feet and a front-centre 'grounding' pointed cone with captive disc, all of which ensures polished floors won't suffer damage. A set of four massive spikes for carpet penetration is also supplied, though these lack lock-nuts and the disc on the front cone cannot be removed. Stability is good – the plinth essentially supporting the speaker as a tripod with two extra stabilisers.

The tall floorstanding enclosure is elegantly finished in mahogany-stained real wood veneer, with a piano gloss black front. (All over piano black is also available at an extra £350). Curved sides give extra strength and superior internal standing wave and reflection control, while internal partitions and braces further stiffen the structure.

Neat magnetic grilles attach to screw heads holding the drive units and two pairs of high-quality socket/binders act as input terminals.

The previously mentioned pricetag is quite hefty and, perhaps, sits a little uncomfortably between the mainstream and the high end, but you do get a whole lot of speaker for your money here, with a considerable selection of high-class ingredients.

DETAILS



Unusual height

The Lyrrs are fed primarily from a system comprising a Naim NAC552 preamp and NAP500 power amplifier (driven from Naim CDS3/555PS and Rega Valve Isis CD players) and a Magnum Dynalab MD106T FM tuner. Vinyl record players included a Linn/Rega hybrid and a Funk modified Linn with FXR II, both using a Soundsmith Strain Gauge cartridge.

Positioned well clear of walls, as common sense indicated and subsequent measurements confirmed, first impressions are very positive, thanks to the loudspeaker's fine overall neutrality across a wide bandwidth.

The bass goes satisfyingly deep, while staying free from unwanted mid-bass emphasis and thickening; the midband is well projected and dynamically involving, if not entirely free from some 'paper cone' colorations, while the treble is well integrated and free from fierceness or edginess.

Perhaps the Lyrr's most distinctive characteristic is its unusual height, which somehow aids the precision of the stereo image. Exactly why this should be the case we cannot say for sure. Perhaps it's due to a combination of the midrange driver delivering the sound from a little above the listeners and slightly



THE SPEAKER companies of the world can be divided into the 'haves' and the 'have nots', referring to whether or not they make their own drive units, or rely instead on buying them in from a specialist OEM supplier. The 'haves' do tend to consider themselves superior, and are often accorded extra status by distributors.

Both positions do seem a little unfair, since the OEM companies are very skilled and experienced and tend to share their expertise with the speaker engineer to create exclusive variations.

However, Triangle is very much one of the 'haves', and uses its position to create midrange and treble drivers that are quite unlike those normally found elsewhere. The midrange, for example, combines a lightweight paper cone with a narrow pleated surround with very little travel, so that it behaves more like a drum skin than an air pump. Two reasons for using a horn-loaded tweeter are to provide exceptional headroom and also to provide a source diameter that's closer to the midrange, to assist with crossover integration.

reducing the impact of floor reflections. Or, perhaps, it's due to the relatively directional nature of the horn tweeter and the consequent reduction in room-reflected top end. But, there is no disputing the evidence of the ears, or the general superiority of the Lyrr's imaging.

While the bass is certainly well balanced and extended, it could have rather more authority and grip. It fills in the bottom end very effectively, but doesn't exactly impose itself on the music. First and foremost one notices the midrange and while the bottom end doesn't in any way lag behind in timing terms, it doesn't seem to drive the music along with any particular purpose or intent.

The midband is a trifle exposed and not exactly free from colorations, but it is wonderfully communicative through the voice band, delivering fine expression and the full intentionality of singers and speech. Furthermore, this is achieved without sounding either 'shut in' or unpleasantly aggressive – in other words, the presence band and the mid-to-treble transition is very well judged indeed. And while there is some slight 'quack' and occasional edginess, one quickly adjusts to this little bit of 'character' and the presentation always retains its fine timing and dynamic expression.

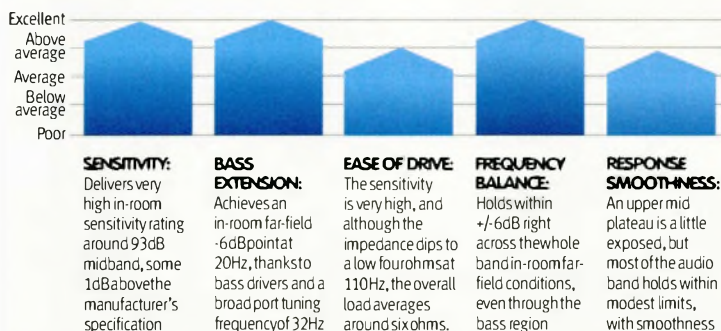
First class

The Lyrr is far from inexpensive, yet it ticks an awful lot of boxes. Though physically far from discreet, it's good looking in a 'tall dark and handsome' way and fashionably slim to boot.

It's a sonically very attractive prospect, too. The Lyrr supplies a fine neutral balance with deep and even bass, a dynamic and well-projected midband and a well-integrated top end. It's not the last word in bass authority perhaps, but its stereo imaging is first class. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Fine overall balance; dynamic midband and top class imaging

VALUE FOR MONEY ★★★★★ **DISLIKE:** Bass lacks some precision, grip and a measure of authority

BUILD QUALITY ★★★★★ **WE SAY:** A well-balanced speaker with generous sensitivity, fine imaging and good vocal expressiveness

EASE OF DRIVE ★★★★★

OVERALL



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Until the merger is complete, which will take a few months, Sevenoaks Sound & Vision and Audio T will remain separate legal entities.

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HI-FI SEPARATES



CYRUS

Cyrus' award-winning CD Xt SE and DAC X have been upgraded with a + suffix. In a recent review, this combination when used with 2 x PSX-R power supplies, received the prestigious Editor's Choice award by Hi-Fi Choice magazine.

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



- CDX t SE+ CD8 SE
- CD6 SE DAC X+
- DAC XP+ 6XP / 8XP



LEEMA ACOUSTICS

The Stream III CD player features an all-new slot loading transport controlled by Leema's own custom firmware providing secure and reliable disc handling and the best retrieval of digital information this is coupled with the new Leema Quad DAC is a refinement of Leema's own highly successful MD2 Multi-DAC giving a shorter signal path and even better performance. The Stream III features a USB digital output enabling bit-perfect digital archiving.



Many ideas that were pioneered in the award-winning, state-of-the-art, Tucana II, are incorporated in the Pulse III to produce an amplifier with incredible detail and resolution, vanishingly low noise and distortion, and that always communicates with an infectious musicality.

- STREAM III
- PULSE III
- ANTILA II
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ARCAM FMJ

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- CD17
- CD37
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- A38

ROKSAN KANDY K2

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- K2 CD
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- CASPIAN M2

TURNTABLES

PROJECT

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MICHELL

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MARANTZ

- CD6003
- PM603

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- CD5004
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- RCD-06SE
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- RA-05SE
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HI-FI SPEAKERS

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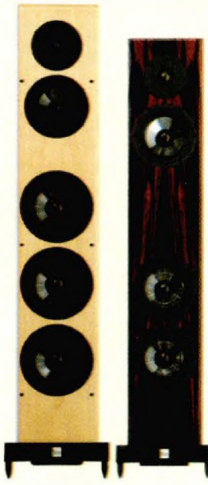


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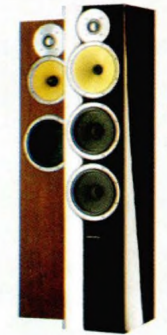
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Record Breakers



MARK PRENDERGAST

Music author Mark has written about rock and classical music for newspapers, journals and magazines worldwide



Mark Prendergast goes in search of the world's rarest records. It's a quest that takes in iconic bands such as Genesis, The Beatles and The Sex Pistols



Since the launch of eBay in 1995, the world has seen an escalation in prices paid for music albums. And there are records out there worth £2,000, £10,000 and, hold on to your hat, £100,000. And it's not just about fetishism, ownership or investment. Many collectors want to hear the music in its virgin state. Hence the demand for original track versions of The Who and Hendrix albums and, of course, the perennial arguments about those early mono Beatles pressings with black and gold lettering and the Parlophone 'E' logo.

It all began with singles like David Bowie's original *Space Oddity* and *Wild Eyed Boy From Freecloud* (Philips, 1969). Made in Europe specifically for the UK market but never released, a handful of copies made their way into private hands and are now valued at £3,000 each.

Madonna's *Erotica* 12-inch picture disc (Maverick, 1992) with its 'toe-sucking' cover image is known to fetch anything in the region of £2,000 minimum. Then there was the astonishing £10,000 paid for a 7-inch U2 single from 1989. *All I Want Is You* (Island) was bid on five times last year and reached this impressive amount for a green-coloured vinyl single.

More amazingly, singles like The Sex Pistols' 1977 A&M-pressed *God Save The Queen* frequently fetch a staggering £7,000 or more. But these high prices for singles are exceptional and definitely directed at real hardcore collectors. What about the LP record?

Sandpaper sleeves anyone?

Post the punk era, Indie music was all the rage and it wasn't long before labels like 4AD and Factory records became the artistic leaders in their field. For Factory's 1980 album *The Return Of The Durutti Column* (The Durutti Column), designer David Rowbotham came up with the ingenious idea of sticking sandpaper inside the 12-inch sleeves! It was a 'Situationist' joke harking back to French anarchists of the 1950s, who allegedly used books covered in sandpaper to destroy other books on the shelf.

But such a wheeze on behalf of Rowbotham and his cronies created a nightmare for record buyers and retailers with as many as 4,000 or so discs being returned to the manufacturers. Surviving copies have resulted in a rarity that still fetches three figures.

In 2007, Indie sleeve designers Peter Savile and Factory records produced a four-LP box set of Joy Division's classic

albums *Unknown Pleasures*, *Closer* and the double-album *Still*. Released in a hessian-textured grey 12-inch box and limited to only 3,000 copies, they were remastered onto 180-gram vinyl and have, since their release, climbed rapidly in price (£180 plus).

Similarly, The Aphex Twin's brown PVC 12-inch *Analord Box Set* – released in 2005 as Fenix Funk 5/XMD 5a – was incorporated into a 12-inch-square brown leather binder. With 11 pockets left empty to put subsequent Analord releases, complete sets are now £500 and climbing.

Nun in a bikini

Progressive rock, with its tapestry of references – triple-gatefold-sleeves, bombastic instrumentalities and mind-stretching compositions – is on its way back. The collector's market has expanded in recent times with original progressive rock albums now worth their weight in Gold, such as Mellow Candle's 1972 *Swaddling Songs* (now worth nearly £1,000!).

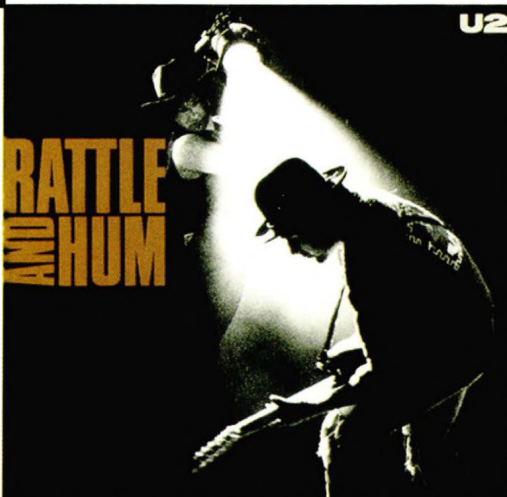
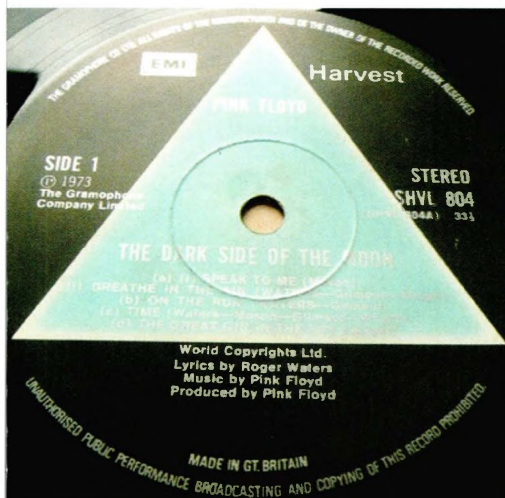
But all this is over-shadowed by the two big boys of progressive rock rarities – The Pink Floyd & Genesis. Original copies of the Floyd's 1973 masterpiece *The Dark Side Of The Moon* could set you back up to £400. The original album can easily be identified by the UK EMI Harvest SHVL 804 number and a solid blue triangle signifying its March 1st, 1973 pressing. The gatefold sleeve is matt-black and only opens on the right-sided edge. Inside you'll find the customary posters, stickers and such, whereas the inner bag is black and poly-lined with numbers and text printed in one corner in silver print. Some were even cellophane-wrapped, with a tiny Floyd sticker sealing them but these are as rare as a nun in a bikini.

Genesis were discovered by the now-notorious Jonathan King in 1967. The quartet of Peter Gabriel, Tony Banks, Mike Rutherford and Anthony Phillips were christened Genesis by the pop svangali himself, who signed them to the Decca label. Still only teenagers he goaded them into writing an album about the Bible called *From Genesis to Revelation*. Released in a black sleeve with gothic gold lettering, the record shops mistook it for a religious record and it sank without a trace. Genesis eventually split with King and went onto monumental success with the Charisma label, but today their fledgling 1969 album is worth over £1,000 on the original Decca Red mono label, complete with lyric sheet!

Rock successes

For one of the world's most successful bands ever, The Rolling Stones have produced few LP rarities. In fact, only two albums spring to mind. The first is The Rolling Stones *Promotional Album* (Decca RSM 1/RSD-1, 1969). Only 200 copies were pressed and split equally between the US and UK markets.

This beautiful white-sleeved artefact is the grail for every Stones fan who will need at least £1,000 to make it their own. And if you are really feeling flush, then be prepared ▶





THE ROLLING STONES



to part with £1,500 for a promotional copy of The Stones only psychedelic album *Their Satanic Majesties Request* from December 1967. Panned by the critics as being sub-*Sgt. Pepper*, history shows a very different interpretation. The fans loved it and this Decca album reached number three in the UK and number two in the US charts. It's a very funny album, with snoring and strange sonic effects. Famous for its now defunct 3D front cover, initial promo copies (Decca TXL/TXS 103) came without the 3D image, but with an inner sleeve of bulbous padded red silk. Though fans have queried the existence of this, we've actually seen one.



And cost? Well, think of something in the range of £1,500 plus.

Coming up to date, we find that U2 are today's biggest rock band with top earnings of a staggering £84.9 million pounds in the last year alone. And they are masters at special promotions, limited edition records and coloured vinyl. For their iconic 1987 album *The Joshua Tree* (Island U26), the band went all out with their limited editions. Two hundred and fifty copies in black and gold writing were placed in a pizza box, alongside CD and cassette versions and are now worth £330.

If that wasn't enough, *The Joshua Tree Collection* (U26-1/2/3/4/5) was a 250-copies, five-times seven-inch, double-A-sided vinyl singles box. A miss-pressing of the first single omitting *Where The Streets*

“For Factory’s album *The Return of Durutti Column*, designer David Rowbotham came up with the ingenious idea of sticking sandpaper inside the 12-inch sleeves.”

Have No Name has upped the set to a staggering £1,800. But the most desirable of all U2's collectables is the 1988 *Rattle & Hum* (Island U27) metal flightcase with CD, double-gatefold vinyl album, cassette and leather Island logo tag. Only 200 copies, so current value is in excess of £2,000.

The top three...

So what, you might ask, are the top three greatest all-time album rarities? Well, at number three is Jean Michel-Jarre's electronic composition *Music For Supermarkets* (Disques Dreyfus 1983). That year Jarre composed electronic background music for an exhibition at a Paris art gallery. Composed in his home studio between February and May 1983, he decided that as everything in the art gallery was to be auctioned off after the event only a single copy of the 34 minute *Music For Supermarkets* would be created. Subsequently, all master tapes and plates were destroyed, with the only copy selling for over 69,000 French francs.

At number two it's Jimi Hendrix. Test pressings for *Electric Ladyland* in white sleeves, for example, will set you back £1,000. Original early pressings with blue writing and big pictures of Noel Redding and Mitch Mitchell inside the gatefold fetch up to £1,800. But the icing on the cake is Hendrix's first posthumous release *The Cry Of Love* (Track 2408 101). During the pressing, red-coloured vinyl copies were also made. But as only a handful of these exist today, they are now one of the most sought after of Hendrix collectables.

As you've probably guessed, the number one spot is reserved for The Beatles. *Please Please Me* (Parlophone OCS 3042, 1963) is often cited as the rarity of rarities. It's the black and gold labelling for starters. But amazingly, EMI decided to cut early pressings in a new-fangled medium called 'stereo' for the burgeoning hi-fi market. These black and gold stereo oddities are worth anything up to £3,000 each, as the label became the familiar yellow and black and subsequent copies were in mono only. In 2009, after 42 bids, £22,322 was paid for one on eBay!

Every Beatles fan worth his salt knows that an original copy of The Beatles *White Album* (Apple PMC/PCS 7067 1-9) is worth £15,000. But, by far the most tasty of all Beatles records, if you have cash, is the *Let It Be* Apple box set, originally issued on the 8th of May 1970 (PXS 1). Inside a beautifully laminated box is the LP with a red Apple logo on the back and a book of the sessions and film of the same name. Both are in trays. People have paid up to £3,200 for a copy, although in July 2010 a mint-condition copy went for as little as £255 on eBay!

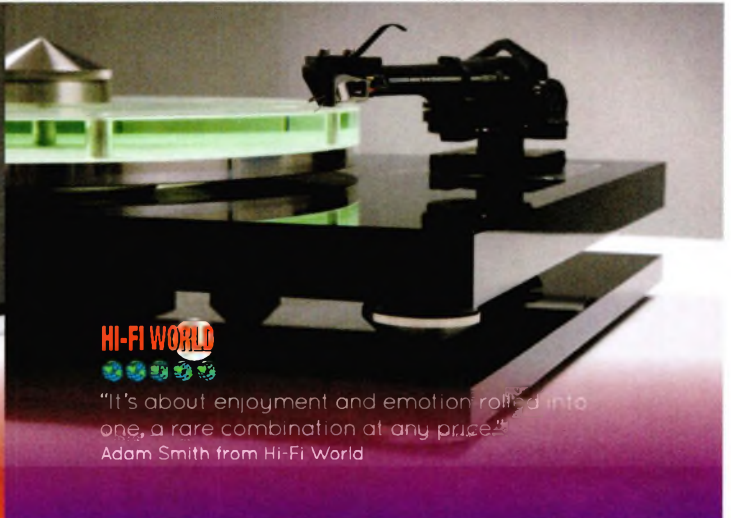
All this is small change, however, compared to the all-time number one rarest and most valuable record in the world. In 1955, electrical goods retailer Percy Phillips set up a recording studio in his home and spent £400 on a tape recorder, disc-cutting machine, microphones and a four-way mixer. A few years later, in the summer of 1958, the unknown band Quarry Men; John Lennon, Paul McCartney and George Harrison turned up with a pianist and a drummer at Phillips house to record their debut record. On one side was a cover of Buddy Holly's *That'll Be The Day* and on the other was *In Spite Of All The Danger*, a McCartney/Harrison ditty on which Lennon sang lead vocals.

As a 10-inch 78rpm acetate, it was given to the group at a cost of 17 shillings and six old pence (87p). The Quarry Men duly broke up and the record ended up in the possession of pianist Duff Lowe who, in 1981, offered it to Sotheby's, but the sale was intercepted by Paul McCartney who now owns it. Value: £100,000 plus.

Now how's that for a rare record? ●



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- Hi-Fi World, Room Analyzer Review

Jimmy Hughes uncovered one of hi-fi's best kept secrets - XTZ. Here are just some of the comments from the exceptional Hi-Fi Choice (Issue 333) system review:

"An amplifier and CD player with this sort of finish and build quality for just £600 and £365 respectively? Unbelievable!"

- Hi-Fi Choice

"Musically, the presentation is clear and unpretentious - a very nice system that's a pleasure to listen to."

- Hi-Fi Choice



Hi-Fi World VERDICT ●●●●●

"The player itself tips the scales at a healthy 9kg and some of the features found on it are, again, astonishing considering the price."

"Superbly built and with an impressive sense of pace and weight, the CD100's performance belies its affordable price tag."

- Hi-Fi World CD100 Review



Hi-Fi World VERDICT ●●●●●

"...I settled down to do some serious listening, still half convinced that there should be another digit in front of the price tag..."

"At £600 (with a decent quality DAC and phono stage built in, along with the Class A option) it offers superlative performance at the price."

- Hi-Fi World A100D3 Review



HI-FI CHOICE ★★ ★★

"There's not much that we can compare this amp to directly, at least not in the way of power amps, but among integrated models it competes with favourites from Creek, Cambridge Audio, Arcam and so on. That it does so, while retaining its own character - and its mode-switching feature too - is admirable."

- Hi-Fi Choice AP100 Review



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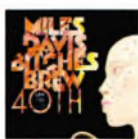


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90 Miles Davis
Bitches Brew
Legacy Edition



91 Richard Strauss
Salome



91 Randi Tytingvåg
Red

Music reviews

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

ALBUM OF THE MONTH

STATION TO STATION DAVID BOWIE



HOT PICK

David Bowie
Station To Station
emimusic.com

★★★★★

EMI

3-CD special edition; 5-CD deluxe edition; heavyweight vinyl

RECORDED IN LOS ANGELES in 1976, *Station To Station* is both Bowie's most decadent album and, in many ways, arguably his most impersonal. Both characteristics are probably down to the blizzard of cocaine he was living in at the time.

Traditionally, the drug has usually had two effects on musicians in the studio. First, it blunts their creativity and secondly, it turns them into raving egomaniacs. The latter may well be true here, for the album marks the unveiling of the 'Thin White Duke' character mentioned in the title track. The last of the great chameleon-like personas with which Bowie played in the 1970s, he subsequently confessed that the Duke was "a nasty character indeed".

But there is certainly no dulling of the creative impetus here; indeed, there's an edge and

experimentation largely absent from the soul-funk mannerisms of his previous release, *Young Americans*. The impersonality comes from the use of studio effects and synthesisers, a robotic step towards the motorik rhythms of German electronica, which would soon culminate in the so-called 'Berlin Trilogy' he was about to embark on with Brian Eno and Robert Fripp.

It results in a compelling, if detached intensity, while the decadence oozes from the lyrics: "It's not the side effects of the cocaine, I'm thinking that it must be love," he even sings at one point. But above all, there are some memorable songs, including *Golden Years* and *Word On A Wing* and, perhaps, his finest ever vocal, on the album's sole cover, *Wild Is The Wind*. The package includes a

"Station to Station is Bowie's most decadent album and his most impersonal."

15-song live performance recorded in Nassau shortly after *Station To Station's* release and various other collectible items.

As a collision between funk and electronica, *Station To Station* is hard to beat. It represents a pivotal point in Bowie's development and the ground-breaking hybridity is heard perfectly on the title track, where the train sound effects give way to a hypnotic piano march.

Equally fascinating sonically is *Stay*, a manic RnB storm that grinds like James Brown backed by Kraftwerk. *TVC15* and *Golden Years* find Bowie appropriating disco rhythms and transforming

the sounds of the dance floor into art-rock without descending into pastiche or irony.

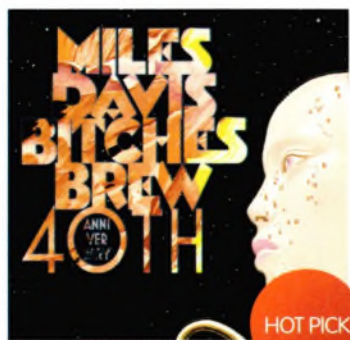
Word On A Wing and *Wild Is The Wind* are given a grandeur, the effect of which is to invest the romanticism with a numb passion – an oxymoronic improbability, which was presumably the intention of a 'Thin White Duke' determined not to let his mask drop.

And that's it, for the original album included just six songs and there are sadly no unreleased out-takes added in this deluxe repackaging. What we do get, however, is the original analogue master and subsequent remastering for CD. Of the two, the original is by far the most impressive for its edgy brittleness, an effect which perfectly suits the mood of the music. **DO**

Standout tracks: Golden Years; Wild Is The Wind



The Thin White Duke enjoyed the fat white line in 1976



Miles Davis
Bitches Brew Legacy Edition

legacyrecordings.com

★★★★★

Sony Music

2-CD box set

It has been 40 years since *Bitches Brew* turned the jazz and rock worlds around with its audacious mix of psychedelic rock, free-spirited jazz, funk and RnB.

This 1970 album marked the culmination of Miles' electric period, when crystallised his ideas to create a whole new music landscape that would inform virtually every open-minded musician from Hendrix to Can to Eno to Radiohead.

It's complex, intense, yet accessible music, that pulls you in with its verve and intensity, though melody and rhythm are twisted and pulled in every possible direction by its shifting line-up of a dozen or so musicians.

Producer Teo Macero famously pulled the tracks together using the most sophisticated editing techniques available at the time to create the final versions from the extended jams that Miles orchestrated with nods and occasional finger-pointing.

The album hasn't been remastered, but features the original eight-track analogue mix, which helps deliver both a vibrancy and potency. The six tracks of the original are augmented by some alternate takes, including a

single version of *Miles Runs The Voodoo Down*. **DO**

Standout tracks: Pharoah's Dance; Miles Runs The Voodoo Down



Level 42
Living It Up

umusic.com

★★★★★

Universal

4-CD box set

BRIT-FUNKSTERS Level 42 were admirable for largely ignoring the synth-pop banalities of their 1980s contemporaries in favour of a more sophisticated jazz-funk fusion that was more Stanley Clarke than Spandau Ballet. The first two discs in this 30th anniversary box compile 35 tracks. Disc three contains various rarities, while the fourth features new 'unplugged' versions of their best-known numbers.

There's no disguising that Mark King's voice is a little reedy, but his famous slap-bass lines throb as mightily as ever. The earliest tracks suggest they were at their most potent when they were at their funkier and the formula was diluted as the 1980s progressed and a more commercial pop sensibility took over. **NW**

Standout tracks: The Sun Goes Down; Love Meeting Love; Sandstorm



John Martyn
Live At Leeds

islandrecords.com

★★★★★

Island

2 CD deluxe edition

THE WHO'S 1970 *Live at Leeds* set may be more famous, but Martyn's 1975 recording is an equally stunning portrait of an artist at the peak of his performing powers. The original tracks, including pin-drop quiet versions of favourites such as *Solid Air* and *May You Never*, are buffed up to sound as fresh as the day they were recorded.

A classic Martyn performance was always about emotional ambience rather than technical perfection. Not that there's anything wrong with the recording quality, which brilliantly captures the interplay between Martyn's guitar, Danny Thompson's double bass and the enveloping warmth of his vocals. Many of the unreleased songs feature work from Paul Kossoff on electric guitar. **NW**

Standout tracks: Solid Air; May You Never



Edvard Grieg
Visiting Grieg

simax.no

★★★★★

Simax Classics

SACD/CD 5.1/2 channel hybrid

THOSE WHO ARE unfamiliar with Grieg's songs, but watched Joanna Lumley's BBC programme *Northern Lights*, will find much to delight them in this recording. The songs themselves, are settings of poems by various Danish poets, including O.A Vinje, Hans Christian Anderson and others.

This is a first-class recording on a label that has established a highly impressive track record. The baritone, Johannes Weisser, has excellent intonation and is sensitive to the nuances of the scores. He is ably supported by pianist Søren Rastogi, while the recording itself, is a first-rate SACD production. This is precisely the kind of programme material in which the subtleties of SACD are allowed to come to the fore. **AG**

Standout track: 12 Varen (The Youth) from 12 Melodies to Poems by A.O Vinje

AUDIOPHILE VINYL

The Soft Machine The Soft Machine sundazed.com



★★★★★ Sundazed/Probe

180g vinyl

PINK FLOYD were not the only band making psychedelic rock in the late sixties as The Soft Machine's 1968 debut demonstrates. With Mike

Ratlidge on keyboards, Robert Wyatt on drums and Kevin Ayres on bass (despite the credit for lead guitar on the sleeve) the Softs were a very progressive and innovative band with a big underground following. There are thirteen titles listed on the solid gatefold sleeve, but you'd be hard pressed to tell where they begin and end, each side is segued and only the occasional outbursts of lyrical content give one an idea of how things are progressing. Clearly divisions were old hat for a band that was highly influential on both

the progressive and jazz-rock bands that followed.

The sound is very much a product of its time, thin is the most appropriate description as there is nothing on here that could be described as proper bass. Very little is recorded in stereo, but there is a good spread of sound and the circular panning on one piece is certainly novel.

Notable more for its lyrical and musical content than its sound, this is a key historical nugget from a very imaginative band. **JK**

Standout tracks: Hope For Happiness; We Did It Again



Rossini

Violin Concertos Nos 1 & 2

challenge.nl

★★★★ Challenge Classics

SACD/CD hybrid 5.1/2.0 channels

IT IS PARADOXICAL for a composer like Paganini, who practically wrote the book on modern violin technique, that his violin concertos are scarcely known even in the concert hall.

This recording is truly a masterclass in the pyrotechnics of Paganini's writing, with the ability to emulate birdsong one minute, and the human voice the next. But things have changed since Paganini's day and by modern standards, the music is like the sonic equivalent of watching a peacock preening itself. There's no real musical substance and so it's easy for one's attention to wander. Stick to the *Caprices*, if you want to revel in unabashed excitement and showmanship. **AG**

Standout track: Violin Concerto No 1 (1st movement)



The Monkees

The Birds, The Bees & The Monkees

rhino.com

★★★★ Warner/Rhino

3-CD deluxe edition

AFTER A RUN of four US No 1 albums in the space of a year, The Monkees were allowed a free hand in this, their fifth and for many, their best album. From October 1967 to March 1968 they laboured long into the night with the help of Stephen Stills, Buddy Miles and Harry Nilsson. The results were true flower-power pop with vaudeville, ragtime, baroque and country rock tinges to the fore.

A sumptuous reissue from Rhino features the stereo version and a much punchier mono version plus 64 bonus tracks. Though Mike Nesmith dominates proceedings, this is the sound of a group going all out to prove that they had talent. One out-take features music from their cult 1968 film *Head*. **MP**
Standout tracks: Tapioca Tundra; Daydream Believer; Magnolia Simms



Todd Rundgren

Original Album Series

rhino.com

★★★★ Warner/Rhino

5-CD box set

THE KING OF Philly Rock and Soul is here represented by a clutch of 1970's solo recordings. *Runt* sees him in the studio showcasing his abilities on electric guitar rock and piano ballads, *The Ballad Of...* from 1971 was literally Todd at the grand piano singing his heart out. While in *Faithful*, he covers classic rock in note-perfect renditions of Beach Boys, Beatles, Dylan and Hendrix songs.

Todd at a piano and singing is fantastic and when he cranks up the guitar and piles on the effects he's great. Overlayered vocals in homage of the Beach Boys impress on *Runt*, but when he plays tinny synthesizers all the way through *The Ever Popular Tortured Artist Effect*, it's risible. Like Prince, Todd never knew when to stop. **MP**
Standout tracks: Broke Down and Busted; There are No Words

HIGH-RESOLUTION DOWNLOADS

Randi Tytingvåg

Red

linnrecords.com

★★★★★

Linn Records

24-bit/44.1kHz stereo



ALTHOUGH GENERALLY wary of the all-too-common blandness of jazz singers on audiophile

HOT PICK

labels, we're glad we listened to this Nordic young lady's album. She has a unique vocal style and brings an individual and fascinating twist even to tired old standards.

This 24-bit/44.1kHz recording provides a revealing insight into Tytingvåg's vocals and the playing of her band: tracks such as *Mr Barn* demonstrate their characteristic, sensitive approach to performance. It also presents the instrumentation in a credible light because the sound is ferociously detailed, but still wholly natural: it avoids ever sounding chromium-plated or sterile. **MS**
Standout tracks: Big in China; Mr Barn

Admiral Fallow

Boots Met My Face

linnrecords.com

★★★★★

Linn Records

24-bit/44.1kHz stereo



THERE ARE STRONG similarities between this album and The Decemberists' stunning *The*

Crane Wife. Both have their roots in Celtic folk music but display a contemporary, indie rock sensibility. Imagine Dick Gaughan going electric and meeting Arab Strap: or maybe early Prefab Sprout without the pretension and art student attitude.

This is not really the sort of tinkly, audiophile music that obviously lends itself to hi-res recordings. It is a bit too energetic and raw to benefit fully. Instead, the 24-bit recording simply adds greater honesty. It opens up the vocal tracks and places them neatly amid the often rough and ready, but clearly captured instrumentation. **MS**
Standout track: Dead Against Smoking

BLU-RAY AUDIO

Richard Strauss *Salome* opusarte.com



HOT PICK

★★★★★

Opus Arte

Blu-ray HD video, 5.0 channels
dts-HD Master Audio, LPCM
2.0 channels

RICHARD STRAUSS'S *Salome* takes as its original influence the play by Oscar Wilde, based on the New

Testament story in which *Salome* is a kind of ultimate seductress. *The Dance Of The Seven Veils* is a centrepiece of the work, though in this production, the action is transposed to a WWII Nazi setting and takes its visual cues from murdered film director Pier Paolo Pasolini's early torture porn film *120 Days Of Sodom*.

Such a full-on approach won't be for everyone, but the production is nonetheless tremendously powerful, with particular praise going to Nadja Michael in the title role. This disc, which includes

copious extras, was filmed at The Royal Opera House from a production by David McVicar. There are technical faults, when Nadia Michael occasionally looks straight into camera, which is disconcerting, or the microphones fail to deliver a wholly consistent sonic picture (it does give the production a feeling of authenticity).

The multichannel dts HD Master Audio sound and the HD video are both good, while this is an operatic production with few peers. **AG**
Standout track: 13 (After The Dance)

Linn's Majik moments

Jimmy Hughes auditions a clever all-Linn set-up that removes the need for careful system-building from a number of different brands

While reports of CD's demise may have been greatly exaggerated, Linn's Majik DS demonstrates why the silver disc's days are numbered.

On November 19th 2009, Linn famously announced that it was ceasing manufacture of CD players. Its proclamation created quite a stir and was actually reported in the mainstream press. The message from Linn was unequivocal; CD as a serious format for quality-conscious audiophiles was effectively 'dead'.

Put simply, Linn no longer saw any point making CD players when it was now possible to offer music in a technically superior format to CD via downloads. And, while many of us might feel that CD still has plenty of life left in it, there's no denying its 16-bit/44.1 kHz specification is starting to look distinctly creaky.

So, by not including a CD player, this month's Linn set-up represents something of a first for *Beautiful Systems*. Instead, we have Linn's Majik DS – a device that processes music downloaded from the internet. For CD, Linn suggest adding a device that rips your existing silver discs onto a hard drive, giving you access to this format.

But, before we download anything at linnrecords.com, we spent a couple of days just listening to CDs with the Majik 1 amp driving Impulse H1 speakers. The Majik 1 is an integrated amplifier using Linn's Chakra output circuitry derived from their higher-priced Klimax range.

A low-noise Switched-Mode power supply is employed and the unit runs very cool. Power output is around 100 watts per channel into four Ohms. There are analogue inputs for MM phono (turntable), plus six line inputs, including tape in/out – all unbalanced. A single

set of speaker outputs is provided using four-millimetre binding posts.

A pair of RS232 input/output sockets is included and a 3.5mm headphone socket can be found on the front of the unit. There's also a 3.5mm socket for line sources. The unit has press-button volume control, and a useful mute button – handy should the phone ring and you need to reduce volume levels in an instant.

Weighing just 4.9kg (about 10.75lbs), the Majik 1 is surprisingly light given its power output. During use at normal/average volume levels, the amplifier's casework gets slightly warm to the touch – but no more. So, you'd not have to worry over much about ventilation.

“For much of the time the £1,595 Linn matched the £10,000 Devialet each step of the way.”

As things panned out, the Majik 1 had the daunting task of following the remarkable and ground-breaking Devialet D-Premier. With the latter setting benchmark standards for transparency, lucidity and dynamics, the Majik 1 had a very tough act to follow. No sweat; in the event, it held its ground surprisingly well.

Majik Moments

The Majik 1's open neutral tonal balance and crisply focused immediacy seems cut from the same cloth as the more expensive Devialet and compared favourably. The musical presentation is detailed, yet uncannily smooth; biting sharp, but very clean. Initially there seems little to choose between two very fine amplifiers.

Careful comparison reveals several differences. Essentially, the Devialet is more transparent, with greater tonal purity, better transient detail, and an unflappable sense of command. On complex music, the Devialet handles contrasts and extremes with greater ease; when pushed hard, the Majik 1 'bunches-up' slightly.



COMPONENTS



**1 LINN MAJIK 1
INTEGRATED AMPLIFIER**
£1,595

Compact 100-watt integrated amplifier featuring Linn's Chakra output stage, six line inputs (including tape with monitoring) and an MM phono stage



**2 LINN MAJIK DS
DIGITAL STREAMING DEVICE**
£1,840

High-quality device offering compatibility with a wide range of sampling frequencies and bit rates; able to convert digital music downloaded from the internet



**3 LINN MAJIK 109
THREE-WAY LOUDSPEAKERS**
£915

Compact ported loudspeaker. Special Scoop port and close mounting of drivers, with high-frequency units mounted on a housing situated in the mouth of the port





LEFT: The Majik 109s sound better in smallish rooms

RIGHT: The Majik DS streamer offers improved 3D soundstaging over regular CD

BELOW: Sounds from the Majik 1 amplifier are more sharp and focused

greater aplomb. That said, for much of the time the £1,595 Linn matched the £10,000 Devialet each step of the way. Not bad, given the difference in price!

With the Majik DS in the driving seat and higher-quality downloaded material, things immediately sound noticeably richer tonally and more dimensional, with better 3D soundstaging. The overall sound is cleaner too, with less 'grunge' and congestion compared to a typical CD.

The installation and networking of the Majik DS is, perhaps, a little complicated for those unused to such things. Linn kindly sent a representative to get our review kit up and running and he installed a couple of extra routers. For buyers, installation and setting up is undertaken by Linn dealers. So, don't worry; you won't have to do this yourself!

Using Linn's Kinsky software, your computer becomes a command centre, enabling you to choose music, create playlists, adjust volume levels and download high-quality masters. Linn also supplied a RipNAS CD-ripping device. This optional extra gives you the facility of copying your CDs to a built-in hard-drive.

Linn: 'Rips sound better'

For various reasons (price, convenience, versatility, reliability) Linn believe it's

Neither amplifier offers an especially rich or lush/romantic tonality, but the Linn seems a tad cooler and leaner. It is less sweet and beguiling, albeit, beautifully clear and open, with impressive firmness and solidity – a clean crisp presentation; precise and uncomplicated.

While the Majik 1 sounds sharp and focused, presenting the music with bright clean colours and crisp clarity, dynamically there's a slight 'flatness' to the sound. Perhaps because the low frequencies are so firm and lean, the music doesn't quite 'blossom' as it might. So you don't get the holographic dimensionality of some amplifiers.

To counter this, we found ourselves playing things a little louder than usual. The Majik 1 certainly proves capable of producing strong, clear, authoritative results, with plenty of razor-sharp detail, but at lower volume levels it could disappoint slightly – played quietly, the sound sometimes lacks projection and scale.

Tonally, the Majik 1 is also inclined to 'harden' slightly as the music grows louder. In this respect, the D-Premier seems more relaxed and open, handling complex music with





better to store downloads on a separate independent hard drive. So the Majik DS does not have one. Downloads could be stored on your computer's hard drive, but ripped CDs go straight to the hard drive of the RipNAS.

Interestingly, Linn asserts that ripping CDs and listening to the copy stored on a hard drive, delivers better sound quality, compared to playing the CD via a CD player. But, this claim is, perhaps, a bit nebulous, since any comparison must depend on the sound quality produced by whatever CD player is used – and this can vary enormously.

Against a Musical Fidelity A3.2 24-bit upsampling player, ripped CDs sound cleaner. However, discs played via the A3.2 had better internal separation and seemed to project better, making ripped versions seem a little 'flat' and bland. Perhaps using a different CD-ripper would alter this? Some users have said as much...

The A3.2 is a good (but by no means outstanding) CD player. Musical Fidelity's more recent (and far more expensive) AMS CD offers significantly better separation and wider dynamics. So, we're not sure Linn's claim that ripped CDs sound better than the same discs heard via a CD player is fully justified.

However, there's no doubt the Majik DS pulls ahead of CD when replaying high-resolution downloaded material, it sounds cleaner and tonally more neutral, with superior dynamics and greater separation. CDs suffer from a slight coarseness and congestion that higher resolution formats virtually eliminate.

Majik boxes

To complete the system, Linn supplied its Majik 109 bookshelf loudspeakers. These are compact ported three-way enclosures with some interesting design details. The high frequency drive units are mounted on a special housing called the Array, which unusually sits in the mouth of the port.

Linn's aim was to create a wider/broader dispersion pattern, thereby increasing the area over which the speaker produces a smooth and even frequency response. In other words, to design a speaker that doesn't have a distinct 'sweet spot', enabling you to enjoy good stereo over a wide area.

Its efforts seem to have paid off: the Majik 109s produce a very integrated and homogenous sort of sound. Even sat close by, it's difficult to 'hear' the individual drive units themselves – there are no obvious 'beaming' effects and subjectively the tonal balance and frequency response stays much the same, even off-axis.

The port design is most unusual. Dubbed the 'Scoop', it consists of a concave structure behind the Array which carries the high-frequency drive units. Sound is definitely improved thanks to the gap between the Scoop and Array acting as an acoustic brake (or load) on air emanating from the port.

The short distance between the edge of the Array and the HF drive units means less phase error caused by the distant cabinet edges affecting dispersion. To achieve better integration, Linn believes the speaker drive units need to be as close as possible. To this end, the HF drivers employ small powerful neodymium magnets.



DISTRIBUTOR:
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linnrecords.com

The Majik 109s produce a smooth, integrated sound that is well-balanced and open. Bass proves to be surprisingly extended (given the tiny size of the cabinet) and thankfully the tonal balance is not too 'toppy' – thereby avoiding the bright thin/tonal balance that's the downfall of many small speakers.

These speakers are at their best when used in near-field listening situations in smallish rooms. Their excellent coherence and remarkable integration ensures clear vivid stereo imagery when you sit close. But, used in larger rooms, they may struggle to fill the space with sound. Adding a good subwoofer will help here.

While the Majik 109s produce good enjoyable results, perhaps inevitably they don't do full justice to the wide frequency range and crisp transient detail produced by the Majik 1 amp, reproducing high-resolution source material derived from the Majik DS. Those with medium or large rooms should sample bigger loudspeakers.

Linn's Majik DS is obviously this system's USP – a slick portal to a world of high-resolution music. Even for those perfectly happy with CD, it's a very tempting proposition. The CD may not quite be dead (yet), but products like Linn's Majik DS must surely hasten its eventual demise.

The Majik 1 integrated amplifier is a worthy partner, producing outstanding clarity and impressive definition. Those wanting a rich warm sumptuous sound may find it a tad unromantic, but for clean crisp detail and immediacy it's absolutely superb. And being small makes for a practical easy-to-house package. ●

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YOUR EXPERTS



PAUL MESSENGER

EXPERTISE: LOUDSPEAKERS

HAVING WORKED on both sides of the audio industry for over 30 years, as loudspeaker designer 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.



JON MARKS

EXPERTISE: DIY AND VINTAGE KIT

FORMER EDITOR of *Hi-Fi World* magazine, Jon has a wealth of reviewing experience, as well as a passion for high-end vintage audio gear. Handy with a soldering iron, Jon also enjoys bringing classics back to life and pitting them against modern gear.



ALVIN GOLD

EXPERTISE: SEASONED REVIEWER

HAVING WRITTEN for a huge range of magazines, both internationally and in Britain, Alvin has a very full 30 years of reviewing under his belt. A guru of all component types, he's now extending his expertise by building PCs for audio too.



JASON KENNEDY

EXPERTISE: TURNTABLES

ANOTHER EDITOR, Jason opted to become a freelance contributor when he relinquished the helm of HFC after 17 years on the magazine. A hi-fi addict since his twenties, Jason fell for the beauty of vinyl and has never looked back.

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QUESTION OF THE MONTH

Q I'm looking to upgrade my speakers. My system includes a Meridian 508.24 CD player, Roksan Caspian M preamp, Caspian 2 monoblocs and KEF 105.3 floorstanders. I have a budget of £2,000-£3,000 and will buy used or ex-demo.

Stuart Molloy, via email

A There are plenty of fine contenders for your cash at that sort of price. You might want to consider an ex-demo or used pair of Spendor's A9 floorstanders, which marry good reach with impressive low-frequency agility. If not, the same

company's A6 is one to ponder.

If you can arrange a home demo, you might want to sample Jamo's esoteric boxless Reference R 907, with its fantastic bass. If careful positioning allows it to work in your room, the result might be well be something special.



Best speakers for my new Naim system?

Q I have just upgraded my six-year-old Naim 5i CD player and NAIT 5i amp to the new Naim CD5XS, NAIT XS amp and Flatcap XS power supply. I've kept my Dynaudio 52SE speakers (on Partington Dreadnought stands) as I have had a great listening life with them and wasn't sure what to upgrade to next.

The Dynaudios still sound great with the new Naim gear, but what would you recommend I consider as a speaker upgrade? The set-up is now in a bigger room (approximately six metres square) and I have a feeling floorstanders would blend in with the decor in the room better than the Partingtons.

Budget-wise, I'm thinking in the range £1,000 to £2,000, but will take your advice seriously if you believe I should consider a higher upper limit.

John Hanson, via email

A While your Dynaudios offer decent bass for their size and the sort of soundstaging and imaging prowess typical of well-engineered standmounts, with your upgraded amp and room, we agree that floorstanders are the way to go.

Neat's Motive 1 manages to pack a very deep bottom end into a surprisingly small enclosure and would represent a radical improvement in this respect over the Dynaudios. Of course, if you can stretch to the full £2,000, there's the Neat Elite SX



to add to your audition list as well. And at similar price points are the ProAc Studio 140 Mk2 and its more expensive sibling, the Response D18, both of which are superbly tuneful devices.

Best multi-disc CD player on a budget?

Q I have a way to go before I'm convinced that computer-based audio really is the future, particularly as the cost of what's in so many of the flashy boxes makes up only a tiny fraction of the final price tag. Until that day, I'm after a multi-CD player which sounds better than the plasticky budget offerings from most of the major manufacturers.



David Price Hi Fi World

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For example, while a Sony NC685V I tried recently, would have qualified as a goer for background music and supported MP3 playback (again, fine if I'm not listening directly to it), there was no way I'd connect it to my main system.

I'm happy to buy used components and indeed I suspect I may have no choice to do so, but surely there's a changer out there worth auditioning which doesn't cost the earth?

Caramia, via email

A You sound largely resigned to the inevitable truth that computer-based audio has pretty much usurped changers, at least in the middle and high-end markets. It's no surprise really, given the vast quantities of music which can be quickly and compactly stored on a hard drive and the fact that it needn't cost the earth, if you're prepared to get your hands dirty building yourself what some people seem to regard as 'Frankenstein's jukebox'.

Nakamichi still makes its MusicBank series of multi-disc players, though these days they're sold as components in its line-up of SoundSpace systems. Unfortunately, in the UK, Yamaha's universal disc changer, the DVD-C961, appears not to be available. There's always a sort of half-way house too in players like Marantz's SA8003, with its front-mounted USB input for playback from solid-state storage.

If you do buy second-hand, obviously there are pricier items, such as McIntosh's MC205 five-disc changer from 2002. At the more affordable end of the scale are plenty of alternatives like TEAC's attractive little PD-H570 from its Reference series. A word of warning though: any complex piece of equipment which uses a specialist transport can be tough to get serviced and the situation just gets worse as the years roll by.

In terms of what can be bought new today, you should be able to track down the Denon DCM500AE (which supports MP3 and WMA playback), although at only £250 you may want to aim slightly higher. If you do, we urge you, at least, to reconsider the netbook or budget laptop route, especially when partnered with an external DAC.

Which way forward: amp or CDP?

Q My present system is built around a Marantz CD-17 KI-Signature CD player, Copland CSA8 integrated and PMC FB1i speakers. As a pensioner for some years and cast aside to the East Coast, my only contact with the audio scene now is through hi-fi magazines and the internet, so auditioning equipment at a dealer is not an option.

I have a budget of £2,500 available to update my CD and amplifier, or to add a DAC and would appreciate any recommendations you might have.

I am seeking a smoother, warmer balance but wish to retain timing, detail and tight bass without any harshness or forwardness in the treble. My music tastes vary from classical to jazz, pop and rock.

Les Bridge, via email

A It might be better to concentrate the bulk of your budget on, say, a new amp and then continue to save for a new CD player. If you opt for this approach, Electrocompaniet's ECI 3 integrated is one option, although it's difficult to say whether or not it will strike precisely the right tonal balance for you.



Unison's Unico Primo amp is a great used buy. Models with lids command a premium

Unison Research's Unico Primo is a very fine all-rounder, whose solidity of presentation, richness and tunefulness might well appeal.

Increase your spend towards the £2,000 mark and the Lavardin IS really should be on your shopping list, as it has the brand's characteristic smoothness, transparency and naturalness and for those 30 watts, goes further than might be expected.

Further down the line and when your bank balance is ready for the Marantz's replacement, there's a good chance you'll enjoy the company's Premium SA-11S2 CD/SACD player. If a little more Italian character and sweetness are more appropriate, the Unison Research Unico CDE is well able to provide both in a highly enjoyable mix.

THE HI-FI CHOICE GUIDE TO: COMPONENT ISOLATION



EXPERT ADVICE

BIG MAY OFTEN BE beautiful when it comes to racks (we have Townshend's Seismic stands towards one end of the spectrum and Cyrus's HARK at the other), but there's a whole microcosm of smaller ways to improve your gear's isolation from vibration with cones, cups and diminutive suspensions.

One popular and imaginative treatment is the Aurios Classic (HFC327). Put crudely, these are ball bearings sitting in upper and lower cups, designed so that the two cups can move horizontally with respect to each other. Despite operating almost exclusively in the horizontal plane, they can have a clear impact on sound quality.

More of an all-rounder are Isonoe's Isolation Feet (HFC327), which make their presence felt very positively under a wide range of components, including valve amps.

If your rack won't accommodate much added component height, there's a veritable sea of spikes and cones out there, from everyday stainless steel types to exotic hewn or cast from titanium, carbon fibre or ceramic. Don't hesitate to experiment in finding the best materials to perch your system upon and then hone its sound to perfection. ●

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Minitest

Vinyl-lover **Richard Black** compares four of the latest sub-£200 cartridges to reveal the ideal upgrade

Audio-Technica

AT-F3/III

PRICE: £189 CONTACT: 01235 511166

WEBSITE: EU.AUDIO-TECHNICA.COM

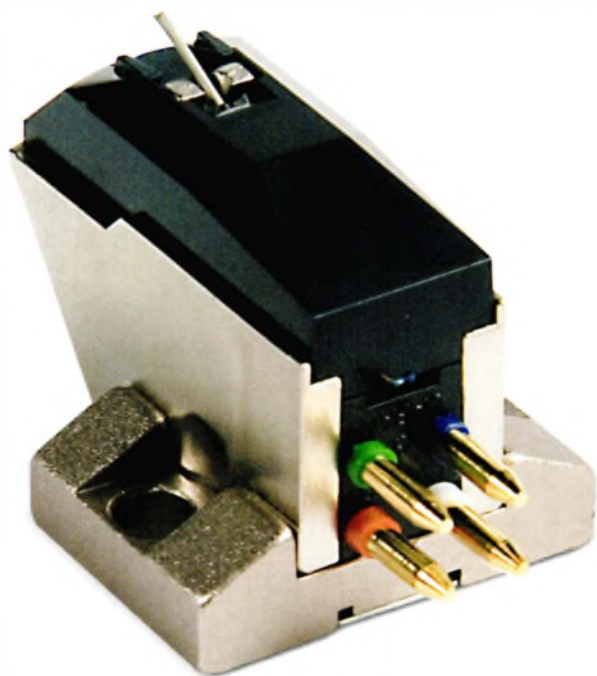
BACK IN THE EIGHTIES, when analogue was still the default source for the majority of music-lovers, Audio-Technica was one of the most common names to be found at the business-end of a tonearm, and the AT-F3 was a frequent choice for budget-to-midrange systems. Now, a couple of revisions later and with a rather higher price (though not by much more than inflation), here it is again.

It's a moving-coil design with an output typical of the breed at 0.35mV, just in the middle of the range and well within the comfort zone of practically any MC-compatible phono stage. The stylus is a straightforward elliptical type, fitted to a hollow aluminium cantilever. Compliance is quite high, matched well to the low mass, assuming a low-mass arm is used.

Distant memories suggest this used to be a lively cartridge, but not always a very subtle one, so it is good to be able to report an improvement in the latter area. It still doesn't have quite the insight of a true high-end (none of the four in this group does, unsurprisingly), but its detail and clean treble make it a good performer both with lively and with laid-back sounds. It does a very good job of separating out the performers in a group, but without losing the sense of ensemble. It's also (still) lively, though not excessively so and we found its tastes best flattered by classical, jazz and other acoustically recorded styles. Just occasionally it can seem a little over-full in the low bass, but that's a minor sin and an easy one to live with.

VERDICT

AN ASSURED all-rounder that works well with any music, but can sound a little stressed with very treble-rich material



Goldring 2300

PRICE: £170 CONTACT: 01279 501111

WEBSITE: GOLDRING.CO.UK

HALFWAY UP the 2000 series, this model differs from its siblings principally in the matter of stylus shape, though there are also changes to the generator assembly. It's a moving-magnet type, offering the usual advantage of the breed in having a replaceable stylus and its mass is about average at 7.6g. Compliance is moderate and we don't anticipate any problems fitting the 2300 in any conventional tonearm. Output is slightly higher than most moving magnets produce, but not by enough to cause problems with a typical phono stage. The rounded plastic body has threaded inserts which do make mounting the cartridge a very easy job, though we're a little nervous about the stylus guard, which if applied incorrectly could do a lot more harm than good!

The most obvious characteristic of the 2300's sound is the sheer solidity it produces. It achieves this thanks to a very reliable bass region which never seems to get into trouble even with the hottest discs. There's a really great balance to the lowest octaves, which gives drive to rock, poise to classical and, of course, a very natural tone to male vocals. Precisely because the bass is so well balanced, though, it doesn't leap out and assault you the way some budget cartridges seem to. It has that restraint that's characteristic of so much good hi-fi (it knows when to give and when to hold back). The treble is nearly as good, though it can just occasionally sound a little constrained: it seems to work well driven hard, but can seem rather too mild-mannered when subtler high frequencies are called for.

VERDICT

THE BASS is the real glory here, full and unashamed but always impeccably controlled. Details and imaging are also good, making this a superb rock'n'roller!



Grado Prestige Gold 1

PRICE: £150 CONTACT: 01279 501111
WEBSITE: GRADOLABS.COM

THIS IS a moving-magnet cartridge, complete with replaceable stylus and high output typical of the breed, but there are some notable differences to the generator. Most moving-magnet designs end up with a very high inductance in the generator windings, which in turn can lead to compatibility issues with cable and amplifier-input capacitance. Grado's generator is referred to as a 'moving iron' type and has inductance a factor of ten lower, though resistance and output voltage remain unaffected and this should give better consistency with application and better high treble in general.

In typical Grado style it's a plain-looking little device that comes in understated packaging, but if they've put all the money into sound quality instead, we're not arguing. The stylus is elliptical and compliance is moderate, while mass is on the low side of average.

Two things struck us at the outset about this cartridge: its bass is gorgeously full and its imaging seems distinctly better than most (though none of the models we were comparing it with is in any sense bad in that regard). The funny thing is, though, that after a few minutes one's attention is directed elsewhere, for this cartridge has qualities in the upper midrange and treble that really make it stand out from the crowd. This frequency range is tricky for cartridges as it's often quite 'busy' and places high demands on the stylus and generator. The Prestige Gold 1 just seems to sail through the toughest tracks, resulting in a more refined sound than one expects anywhere near this price. Voices and instruments benefit equally, with admirably consistent tonal qualities from soft to loud.

VERDICT UNUSUALLY ASSURED 'presence' region is the basis of a beautifully musical and involving presentation. Slight bass fullness never really detracts

★★★★★



Ortofon Vivo Red

PRICE: £200 CONTACT: 01235 511166
WEBSITE: ORTOFON.COM



A NEW model from Europe's biggest name in cartridges, this is described by Ortofon as a 'standard' low-output moving-coil design. Inasmuch as its basic technical characteristics are absolutely textbook for the breed, that seems about right! It features an elliptical stylus and an aluminium cantilever, mounted into a plastic body about which we have just one small complaint: it has the dreaded open lugs at the side for mounting, rather than full-enclosed holes. Two features mark this model out. First, it uses very high-purity ('7 nines') copper in the winding wires, an Ortofon speciality for many years now. Second, its body is made of a newly developed polycarbonate resin which is claimed to give very low resonance.

Sound is typical Ortofon, in all the best ways: very evenly balanced tonally but without sacrificing life and energy. If there's a weakness, it would seem to be in handling the hottest cuts, which just occasionally leave the Vivo Red struggling a bit. But then it's not marketed as a disco cartridge and, unless you have a lot of show-off audiophile discs in your collection, this is unlikely to be a limitation. Its detail is first-rate, with good imaging, too and it's worth noting that both of those aspects are very consistent with level, which is by no means always the case. The treble is very sweet and handles both high levels and subtle ambient traces very well, while bass is extended and punchy, but never over done. ●

VERDICT DETAIL AND TONAL balance to the fore here, with results that are civilised but never less than musically convincing. All-in-all this is a remarkably capable cartridge

★★★★★



The cartridge is typically the smallest component of a hi-fi, but in many ways the most significant. It's certainly true that a bad one can mangle your music in a way that no subsequent part of the chain

can correct, so you'll need a good one. You'll also need to set it up correctly and keep it in good condition, free of dust and grime. We're forever talking about set up, but never is it more critical than here,

where one degree of offset error, or a couple of tenths of a gram tracking force, can more than double distortion. Luckily, there are many simple-to-use set-up tools available – or just ask your dealer.

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CHORD signature speaker cable, 2m pair, £275. Chord 1m Indigo Plus RCA pair, £475. Chord signature Links, two pair, £25. **07970 012450 (Hampshire).**

AUDIO RESEARCH LS2b preamp, original box, (£3,000) £780. Theta Pearl transport and Probasic 3a DAC (£4,750) £1,250. Wanted: Transparent ultra/reference s/e interconnect, finite Element rack. **07973 220663 (Leicestershire).**

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PSAUDIO phones, one year old, immaculate condition, manual, remote, boxes, purchased from new, can be demonstrated, very light usage, £495. **01737 779938 or 01306 884107 (Surrey).**

MUSICAL FIDELITY A1 CD Pro Player, two years old, mint, boxed. Philips Pro 2 mechanism 24-bit/192k DAC. Top-loader, £650. Original Pi Foundation stands circa 1990, 18-inch-high, top plate 7.5in square, sand- and shot-filled, brass-opped floor spikes, good condition, buyer collects, £150. **07789 712775 (Hampshire).**

REGA 3 full Isokinetic mods turntable, no arm, buyer collects, £250. **01606 784767 (Cheshire).**

MJACOUSTICS Ref1 subwoofer, 10-inch downward-firing driver, D.A.M.P amplifier technology, high/low inputs, variable crossover with digital readout, expensive option finish in red cherry, good condition, (£800) £400. Two Musical Fidelity X10Ds



Grado PS1000

and one X-PSU, cylindrical models, both X10Ds are boxed as new, one has NOS Mullards fitted, X-PSU is as new, no box, all leads, £100 each. **07876 705266 (West Yorks).**

NAIM ARIVA loudspeakers quality floorstanders, excellent condition, Cherry finish, 100w, original grills, plinths and cartons, but collection best option, (£1,400) £849. **07595 218 695 or email: steve.crowe@yachtingpages.com (Bristol area).**

NEAT MOTIVE 2 loudspeakers, maple finish, unwanted prize, boxed, unopened, £900. **01684 294649 or 07971662734 or email: ultraarry@hotmail.com (Tewkesbury, Glos.).**

ARTAUDIO Maestro Valve monoblocs 50 watts and valve VP1 preamp, good condition, serviced recently and new valves, (£9,500), £2,500. Can demo. **01476 579201 (Grantham).**

SPECTRALAUDIO dma 150mk2 power amp, excellent con, superb sound, manual box, £3650ono. **0115 9126424 (Notts).**

YAMAHA NS-F700 loudspeakers, piano black, three-way floorstanders, new boxed 25kg, 354x1012x374mm (WxHxD), unwanted prize, £750. **01245 264248 petenicky@tiscali.co.uk (Essex).**

A&R A60 amplifier, lowone-channel (pre) £30. Mission, 7LE speakers £35. Yamaha

NSC 120 centre speaker (boxed) £40. Technics ST70300 analogue tuner £40. **01708457691 (Essex).**

UNISON RESEARCH S6 valve amp (not working) open to offers. Buyer collects. **01482 853091 (Hull).**

RUSS ANDREWS Kimber Crystal CU interconnect one metre (£150) £70. **07891 533084 (Swansea).**

PRO-JECT record deck and phono amp, Musical Fidelity XA-1 preamp, Arcam Alpha 9 CD player, Arcam P60 power amp, Rogers Studio 5 speakers. Includes all cables, Russ Andrews mains leads and stands (£3,700) £1,600ono. **+00353 87 637 6623 (Co Wicklow).**

MICHELL TECNO black tonearm, as new, 15 hours' use, upgraded, (£445) £375, no offers. **07736 773830 (Yorkshire).**

ISOTEK ELITE 1.5 metre mains cables x 4, cost £300. Open to any sensible offer. **07891 533084 (Swansea).**

ARCAM FMJ A18 six-months old, £350 ONO, Pro-ject 1.9 Classic (cherry) turntable, MC35FL cartridge, £300 ONO, Trichord Dino, Dino and phono, PSY, £300 ONO. **07896 410722 or 115 9176776 (Nottingham).**

MUSICAL FIDELITY KW550 amp, perfect, boxed, buyer collects, £2,500 ono. Arcam CD player 192, perfect, boxed, £350 ONO. Quad CDP99 (MK I) £400 ono. **01273 305176 (Brighton).**

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!

ARCAM FMJ DV29 high-end DVD audio/video player, silver, good condition, in original box with manual, £350 collected. Price includes 10 DVDs. **01452 614515 (Gloucestershire).**

WANTED: Cambridge CD3 service manual. **brian.hill25@btopenworld.com 01228 792344 (Cumbria).**

CHORD ODYSSEY 2 cables 4-metre pair, terminated (£214) £120. Black Rhodium illusion DCT interconnect 1metre (£250) £150. Audio Note Lexus interconnect 1 metre (£275) £150. **01243 528010 (West Sussex).**

MUSICAL FIDELITY Elektra E100 Amp, 70 watts per channel, digital and phono inputs, E600 CD player, E500 tuner, all in piano black finish, Celestion CS6 speakers, all in excellent condition with manuals and remotes, £650. Marantz 6003 CD player, only two months old, as new, £200. **02380 224003 (Southampton).**

ROTEL RA-06 AMP /RCD- 06 CD/Epos M5 speakers (£1200) £550. All boxed in pristine condition. Includes Chord Crimson interconnect and Chord Silverscreen speaker cable, Marantz CD6002 CD player, award winner in silver, boxed in pristine condition (£280) £120, Kimber Classic Powercords 1m, boxed as new. Under half price! £40 each, two available. Both for £70. **leet2009@hotmail.co.uk or 01384 412234 (West Midlands).**

MARANTZ SA-11 S2 SACD player, excellent condition, £1,900 ono. Shunyata Hydra 2 £275, Shunyata power cables £100 each. **07810 434589 (Surrey).**

THORENS TD160 BC with SME 3009 fixed head Grado cartridge, Pro-Ject phono amp, Standesign two tier (glass/ metal) stand. A1 condition. £400 ono. **mike222@blueyonder.co.uk or 01562 638119 (Worcestershire).**

TRANSPARENT MUSIC wave plus bi-wire 15-foot pair £200 ono, Mandrake silver wire interconnect phono, 1-metre pair £100,

Roksan KandyAM/FM tuner KT-1 mint, unboxed £100 ono. **020 8368 4228 or petersmyth2@googlemail.com (Barnet).**

MISSION M33 in beech finish with NAD C352, 80 watts per channel integrated amplifier. Unmarked in boxes with remote and manuals. £185. **01908 376966 (Milton Keynes).**

PIONEER FD-1009 301 disc CD multiplayer. In excellent condition, with remote control and handbook. £50 ono. **01622 208476 (Maidstone).**

KIMBER D-60 digital cable 1-metre only, five hours' use £295. Kimber KCAG -14db CD interconnect 0.5metres £295. (£560 the pair) **01902 884694 (Dudley).**

SONY CD Player SCD 555 ES (£1,000) £375. Sony DAB/FM/AM tuner D777 ES (£500) £175, matching Champagne Gold finish. Can dem. **02476 711668 (Coventry).**

WANTED: Top quality Hi-fi separates and complete systems, Naim, Linn, Cyrus, Meridian, Arcam etc, fast, friendly response and willing to travel/pay cash. **781 5892458 (Colchester).**

NAIM CD5i-2 CD player £500, Naim Nait 5i-2 amp £400, Monitor Audio RS6 (cherry) speakers £300 all as new and boxed. Naim/Kudos upgrade forces sale. **07791 339784 or gary.pratchett@ntlworld.com or (Nottingham).**

ROBERTS MP23 CD/radio sound system unit, under warranty, boxed, only four months old. (£250) £145. **01304 360230 (Kent).**

DUNLOP SYSTEMDEK transcription turntable (the original one) finished in charcoal nextel, hinged lid, new RB350 arm and Goldring 1042 cartridge. Excellent condition. **07771 508444 (day) or 01205 722000 (Lincs).**

OPERA SECONDA loudspeakers finished in cherry (£1,800) £750, Unison Research Valve/Mosfet Secondo 120 watts integrated amplifier (£1,800) £750, Unico valve, FM/RDS/AM tuner, (£1,100) £450. All mint. **023 80 738935 (Southampton).**

NAD 315 B66 amp, NAD 515 B66 CD player,

QAcoustics 1020 speakers, as new, A1 condition, all boxed, can be demonstrated, £250 ono. **01255 553774 or email: peterp.webb@btopenworld.com (Essex).**

GRADO SR 60 headphones, boxed, mint. **07891 533084 (Swansea).**

MILLER AND KRIESEL V.125 powered subwoofer, 12-inch driver, mint condition, £195. NAD preamp £15. **01722 334694 or 07979 705644 (West Yorkshire).**

KIMBER KABLE Select KS 1011 1metre interconnect, WBT-0110cu, termination, (£765) £475 ovo. **01656 653976 (Mid Glamorgan).**

Mana Base table wall shelf, 3 levels, £400. Tom Evans Micro Groove Lithos, £250. Foundation Audio 18-inch four column stands (20kg). **0208898 3383 (Hounslow).**

ATC 20-2 active loudspeakers, under warranty, with boxes, £1,995. HNE granite stands polished with leather, £375. **01766 781211 (Gwynedd).**

REGA R5 loudspeakers, good condition, £440. Ixos bi-wire cable, 2X 3m, £25. Two Cambridge P. 500 power amps, 55 watts, £150. **0161 9020719 (Manchester).**

LINN KAN speakers, immaculate condition, black four column stands, spiked, £195. **07737471547 (South Yorkshire).**

MERIDIAN 504 tuner, no marks, no box, £300.

07956 236764 after 6pm (Tyne & Wear).

MORDAUNT-SHORT Performance 6LE, mint condition, (£4,000) £2,500 ovo. **07866 727448 (Southend-on-Sea).**

MARANTZ amplifier PM6002, Marantz CD 6002, Monitor Audio RSI speakers with stands and cables, all boxed as new, £550. **01943 467859 (West Yorkshire).**

TRICHORD DIABLO with NCPSU phono stage £600, Audio Synthesis DAX Decade £700 (stored for four years), Audio Alchemy DDS3 with Trichord clock modification £400. **0118 9760756 (Berkshire).**

TRANSPARENT AUDIO Reference phono to phono interconnect (1m) £850, Mana 4-tierrack £600. **0118 9761257 (Berkshire).**

CHORD DAC64 Mk II, two years old, unmarked condition, dual outputs, (£2,300) £1,095. **07788 504037 (Kent).**

KEF RDM2 speakers (cherry), original boxes £395. MFX10D Tube Buffer £85. Ixos Gamma XHA806 RCA 0.5m pair £20. QED Qorum, Reference cable (terminated) 2x4m £35. **01684 290581 (West Midlands).**

CAMBRIDGE AUDIO DAC Magic boxed, mint £150. Arcam FMJ CD23, original ring DAC, light

use, £150. **07889 951316 or allan.robbs@tiscali.co.uk (Hampshire).**

CARLSSON 0A-50.3 £300, Proton power amp £250. Also supra cables. **07545 313889 (London).**

AUDIO RESEARCH LS-1 preamp, mint condition £495. Meridian M1 active speakers, immaculate condition £495. **02380 224003 (Southampton).**

REGA SATURN CD player, boxed. (£1,250) £500. **07899 721899 (London).**

MARTIN LOGAN Vantage hybrid electrostatic loudspeakers (dark cherry), two years old, A1 condition; (£5,000+) £2,500. **Jackcrawley@btinternet.com (West Yorkshire).**

SILVER MAINS power cable, voodoo cables. With silver-plated Maringo and mains plug. (£250) £85. **07981 025698 (Bristol).**

THIEL CS 2.4 loudspeakers, 14 months old (natural cherry). www.thiel.com for reviews, (£3,900) £2,100. **01296 437314 or jezz@btinternet.com (Bucks).**

RUSS ANDREWS Torlyte equipment shelf under half price, £45. **01794 514916 (Hants).**

TEAC Z5000 cassette deck (£800) £150. Mission 700LE speakers £35. Pioneer PL115D £40. Technics STG55AL tuner £55. KEFCoda 3 speakers £35. Marantz 50SE CD £50. **01708 457691 (Essex).**

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- Run by Audio T in association with Sevenoaks Sound and Vision - the UK's largest independent hi-fi and home cinema chain, with over 50 stores nationwide
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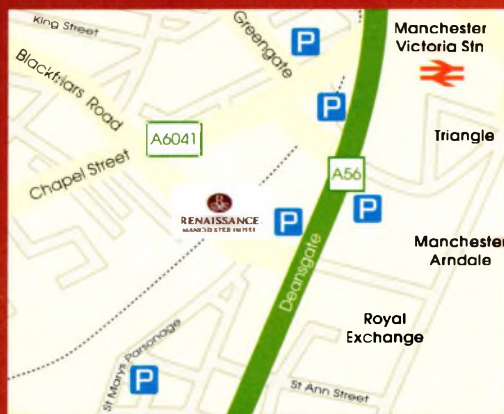
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EDITORIAL

Editor Dan George, dan.george@futurenet.com
Art Editor Corin Skeggs, corin.skeggs@futurenet.com
Production Editor Richard Holliss, richard.holliss@futurenet.com
Staff Writer Ed Selley, ed.selley@futurenet.com

CONTRIBUTORS

Technical Consultant Richard Black
 Alvin Gold, Jason Kennedy, Paul Messenger,
 Dave Oliver, Nigel Williamson, Malcolm Steward,
 Dominic Todd, Mark Prendergast, Kevin Emden

Photography Rob Monk, Kevin Nixon, Will Ireland
Group Senior Editor Nick Merritt
Group Art Editor Rodney Dive
Creative Director Bob Abbott
Design Director Matthew Williams
Editorial Director Jim Douglas

ADVERTISING

Advertising Sales Director Rob Elms,
 020 7042 4272 rob.elms@futurenet.com
Advertising Sales Manager Tech Charlie Said
 020 7042 4142 charlie.said@futurenet.com
Senior Sales AV Group Michael Carrington
 020 7042 4206 michael.carrington@futurenet.com
Senior Sales Executive Julian Tozer,
 020 7042 4273 julian.tozer@futurenet.com
Sales Executive Richard Jewels,
 020 7042 4265 richard.jewels@futurenet.com
Inserts and Direct Marketing Manager Nick Weatherall
 020 7042 4155 nick.weatherall@futurenet.com
London Sales Director Malcolm Stoodley,
 malcolm.stoodley@futurenet.com

MARKETING

Marketing Manager Libby Brook,
 libby.brook@futurenet.com
Brand Marketing Director Matt Woods,
 matt.woods@futurenet.com

CIRCULATION

Circulation Manager John Beeson,
 john.beeson@futurenet.com
Circulation & Trade Marketing Director Rachael Cock,
 rachael.cock@futurenet.com

PRINT & PRODUCTION

Production Manager Ralph Stringer,
 ralph.stringer@futurenet.com
Production Coordinator Roberta Lealand,
 roberta.lealand@futurenet.com
Senior Ad Production Coordinator Gemma O'Riordan,
 gemma.oriordan@futurenet.com
Head of Production Richard Mason,
 richard.mason@futurenet.com

LICENSING

Head of International Licensing Tim Hudson,
 +44(0)1225 442244 tim.hudson@futurenet.com

FUTURE PUBLISHING LIMITED

Group Publisher Pat Eggington
Chief Operating Officer Simon West
Chief Executive Mark Wood

SUBSCRIPTIONS

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Chief Executive Stevie Spring
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On demonstration

Raidho Acoustics



C1



Product of the year 2008

High End Cable will be demonstrating the Raidho C1 at the NAS 25-26 Sept Room 110

The Raidho Loudspeakers employ the very finest components, including Ceramic drivers which are hand built in house. The Raidho ribbon tweeter is unique and was the very starting point of the company. The new Raidho speakers utilize the very finest filters and crossover components in a topology unique to Raidho.

How many evolutionary steps does it take to make a revolution? The Raidho magnet system consists of 2 rows of neodymium magnets placed in a push pull configuration. Loudspeaker technology has moved very little in the past 50 years, with small improvement in real terms, taking a long time to realize. But now a systematic reappraisal of fundamental principals has changed the rules. Designer Michael Boerresen has created a new standard when it comes to delivering the life and drama captured in a recording.

Evolutionary ? Yes
 Revolutionary ? Absolutely

The C2 is an agile conjuror of a speaker, able to keep all the balls in the air at the same time. It is often an education to live with and I can do nothing but thoroughly recommend it.. Chris Thomas Hi-fi Plus issue 73



Please visit the High End Cable website for call for more information. C1.0 was Hi-fi plus Product of the year 2008. **We offer fabulous trade in deals, up to 40% when we take in your old speakers in part exchange. So your old speakers could be worth more than you think. Call Dave today on 01775 761880.**

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Overall, very impressive. Robert Townsend ** Stereophile Jan 08

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- Bel Canto CD2
- Bel Canto 300i.
- Quantum Qx4 Mains Purifier
- Nordost Sort Kones



Hi-Fi Choice

Buyer's Guide



Welcome to the *Hi-Fi Choice Buyer's Guide* – the ultimate directory to the very best high-performance hi-fi gear that you can buy. Here, you'll find our favourite current products listed under easy-to-use categories, with up-to-date pricing and trustworthy verdicts.

Reviews you can trust

Hi-Fi Choice test results are the most reliable in the business. We employ the UK's most respected hi-fi journalists and use the most stringent techniques to ensure our ratings are the ones you can trust. All the equipment we rate most highly is contained within these pages, from CD and vinyl to the latest disc players, amplifiers, tuners and loudspeakers.

Reviews online

We've also included *techradar* listings where our reviews appear online.

To access selected *Hi-Fi Choice* reviews, simply type: techradar.com/ into your browser, followed by the six-digit number printed in the first column of our *Buyer's Guide*.

How to use this guide

The *Hi-Fi Choice Buyer's Guide* is the best way to make a shortlist of components to audition. Pick the ones that best suit your taste and budget, then consult our *Dealer Classified* section to find specialist outlets where you can try them with your favourite music and test discs.

BADGES EXPLAINED

OUR AWARDS



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



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



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

TECHRADAR

For an online review of the hi-fi listed in our *Buyer's Guide*, we have included a unique URL number next to selected tests. Go to techradar.com and simply add the number printed in the column: ie.techradar.com/625025

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●	Arcam CD17	700	Civilised sound, with a positively deluxe treble. Bass is clear, if not the weightiest ever									315
●	Audio Analogue Crescendo	599	Simple player that's clear and communicative with the appropriate partnering equipment									329
●	Cyrus CD6 SE	900	A combination of detail and sheer musical energy with a hint of high end to the performance									318
●	Denon DCD-1510AE	900	If the SACD format is what you're into, then this player is capable of some impressive sounds	●								335
●	Harman/Kardon HD990	550	Highly detailed with excellent extension at both extremes and impressive resolution									323
●	Marantz SA7003	600	Highly civilised sound may not be to all tastes, but there's plenty of detail to be heard									323
●	Marantz SA8003	830	Classic Marantz sound in a classy and attractive package. Our favourite sub-£1,000 player									315
●	Micromega CD-10	799	The cheapest in the range, the CD-10 has been fine-tuned to please the audiophile									328
●	Moon CD.5	999	Admirably energetic music-maker from this very well-built player									335
●	NAD C545BEE	350	Apart from slight lack of bass control, sound is very fine indeed – treble is beautifully detailed									322
●	Naim CDSi	895	Its competent musical performance exceeds the expectations of an entry-level player									307
●	Pioneer PD-D9	850	A mostly well-balanced player that's arguably at its best with classical music									326
●	Roksan Kandy K2	899	State-of-the-art technology and precision engineering produces a fine CD performance									335
●	Rotel RCD-1520	695	Lacks optical digital output, but feature-count is fine and sound quality is expressive and open									323

Above £1,000

Badge	Product	Price	Comments	SACD compatible	ELEC dig output	OPT dig output	CD-RW compatible	BAL analogue out	Headphone socket	Variable output	CD text	Issue number
●	Arcam CD37	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution									318
●	Audio Research CD5	5,055	Audibly better than most CD players on the market – assertive and very dynamic									312
●	Consonance Droplet CDP3.1	1,995	A CD player which gets to the nub of what music is about. Engages the listener every time									322
●	Copland CDA 825	3,985	This a highly revealing player that delivers music in a realistically engaging form									332
●	Creek Destiny	1,400	This player presents the music and nothing but the music and is thoroughly recommended									328
●	Cyrus Audio CD 8 SE	1,200	A highly civilised player which can, nevertheless, deal convincingly with raw music									323
●	Denon DCD-2010AE	1,700	Well equipped, finely detailed and with good support for compressed audio and iPod									328
●	EMM Labs XDS1	18,995	Very high-performance two channel only player with the option of a standalone D/A converter									327
●	Esoteric X-05	3,995	Superb resolve of fine detail with a perfectly judged balance and an ability to draw you in									314
●	Leema Antila II	2,735	Great build and multiple DACs give this a fast, revealing and totally engaging sound									323
●	Marantz UD 8004	2,450	Sophisticated and highly capable universal player that just about does it all									336
●	Micromega CD-20	1,249	No SACD, unfortunately, but without doubt one of the better mainstream players									332
●	Mimetism 20.1	5,107	An impressive player that produces a very convincing and musical sound									330
●	Moon CD3.3	2,200	Excellent detail and a fine choice for those who like their music straight from source									328
●	Moon 750D	7,950	Very few CD players can extract as much information off the disc as the 750D									331
●	Naim CDS XS	1,790	Its composure and openness results in a musical performance that is extremely seductive									334
●	Rega Isis	5,998	A magnificently musical CD player at a realistic price. USB input is a useful addition									329
●	Resolution Audio Cantata	5,995	CD player/streamer that's revealing enough to set it far apart from the competition									336
●	Theta Compli Blu	2,998	A very accomplished universal player with support for Blu-ray and HDMI									337
●	Unison Research CDE	2,495	Valve CD player with interchangeable DACs doubles as a standalone DAC that oozes musicality									318

SPECS KEY **SACD COMPATIBLE** Plays high-resolution SACD discs in two-channel mode. **ELEC DIGITAL OUTPUT** Electrical coaxial output for digital connection to a DAC or digital recorder. **OPT DIGITAL OUTPUT** Optical Toslink output for digital connection to a DAC or digital recorder. **CD-RW COMPATIBLE** Will play CD-RW (rewritable) discs, most CD players can cope with CD-Rs. **CD TEXT** Will display album and track titles from insetted disc. **BAL ANALOGUE OUT** Balanced XLR output connections for similarly equipped amplifiers. **HEADPHONE SOCKET** Quarter inch (6.3mm) headphone jack fitted to the CD player. **VARIABLE OUTPUT** Player features both fixed level and variable, volume adjustable outputs.



After 5 years in production, the Dino is still one of the most popular phono stages around. Highly versatile with accessible switches on the baseplate to facilitate a wide range cartridges.

'Never Connected' power supply technology virtually removes all incoming mains noise allowing only the music to be heard.

Visit our website to learn more about this exciting product and the high performance Diablo phono stage.

Trichord Research

Tel: +44 (0)1684 311600
sales@trichordresearch.com

Fax: +44 (0)1684 311928
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Dino Phono Amplifier



Turntables

The best record players money can buy



Badge	Product	Price	Comments	www.techradar.com	Switchable speed change Speeds	Suspension subchassis	Supplied with arm	Issue number
●	Clearaudio Concept	1,050	One of the easiest ways of getting into analogue, with excellent results for the price		33/45	●	●	337
●	Continuum Caliburn	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand	/587169	33/45/78	●	●	320
●	Dr Feickert Woodpecker	2,995	Offers superb bass, excellent build quality and range of arm choices		33/45	●		335
●	The Funk Firm Funk V2	1,390	Not only as beguiling as those that preceded it, this turntable is also more substantial to boot		33/45	●	●	324
●	The Funk Firm Saffire	2,450	Individual design and a sound that's refined and neutral with strong timing and dynamics		33/45	●	opt opt	309
●	Hanss Acoustic T-30	3,600	The only multi-armbase deck in its price range, it boasts image stability and precise bass		33/45	●	opt opt	331
●	Lumley Heliosphere	2,495	A distinctive-looking turntable with a unique sound and a performance that reflects your vinyl	/560765	33/45		opt opt	319
●	Michell Tecnodec	608	Needs careful partnering but can deliver a very sophisticated result for the money		33/45		opt	309
●	Michell Gyro SE/RB250	1,565	A marriage of shot-putter-strength, build quality and robust audio (including arm substitute)		33/45		●	324
●	Pro-Ject RPM-1 Genie 3	190	The Genie is that rare thing of a product with good looks, fine build and excellent sound		33/45		●	332
●	Pro-Ject RPM 6.1	750	With its huge platter this is a steady design that's capable of fine results with a decent cartridge		33/45/78		●	294
●	Pro-Ject X-Pack	1,000	Combines very strong elements (Ortofon Rondo Red) a killer package with top sound and value		33/45		●	309
●	Rega P3-24	390	Very competent, uncoloured and musical, improved by £148 outboard electronic power supply		33/45	opt	●	298
●	Roksan Radius S/Nima	1,375	Sophisticated design with accomplished sound quality, excellent imagery and good isolation		33/45	●	●	248
●	SRM Arezzo	699	The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay	/625025	33/45	●		325
●	Townshend Rock 7	1,720	Has the ability to pull detail out of a vinyl groove, making it the most resolute turntable at its price		33/45	●	●	324
●	Townshend Rock V/Excalibur II	7,000	If you want to hear everything that's on a record then there's no better machine for the job		33/45	●	●	307

Phono cartridges

MM and MC recommendations



Badge	Product	Price	Comments	www.techradar.com	Replaceable stylus	Issue number
●	Dynavector Karat 17D3	699	One of the most thrilling-sounding cartridges on the market		●	334
●	Goldring Legacy	595	An MC cartridge better suited to the smoother-sounding turntable, it unearths a mountain of detail		●	328
●	Grado Prestige Gold	149	Produces rich, open and expansive music with the minimum of fuss		●	235
●	Ortofon Rondo Red	385	Delivers detail, power and resolution and makes a good case for its price		●	307
●	Ortofon Cadenza Red	750	There's much to admire in this cartridge's line detail and unfussy presentation		●	330
●	Sumiko Blue Point Spec Evo III	239	High-output MC with refinement at high frequencies and a nimble, articulate and revealing sound		●	270
●	van den Hul MC One Special	699	A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light		●	235
●	van den Hul Condor XCM	2,400	A stunning cartridge with stereo imaging, dynamics and resolution to die for		●	265

Phono stages

Make your turntable sing



Badge	Product	Price	Comments	www.techradar.com	MM phono inputs	MC phono inputs	Adj impedance	Adj gain	Issue number
●	Cambridge Audio 640P	100	An outrageously good bargain that suits budget systems, but can confidently survive upgrades		●	●	●		305
●	Lehmann Audio Black Cube	335	This phono amp is a very distinguished performer with an MM source		●	●	●		335
●	Linn Uphorik	1,850	Exceptional sound quality, the Uphorik could easily win over the next generation of LP enthusiasts		●	●	●		334
●	Pro-Ject Tube Box SE II	435	The big picture is the most evident thing here, but the finer details are there, too		●	●			335
●	Soundsmith Strain Gauge	6,100	Revolutionary kit assembly that rewrites the rules about vinyl playback	/618387					324

SPECS KEY **SPEEDS** Speeds offered in rpm. **SUSP SUBCHASSIS** Turntables with a sprung or suspended support for the platter and arm. **SWITCHABLE SPEED CHANGE** Some decks require manual lifting of the belt from one pulley to another to change speed, but not these ones. **SUPPLIED WITH ARM** Deck is supplied complete with tonearm – some require a separate purchase in this department, but the dealer will fit it for you. **SUPPLIED WITH CARTRIDGE** Some decks are supplied with a starter cartridge and this is included in the price shown. **MM** Moving magnet cartridge – see amp and phono stage features to match this type. **MC** Moving coil cartridge – see amp and phono stage features to match this type. **REPLACEABLE STYLUS** Some cartridges have separate styli for ease of replacement, but it compromises sound quality.

HFC TOP PICKS



Cambridge Audio 640P £100

If you need a low-cost way to get your turntable talking to your amplifier, this is by far the best option, just pop into your local Richer Sounds



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



Townshend Rock 7 £1,720

A great turntable for those upgrading from an entry-level deck. Sound engineering at a bargain price sets this deck apart from the competition

"Hipness is not a state of mind, its a fact of life"
Cannonball Adderley



Fidelity *with SOUL*

Chord Indigo Plus Digital

Whilst most hi-fi and home cinema enthusiasts are happy to accept the influence that interconnects and speaker cable can have on the performance of a system, many people struggle to accept that a digital cable can be equally influential.

The common reaction is that since the cable is only carrying a digital signal, the design and quality of materials used in the cable will have far less influence. Listening tests however, show this is not necessarily the case. Repeated listening tests using high quality digital to analogue converters and home cinema receivers have shown that digital cables can and do have an effect on the sound quality of the system in which they are used. Digital cables are capable of affecting levels of detail, dynamics, sound staging and the rhythmic and tonal characteristics of a system.

The improvements that the Indigo Plus Digital can bring to a system should not be dismissed lightly.



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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

Amplifiers



Our pick of the best one-box amps out there

Up to £1,000

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	Audio Analogue Crescendo	599	In a room of appropriate dimensions, this amplifier has real musical presence					5	50 329
●	Cambridge Audio 840A v2	800	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)					8	120 327
●	Denon DCD-1510AE	900	Offers a taste of high-end excellence at an affordable price					5	70 335
●	Moon 1.5	999	A likeable amp in many ways, with admirable bass, treble and imaging					5	60 321
●	NAD C3226BEE	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed					7	50 322
●	Puresound A10	685	A superbly involving valve amp at a very competitive price and with genuinely excellent results					2	10 331
●	Roksan Kandy K2	895	Superior design and high-performance credentials makes this amplifier a must-have bargain					5	125 315

Above £1,000

●	Arcam A38	1,480	A winning combination of sonic virtues including highly developed detail and musicality					7	100 332
●	Astin Trew AT2000PLUS	1,740	If you prefer timbral and timing qualities of music to its bone-crunching potential, this is a contender					4	65 332
●	Audio Analogue Puccini Settanta	1,450	Detailed and lively, particularly in the upper octaves, but lacks a little bass extension					5	160 320
●	Creek 5350 Evolution	1,075	One of the most attractive amps in its price range, with a sound that's immediately satisfying					5	120 334
●	Denon PMA-2010AE	1,700	High-class, well-equipped integrated, with a performance that is muscular, refined and detailed					6	80 328
●	Electrocompaniet PI-2	1,600	A superb all-rounder, with insight on one hand and effortless musical flow on the other					6	100 327
●	Electrocompaniet ECI-3	1,650	This is an impressively resolute and powerful integrated amplifier for the money					5	70 324
●	Gryphon Atilla	6,995	Exceptional subtlety and definition, has enough power to cope with just about anything musical					5	100 328
●	Harman/Kardon HK 990	1,000	Very clever, with built-in DSP room correction – but most importantly a powerful and revealing ampl					7	160 321
●	Leema Pulse	1,270	Admirable bass which combines extension, tautness and clarity. Higher frequencies are highly detailed					5	70 327
●	Leema Tucana II	3,425	Highly featured, well-built and not short of power, this is a highly resolute and organic amp					7	148 323
●	Luxman L550A-II	3,000	An accomplished all-rounder that's able to handle virtually any system					4	20 335
●	Micromega IA-100	1,125	Fast and fluid performer that brings a touch of panache to its role					5	100 332
●	Mimetism 15.2	5,415	A powerful amplifier with great dynamics and high resolution that's rare even at this price					6	180 330
●	MSB Platinum M200	13,656	This amplifier's devastatingly good all-round sound quality sets a benchmark that few will approach					6	322
●	Musical Fidelity M3I	1,000	Extremely engaging performer, this power amp boasts excellent sonics and solid build					6	70 337
●	Myryad MX12080	1,200	Sound is more assured at the top of the frequency range, though bass is melodious and detailed					8	80 327
●	NAD 375BEE	1,000	A good, solid amplifier that is fundamentally musical and gives a great bang for your buck					7	150 325
●	Rega Osiris	5,998	Very solid all-round performer has massive power reserves and splendid stereo imaging					6	162 329

Pre/power amplifiers

Separate boxes can bring clear advantages



Up to £2,000

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	Cambridge Audio Azur 840E/840W	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled					8	200 309
●	NAD C165BEE/C275BEE	1,550	An alternative to the usual integrated route and one that offers flexibility and fine sound					6	130 336

Above £2,000

●	Audio Research DS450	7,000	Power amp features a very neutral transparent sound with lots of power and low-running temperature					2	450 337
●	Bryston BP16/ 2B SST2	5,700	Preamp and power amp combo offers superb sound quality					6	100 323
●	Bryston BP26	3,670	Cracking preamp brings detailed results					8	308
●	Chord Prima/Mezzo 140	7,135	Small, muscular, beautifully made and styled, and sounds like a dream					5	120 269
●	Classé CP-700/CA-M400	9,200	Pre plus mono power combo with superb build, huge power and enormous flexibility					6	400 293
●	Cyrus Pre XP D/8 power	2,225	Detailed and subtle, with little character added to sound					5	60 336
●	Digital Do Main Ba-1	6,495	By recreating the V-FET, DDM has built one of the most thrilling amplifiers on the market					4	300 327
●	Hovland HP-100/RADIA	18,900	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers					9	125 250
●	Naim NAC152XS/NAP155XS	1,920	Preamp and power amp duo offers excellent performance and classic Naim virtues					6	60 324
●	Roksan Caspian M Series-1	2,800	A powerful and enjoyable-sounding amplifier combo that brings out the strengths of its CD player					5	85 307
●	Rotel RC158/RB1582	2,100	It looks high-end and it really sounds the part, too					5	200 336
●	Trilogy 909/990	10,390	Extremely musical valve-based pairing with hybrid power and beautiful finish					6	100 325

SPECS KEY **LINE INPUTS** Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. **PHONO INPUT** Input sockets and on-board phono stage for a cartridge. Either **MM** (moving magnet) or **MC** (moving coil), occasionally both. **REMOTE CONTROL** A remote control is supplied with the amplifier. **HEADPHONE SOCKET** To drive your cans with. **POWER OUTPUT** Manufacturer's rated output in watts per channel.

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Cables



Cables really can make a difference, especially our top recommendations

Analogue interconnects								
Badge	Product	Price	Comments	www.techmats.com	Stranded	Solid core	Digital cable type	Issue number
●	Audioquest Sidewinder	45	A detailed cable, with fine tonality and excellent rhythm		●	●		297
●	Black Rhodium Prelude	90	Practical and sensibly priced all-rounder that seems happily compatible with a wide range of kit		●	●		293
●	Black Rhodium Coda	150	Superb bass with neutral and detailed midrange, treble sweet with occasional slight constriction		●	■		298
●	Black Rhodium Polar Illusion	250	A good all-rounder, with clear and purposeful bass and particularly fine treble		■	■		321
●	Cambridge Azur Reference	50	Performance wouldn't shame a cable at twice the price: especially adept in the treble		●	●		296
●	Chord Co. Indigo Plus	995	Costly, and high-class cable needs running in, but this is a finely detailed design overall	/608313	●			323
●	Clearer Audio Silver-line	283	Complex, well-screened cable which offers good sound all round with exceptional bass		●	●		279
●	CrystalCable Piccolo	348	Thin, tougher than it looks, has some qualities of a solid-core type – resolution, focus and articulation			●	●	294
●	Kimber Timbre	145	A very neutral cable that will complement even very upmarket systems			●	●	312
●	Monster M350i	45	Few cables at this price reveal so much about the recording space.		●	●		281
●	Monster M1000i	230	Very capable, with only a hint of bass dryness to set against excellent results elsewhere		●	■		284
●	Nordost Wyrewizard Dream	110	Slight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass			●	●	303
●	Oehlbach NF214	63	The bass is a matter of taste, but suits many smaller speakers with good mid and treble		■	■		281
●	QED Signature Audio 5	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice			●	●	332
●	Supra EFF-IX	77	Lively sounding which maintains a high level of detail and neutrality, musically, a great all-rounder		●	●		306
●	Townshend Isolda DCT100	99	Particularly enjoyable cohesion and naturalness that makes for great listener involvement			●	●	312
●	van den Hul The Wave	125	Neutral, with a hint of upper-bass richness: images seem to reside slightly further away than most		●	●		312

Digital interconnects								
●	Atlas Mavros	285	By any reckoning this is a very revealing wire			●	●	E 336
●	Kimber DV-30	59	A superb performer that lacks very little, even when compared to Kimber's high-end models		●		●	E 317
●	van den Hul The Wave	65	The results this cable achieves are excellent and it scores highly for value			●	●	E 336

Speaker cables (price per metre)								
●	Atlas Hyper 1.5	12.5	Don't look to this cable to beef up the bass, but at higher frequencies is revelatory at the price		●	●	299	
●	Atlas Ascent 2.0	60	A highly analytical cable and very fine detail across the board		●	●	294	
●	Chord Co. Silver Screen	6	Screened speaker cable with excellent treble, but just a little light in the bass at times		●	●	310	
●	CrystalCable Piccolo	1,395	A chip off the old block, has a similarly fast, fluid and subtle sound (price - 3 metre pair)			●	●	302
●	Kimber 4VS	155	In the right system, this cable is a good choice (price reflects 2.5 metre terminated pair)		●	●	329	
●	Monster MCX-1s	5	Notable for its bass, perhaps a touch overdone at times but could be a good foil to small speakers		●	●	280	
●	Nordost Heimdall	185	Alternative to Valhalla, silver-plated, micro-monofilament construction, suitable for exacting systems		●	●	278	
●	QED X-Tube XT300	12.5	A natural and controlled-sounding cable that's cost-effective for mid-priced systems			●	●	310
●	QED Revelation	15	Sensibly priced, this cable offers a performance which is a step-up from budget types		●	●	318	
●	Townshend Isolda DCT	50	Cryogenically treated 'impedance-matched' cable with stabilising components added			●	●	241
●	van den Hul The Wind	50	Separate conductors provide room for experimentation, conductor quantity keeps resistance low			●	●	318
●	Wireworld Solstice 52	25	Rather bulky and awkward, but performance amply justifies it with superb bass solidity		●	●	310	
●	Wireworld Oasis 6	40	Excellent bass with tunefulness and extension all first-rate. Awkward to handle, though	/617560	●			324

SPECS KEY **STRANDED** Cable has a number of (usually) twisted strands to conduct the signal. **SOLID CORE** Cable has one or more individually insulated strands to conduct the signal. **COPPER** Material used to form the conducting element of the cable. **SILVER** Alternative material used to form the conducting element of the cable. **DIGITAL CABLE TYPE** E – electrical, O – optical. Cables are one metre length unless otherwise stated.

HFC TOP PICKS



QED Revelation £15 (per metre)
Giving a consistent result with a wide range of amplifiers and speakers, the Revelation speaker cable boasts a good performance in all areas.



Kimber DV-30 £59 (0.5 metre)
A superb performer that lacks very little, even compared to Kimber's high-end models. Tonality, detail and imaging are really very fine.



Black Rhodium Polar Illusion £250
This super-cooled, unshielded interconnect with solid, silver-plated copper insulation, delivers a treble performance that's admirably clear and crisp.

BADGES KEY: RECOMMENDED = ● | EDITOR'S CHOICE = ● | GROUP TEST WINNER = ● | BEST BUY = ●

Stereo speakers

The most influential link in the chain



Up to £1,000

Badge	Product	Price	Comments	Size - width, height, depth (cm)	Bass from (Hz)	Ease of drive	Floorstander	Free space	Close to wall	Issue number
●	Acoustic Energy Aegis Neo 3	363	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight		20,90,5,24	●	A	24	●	294
●	Acoustic Energy Radiance 1	600	Limited bass, power handling and dynamics, but exceptional mid-to-treble voicing		18,5,32,25	●	A	33	●	325
●	Amphion Ion L	900	Sharp styling, fine mid/treble coherence a sweet treble, but less happy bass alignment		16,2,32,6,26,5	●	A	40	●	310
●	ATC SCM11	867	A very fine little speaker t-at its best with natural recordings where it adds little		21,38,25	●	A-	55	●	293
●	AudioPro Avanti A.10	350	A tough and effective little speaker – overall balance is quite smooth and even		19,29,26	●	A+	38	●	319
●	Bowers and Wilkins CM1	488	Luxury miniature has laid-back sound, low coloration and fine imaging, but weak dynamics		16,5,28,28	●	A-	40	●	279
●	Bowers and Wilkins 684	699	A fine all-rounder at a realistic price, has a smooth, even and nicely open balance	/483503	20,91,30	●		22	●	315
●	Bowers and Wilkins 683	879	High-class drivers and a great price makes for a warmly recommended speaker		20,99,34	●		20	●	304
●	DALI Ikon 6	999	Needs care with setup, impressively transparent and obsessively detailed sound		19,100,33	●	A	37	●	271
●	Dynaudio DM 2/10	880	Has fine dynamics, grip, bass and headroom and is well mannered		27,5,45,35	●	A	22	●	299
●	Focal Chorus 706V	389	Advanced drivers deliver an even, healthy dynamic expression and tension		22,39,25	●	A	27	●	319
●	Focal Chorus 726V	950	Compact and realistically priced, the Chorus 726V is a good all-round performer		22,99,37,5	●	A	25	●	325
●	JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch		22,99,37	●	A	25	●	275
●	KEF iQ50	599	Looks cute and very discreet, with spacious imaging, good balance and a sweet treble	/483527	17,5,81,5,26	●	A	23	●	315
●	Monitor Audio BR2	230	Good-looking standmount has a muscular sound with superior coherence		18,5,35,25	●	A-	30	●	294
●	Monitor Audio BR5	450	Not the best dressed in its class, but detailed, bold-sounding and good value		17,85,25	●	A-	36	●	293
●	Monitor Audio Silver RS8	850	Bold, dynamic sound, it's an easy load that works well in larger rooms		90,18,27	●	A	33	●	276
●	Monitor Audio GS10	900	More neutral tonally than some recent MAs, the GS10 is easy to drive		20,36,27	●	A-	40	●	284
●	PMCD81i	985	Could be more neutral, but a very effective musical communicator		15,5,29,23,4	●	A+	30	●	334
●	ProAc Tablette Ref Eight	704	Stunning standmount with electrostatic-like imagery. Its brother is even better!		15,27,23	●	A+	40	●	267
●	Q Acoustics 1010	110	Neatly styled miniature has limited bass and power handling, fine midband voicing		15,21,5,19,5	●	A	48	●	286
●	Q Acoustics 1020i	140	Outstanding value, t smooth well-balanced and lively sound makes a fine communicator	/516273	17,5,25,26,5	●	A+	60	●	318
●	Rega RS1	390	Clever close-to-wall speaker has a fine coherence and good communication skills		15,32,23,6	●	A	23	●	319
●	Russ Andrews SP-1	352	This tweaked Focal 705V RA has a sound that is immediate, engaging and, and great fun		19,2,31,5,24,8	●	A+	65	●	309
●	Spendor S3/5R	750	Lacks dynamic muscle and loudness potential, smooth neutrality and g bass extension		16,5,30,5,190	●		25	●	310
●	Tannoy Revolution DC4T	599	Ultra-compact, lacks bass weight and dynamic tension, but sounds open and coherent	488857	15,85,16	●		40	●	316
●	Tannoy Revolution DC6	900	Pretty compact standmount, delivering a lively bass and smooth, coherent midband		23,36,5,23	●	A	40	●	307
●	Wharfedale Diamond 9.1	150	Superior shape and finish. Sound is laid back, but free from boxiness		19,5,30,28	●	A-	45	●	307
●	Wharfedale Diamond 10.5	480	Despite the price, the 10.5 ticks many of the boxes, with superior voice band coherence	/636778	22,88,30	●	A-	50	●	326

Above £1,000

●	Adam Audio Tensor Delta	8,400	This active loudspeaker brings a powerful range of capabilities to its performance		33,56,34	●	A	50	●	329
●	AE Energy Radiance 2	1,000	This speaker boasts fine neutrality, sweet top, fine imaging and wide dynamic range		18,5,92,25	●	A	30	●	334
●	AE Energy Radiance 3	1,500	This speaker's effective enclosure ensures a wide dynamic range and a very clean sound	/587236	23,92,29,7	●	A	27	●	320
●	AEA1 MKIII	2,000	This speaker has a lovely midband smoothness and superior image focus		18,5,31,25	●	A	24	●	337
●	Amphion Argon 3L	2,300	Solid build ensures an impressively clean sound with loads of bass and fine neutrality		19,92,5,30,5	●	A	44	●	322
●	Aspara HL6	4,300	Acoustic material sounds great and there are many strengths in design and performance		18,5,93,34,5	●	A		●	332
●	ATC SCM16A	2,376	Makes a great case for the active speaker. Includes built-in amps and is good value		27,45,33	●	ACT	42	●	300
●	Audioplan Kontrapunkt IVB	2,898	Boasts exceptional stereo imaging and mid-through-treble coherence		16,35,26	●	A	45	●	329
●	Audiovector S3 Super	2,600	Useful ability to upgrade, offers good musical communication and stereo imaging		19,103,31	●	A	50	●	328
●	Auroual VS	1,650	Fine coherence and imaging of a single driver system, extra help at the frequency extremes	/479149	21,5,107,5,26,8	●		20	●	314
●	AVI ADM9	1,125	Active mini-monitors that are exceptionally accurate and dynamic sounding		20,30,26	●	ACT	60	●	301
●	Bowers and Wilkins CM9	1,760	Tall, elegant, expressive midband and expansive, but well-controlled bass	/597244	20,102,5,32	●	A	60	●	321
●	Bowers and Wilkins 802	11,500	This high-end speaker has an airy, spacious midband, with clean bass reproduction		36,8,138,56,3	●	A	27	●	337
●	Cabasse Bora	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354	33,27,50	●	A	52	●	324
●	Focal Chorus 816 V	1,099	Fine, warm balance, superior dynamics and a sweet top end, but could be smoother		28,100,37,5	●	A+	20	●	288
●	Focal Chorus 826 V	1,349	Times nicely, goes loud with ease and will produce precise imaging if appropriately set up		28,104,37,5	●	A	45	●	287
●	Focal Chorus 816WSE	1,499	The W cone makes some qualities associated with Focal's high-end models more competitive		99,8,28,2,37,5	●	A+	39	●	308
●	Focal Chorus 826W LE	1,879	Focal has turbo charged the 826 resulting in lots of energy, excitement and fine detail		28,2,103,8,37,5	●	A		●	330
●	Focal Electra 1027 Be	4,399	Outstanding mid and top with fine delicacy, low coloration, but lacks some bass grip and drive		26,5,111,35	●	A-	25	●	276
●	Free FS1	3,500	An elegant design with the minimum of wiring. Wireless with Sonos or Airport Express		16,87,27	●	ACT	35	●	301
●	Gamut Phi5	3,040	Lovely discreet floorstander has excellent sound and several very clever engineering touches		17,100,24	●		20	●	305
●	Green Mountain Audio Rio	2,000	Fabulously tight timing and coherence makes for a very expressive and musical performer		20,8,40,6,34,9	●	A	80	●	332

Stereo speakers (continued)

Shapes and sizes for every budget

Badge	Product	Price	Comments	www.techradar.com	Size - width, height, depth (cm)	Floorstander	Ease of drive	Bass from (Hz)	Free space	Close to wall	Issue number
●	Guru QM10	1,595	A very clever close-to-wall standmount with fine imaging, that sounds a lot bigger than it looks	/465869	30,25,2,23.2		A	26	●	●	317
●	Jamo R 907	6,600	Arguably the more 'chummy' of Jamo's dipole flagships, powerful bass and open midrange	/498515	44,118,9.7	●	A	30	●	●	317
●	JBL Everest DD66000	44,000	Awesome performance in the true meaning of the word & exceptional musical communication		111,965,47	●	A	50	●	●	331
●	Kudos X2	1,350	Attractive presentation alongside a lively sound makes for an involving experience		16.6,78,20.6	●	A	27	●	●	337
●	Kudos Cardea C2	1,950	This floorstander is a fine all-round performer with fine voicing and neutrality		20,925,27	●	A	23	●	●	322
●	Magico V2	18,000	High pricing derives this speaker's superb painstaking engineering & impressive performance	/624700	25.5,115,30	●	A	32	●	●	325
●	Magneplan Magneplanar 1.6	2,500	Great with acoustic and classical material, this dipole panel speaker has superb sound quality		48,165,5	●	A	43	●	●	329
●	Mission 796	1,300	Clean, open and detailed, smooth, relaxed loudspeaker does exactly what it says on the box	/594834	20,6,99,8,31.8	●	A	25	●	●	321
●	Monopulse 42A	1,995	Oddball styling, fine bass-to-mid balance and dynamics and superb voice coherence		26,110,25	●	A	25	●	●	302
●	Monitor Audio PL200	4,750	A costly, but beautifully presented loudspeaker with outstanding voicing and character		25.5,100,28.5	●	A-		●	●	330
●	Mordant-Short Perf 6 LE	4,799	Striking moulded enclosure minimises coloration, overall balance is smooth, neutral and open		24,115,43	●	A	22	●	●	308
●	Neat Momentum 3i	1,790	Sounds bigger than it looks, with good coherence and an impressively wide dynamic range		22,38,27		A-	23	●	●	302
●	Opera Callas	3,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	/429144	23,375,34			32	●	●	311
●	Opera Seconda	1,995	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth		24,1025,31.5	●	A	20	●	●	314
●	Pioneer S-2EX-W	5,200	This speaker offers superb midband neutrality and exceptional clarity	/587272	29,1,565,42.5	●	A	37	●	●	320
●	PMC GB1i	1,525	Fine voice reproduction, overall agility and well-judged balance		15.5,87,23.4	●	A	40	●	●	337
●	PMC FB1i	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	/429594	20,100,30	●	A	20	●	●	329
●	PMC fact .8	4,600	Beautiful styling, alongside a superb all-round sound with a notably wide dynamic range		15.5,105,38	●	A	55	●	●	327
●	PMC IB2i	8,900	Delivers a top-class sound quality, fine imaging and exceptional dynamic grip	/617595	33,7,446.5	●	A	25	●	●	324
●	PSB Synchrony One	3,500	Slim and discreet floorstander that delivers superb sound quality and flexible bass	/516267	22,109,32.5	●	A	45	●	●	318
●	Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound		22,105,39	●	A	20	●	●	256
●	Revolver Screen 3	2,799	Visually dramatic and very successful in delivering genuine high-quality hi-fi sound		50,140,11	●	A	35	●	●	329
●	Roksan Caspian FR-5	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25	●	A	22	●	●	290
●	Sonus faber Luito Monitor	1,690	Subtly designed, elegant-sounding package, especially with good recordings	/603221	18.5,35,33.5		A-	55	●	●	322
●	Sonus faber Minima Vintage	2,490	Easy, graceful-sounding compact, a natural for acoustic material at moderate volume levels	/455417	20,33,27.5		A-	55	●	●	312
●	Sonus faber Cremona Audit.	3,350	Open, exciting and with surprisingly good bass, this is 'The Little Speaker That Could'		20,35,37		A	50	●	●	305
●	Spendor SA1	1,295	Very high-quality sub-miniature with notably superior sound		16.5,30.5,19		A	30	●	●	334
●	Spendor SP3/1R2	1,600	Conservative styling, superb neutrality and coherence with unusually low coloration		22,40,28		A	37	●	●	317
●	Tannoy Definition DC10T	5,000	Classy speaker has massive base, high sensitivity and precise image focus	/608326	34,112.5,32	●	A+	35	●	●	323
●	Triangle Genese Quartet	2,775	Great material value and a solid all-round sonic performance with great loudness potential		23,117,37	●	A	25	●	●	302
●	Triangle Magellan Concerto	16,250	New 'sw2' version is less immediate than its predecessor, but it remains highly entertaining		60,160,45	●	A-	32	●	●	290
●	Teufel Ultima 800	2,498	Exceptional value for money due to direct sales and easy system-matching		22,98,37	●	A	42	●	●	335
●	Vivid Audio K1	14,495	With a subtle, fast and wide bandwidth, this speaker is one of the finest on the planet	/625361	28,130,45		A	35	●	●	325
●	Wilson Benesch Curve	5,383	Much (but not all) of the ACT's performance in a much more compact and affordable package		23,91,37	●	A	28	●	●	254
●	Wharfedale Opus	1,500	Great material value and a solid, if bright and forward sound. Has great loudness potential		26,100.5,41	●	A	23	●	●	314
●	Yamaha Soavo 2	1,200	Cunningly crafted with a beautiful balance that always sounds lively, open and involving		22,38,35		A	28	●	●	296
●	Zu Essence	3,750	Realism and communication skills are more than compensation for balance shortcomings		30.5,125,30.5	●	A	25	●	●	327

SPECS KEY **SIZE W,H,D (CM)** Width, height and depth of one cabinet in centimetres. **FLOORSTANDER** Speakers that don't require stands. **EASE OF DRIVE** How much power the amplifier needs (approximately) to drive the loudspeaker effectively. **A+** 25 watts plus **A** 50 watts plus **A-** 100 watts plus **ACT** Active - the speaker has its own in-built amplifier. **BASS FROM** How low the speaker goes - the smaller the number the deeper the bass. **FREE SPACE** The speakers work best away from wall(s). **CLOSE TO WALL** The speakers will work best when up against a wall (but avoid corners).

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**Amphion Ion L £900**

A great-looking loudspeaker that also boasts a superb mid/treble coherence and a super-sweet treble, some positioning care needed

**Opera Seconda £1,995**

Classy, sealed-box, two-and-a-half-way Italian floorstander with a very fine fit and finish and a superior voice band for acoustic work

**Audioplan Kontrapunkt IVB £2,898**

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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
	Atacama Equinox	409	Stable, modular design with style and excellent bass transients	81	50,50 ● 4	Glass	217
●	Audiophile Base Std Supp't	1,200	Expensive and quite bulky, but sound is unusually detailed and resonance-free	57	46,35 ● 3	MDF	302
●	Blok Stax 300	180	A simple and effective design that gives some useful isolation across most of the audio band		40,46 ● 3	MDF	334
●	Custom Design Inert Matt	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit		40x25 ●	Metal	311
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal		60,42 ● 4	Glass	293
	Custom Design Milan	509	Good-looking stand with nothing more to complain of than slight muddying of detail	57	48,39 ● 4	Glass	302
●	Hi-Fi Racks Podium	500	A keenly priced piece of high-class furniture that also happens to sound great		59,5 ●	Wood	320
●	Isonoe Isolation feet	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables			Alloy	327
	Partington Minim	470	Adds its own character to rock, but to the detriment of acoustic sounds	78	45,37 ● 5	Glass	302
●	Quadraspire QX25 Support	25	Beautifully simple design, cheap and easy to use. Excellent with CD players			Acrylic	327
●	Quadraspire Sunoko-Vent T	800	The sound is detailed and largely uncoloured, while the design is rigid and beautifully veneered		59,47 ● 4	MDF	334
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49 ● 4	Torlyte	240
●	Townshend VSSS	1,380	This attractive Seismic Sink retains the same excellent vibration-killing sound quality	76	35,50 ● 4	Glass	273

Speaker stands

Not all stands are made equal - try one of our top buys



Badge	Product	Price	Comments	Top plate size (cm) Height (cm)	Number of shelves Welded	Shelf type	Issue number
	Anvil Sound Display Stand	229	A variety of smart looks available – sound is clear and precise	50	20,17 ● 1		293
●	Custom Design RS300	110	An attractive stand whose lack of coloration suits it to high-resolution systems	56	16,5,18 ● 1		281
●	Custom Design SQ404	220	Robust four-pillar design gives very low coloration and maximises performance	61	18,16,3 ● 4		283
●	Partington Ansa 60	119	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15 ● 4		232
●	Partington Dreadnought BS	299	Sound is better defined in almost all areas than cheaper, slimmer stands can offer	62	17,23 ● 5		309
●	Partington Heavi II	499	Robust to the nth degree, this stand helps produce very precise bass and upper frequencies	53	31,22 ● 6		287

SPECS KEY **HEIGHT (CM)** Height of equipment support and speaker stand (not including spikes) in centimetres. **TOP PLATE SIZE (CM)** Width by depth of the supporting platform(s). Single figures indicate a square platform (Speakers generally overhang top plates). **FILLABLE** The stand can be mass-loaded with sand and/or lead to stop ringing. **WELDED** As opposed to bolt-together construction. **NUMBER OF SHELVES** To put your kit on (different configurations are often available). **NUMBER OF LEGS** That support the stand. **SHELF TYPE** Material that shelves are made of.

HFC TOP PICKS



Quadraspire QX25 Support £25
Fashioned from two identical pieces of acrylic sheet that slide together, these feet create a very impressive degree of isolation



Partington Dreadnought BS £300
Probably the best speaker stand you can buy for the money – heavily engineered and backed up with sound theory, the Dreadnought is real class



Townshend VSSS £1,380
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OUR A-Z GUIDE OF TECHNICAL TERMS

5.1-CHANNEL AUDIO Six discrete channels, typically front left and right, centre, surround left and right, and LFE (Low Frequency Effects) for a subwoofer.

BALANCE Most loudspeakers have a characteristic frequency balance resulting from emphasising parts of the audio range and/or de-emphasising others.

BASS The lowest three octaves of the audio band – 'low bass' refers to the bottom octave (20-40Hz), 'mid-bass' the middle octave (40-80Hz) and 'upper bass' the top octave (80-160Hz).

BI-AMP (sometimes tri-amp). Loudspeakers equipped with separate access terminals to each drive unit can be driven by separate (matching) power amplifiers for each driver.

BI-WIRE (sometimes tri-wire). Loudspeakers with separate access terminals to each drive unit can be driven by separate cable runs between the amp and each driver.

CD-R Recordable CD that cannot be erased, though discs that have not been completely filled can have tracks added until the disc is finalised.

CD-RW Re-writable or re-recordable CD, incompatible with older CD players.

CLASS A The operation of an amplifying stage or device in which current always flows, as opposed to Class B, where some of the devices are effectively turned off some of the time. Class A tends to have the advantage of offering lower distortion, while Class B tends to generate less heat.

CLASS AB Most practical amps operate in Class A for the first fraction of a watt and Class B thereafter.

CLIPPING An amplifier's output waveform is 'clipped' if the volume is advanced too far and no more 'volts' are available to sustain ever-increasing power levels. Distortion increases dramatically at this point.

CLOCK Any electronic oscillator that is used to generate a timing reference signal. Used to synchronise the data being taken from a disc.

CROSSOVER A simple electrical network which divides the full bandwidth signal received from the power amplifier, apportioning appropriate parts of the spectrum to the various drive units.

DAB (digital audio broadcasting). Digital radio using frequencies in the 217.5-230MHz band. Broadcasters use varying degrees of compression and offer a broad range of programming.

DAC or Digital-to-Analogue Converter. The stage in any digital component at which incoming digital data is used to reconstruct a recognisable analogue (music) waveform.

DOLBY DIGITAL A compressed digital audio format that typically contains five or more entirely discrete channels, eg 7.1 EX where side and rear channels are used.

DOLBY PRO-LOGIC, DPL forerunner to DD that 'steers' information to the front L/R, centre and mono surround channels via an analogue matrix.

DRIVE UNIT/DRIVER A transducer which converts electrical energy into acoustic energy, eg bass driver, tweeter.

DSD (direct stream digital) The coding format used for SACD offers a frequency response of over 100kHz and a dynamic range over 120dB. It has over four times the data capacity of CD.

DSP (digital signal processor). Integrated circuit that handles the decoding of digital audio streams. In 5.1 processors, it separates the left from right and front from rear, while managing the various bass options.

DTS or Digital Theatre Sound. Competitor to Dolby Digital with a reduced 4:1 compression ratio that, ostensibly, promises higher quality.

DVD-AUDIO High-resolution variant on DVD offering up to 192kHz bandwidth and 24-bit dynamic range. Discs are compatible with standard DVD players.

ELECTRICAL DIGITAL Any digital connection that uses an electrical cable rather than optical. Includes the balanced ('AES/EBU') interface.

FILTERS Filters are intrinsic to digital audio, both analogue and digital. These are often very sophisticated in design, and in total they probably have rather more to do with the 'personality' of CD player sound than most other factors.

FREQUENCY RESPONSE The range of frequencies, from low to high, which a loudspeaker will reproduce.

IMPEDANCE With speakers, the complex electrical load that a loudspeaker presents to the amplifier driving it.

JITTER An insidious distortion specific to digital audio caused by imprecision in the clock, used to regulate the conversion of data into analogue audio.

KBPS (Kilobits per second) Digital data rate measurement system used primarily with highly compressed formats such as MP3, DAB etc. The higher the amount, the better the quality.

LINE LEVEL Practically every modern source component (except phono cartridges) gives an output in the region of 1-2V, referred to as 'line level'. It follows that all inputs labelled 'CD', 'tuner', 'aux' or 'tape' are designed for this input level and are thus interchangeable.

LOSSLESS COMPRESSION A method of reducing the number of data bits (density) without corrupting the original description of the musical signal.

LOSSY COMPRESSION Reduction in data density by recourse to a complex psycho-acoustical model that predicts what is, and what is not, 'audible' within a sequence of music.

MIDRANGE The middle three or so octaves of the audio band, where the ear is most sensitive, covering the approximate frequency span from 160Hz up to 3kHz.

MP3 (MPEG layer 3) Lossy compression format for digital audio that drastically reduces data content in order to squeeze music through internet connections or allow hundreds of CDs to be stored on a hard disc.

OUTPUT IMPEDANCE A measure of resistance to alternating current, a source with low output impedance (below 100 ohms) helps ensure compatibility with most amplifiers, even with long interconnect cables.

PCM (pulse code modulation) The digital coding system for analogue waveforms used for CD and DVD. Quality is limited by the oversample and bit rates used – CD is 44.1kHz/16-bit while DVD-A is capable of 192kHz/24-bit.

PRESENCE BAND Critical section of the audio band at the point where midrange and treble meet.

QUANTISATION NOISE A form of distortion or noise resulting from errors in the description of the musical signal by the digital code.

SACD (Super Audio CD) was launched in 1999 and is a Sony/Philips format based on DSD coding that offers high resolution stereo and multichannel sound from hybrid discs that can also be played on ordinary CD drives.

SAMPLE RATE The rate at which the musical waveform is sliced up into discrete chunks. For CD, this is 44.1kHz or once every 0.023msec. DVD will also support 48kHz and 96kHz.

SENSITIVITY The relative loudness that a speaker generates for a specific voltage input. Expressed in decibels per watt (dB/W), measured 1m from the speaker.

THX Standards system for home cinema set-ups which includes amplifier power and speaker dispersion characteristics. The latest THX Ultra 2 standard is more stringent than THX Select.

TOSLINK The proprietary name given by Toshiba to the optical fibre signal transmission system it invented for consumer applications.

TRANSISTOR/MOSFET The two main types of power semiconductor used in solid state amplifier output stages.

TREBLE High frequencies, the top end of the audio band, ie above 3kHz.

TWEETER Treble driver.

TWO/THREE-WAY Loudspeaker crossovers split the signal into two or three frequency bands, a two-way speaker can have more than two drive units.

WATTS (per channel) The watt is the unit of electrical power and the WPC rating is the maximum average undistorted power that an amp can deliver to a typical speaker. However, speaker sensitivity variations can make more difference than amplifier output.

WOOFER Bass driver.

GUIDE TO DESCRIPTIVE TERMS

AGGRESSIVE Forward and bright sonic character.

AMBIENCE The impression of an acoustical space, such as the performing hall in which a recording was made.

ANALYTICAL Highly detailed.

ARTICULATE Intelligibility of voice(s) and instruments and the interactions between them.

ATTACK The leading edge of a note and the ability of a system to reproduce the attack transients in music.

BALANCE Essentially tonal balance, the degree to which one aspect of the sonic spectrum is emphasised above the rest. Also channel balance, the relative level of the left and right stereo channels.

BODY Fullness of sound, with particular emphasis on upper bass. Opposite of thin.

BOXY The sound of a loudspeaker with audible cabinet resonances.

BRIGHT A sound that emphasises the upper midrange/lower treble.

DARK A tonal balance that tilts downwards with increasing frequency. Opposite of bright.

DECAY The fadeout of a note, it follows the attack.

DEFINITION (or resolution)

The ability of a component to reveal the subtle information that is fundamental to high fidelity sound.

DEPTH (of image) The perception of music being reproduced behind the loudspeakers and inhabiting a reproduction of the acoustic space of the original recording.

DETAIL The most delicate elements of the original sound and those which are the first to disappear with lesser equipment.

DRY A sound that is devoid of 'juice', which usually comes across as fine-grained and lean. Also a loss of reverberation as produced by a damped environment.

DYNAMIC The suggestion of energy and wide dynamic range. Related to perceived speed as well as contrasts in volume both large and small.

EUPHONIC An appealing form of distortion that generally enhances perceived fidelity, often ascribed to the harmonic elaborations of some valve amps.

FAST Good reproduction of rapid transients which increase the sense of realism and 'snap'.

FOCUS A strong, precise sense of image projection.

FORWARD(NESS) Similar to an aggressive sound, a sense of the image being projected in front of the speakers and of music being forced upon the listener.

GRAINY A slightly raw, exposed sound which lacks finesse.

GRIP A sense of control and

sturdiness in the bass.

GRUNT See grip.

HARD Uncomfortable, forward, aggressive sound with a metallic tinge.

HARSH Grating, abrasive.

IMAGING (stereo) The sense that a voice or instrument is in a particular place in the room.

JUICY Sound that has joie de vivre, energy and life.

LOW-LEVEL DETAIL The quietest sounds in a recording.

MUSICAL or musicality. A sense of cohesion and subjective 'rightness' in the sound.

NATURALNESS Realism.

OPAQUE Unclear, lacking transparency.

OPEN Sound which has height and 'air', relates to clean upper midrange and treble.

PACE Often associated with rhythm, a strong sense of timing and beat.

PRESENCE A sense of an instrument or voice occupying a place in the listening room.

PRESENCE RANGE The upper midrange.

SEISMIC Very low bass that you feel rather than hear.

SIBILANCE An emphasis of the 'S' sound, often heard on radio.

SNAP A system with good speed and transient response can deliver the immediacy or 'snap' of live instruments.

SPEED A fast system with good pace gives the impression of being right on the money in its timing.

STURDY Solid, powerful, robust sound.

THICK A lack of articulation and clarity in the bass.

THIN Bass light.

TIMBRE The tonal character of an instrument.

TIMING A sense of precision in tempo. See speed and pace.

TRANSIENT The leading edge of a percussive sound. Good transient response makes the sound as a whole more live and realistic.

TRANSPARENCY, TRANSPARENT A hear-through quality that is akin to clarity and reveals all aspects of detail.

TWEAK To tune a system or component in an attempt to get the best performance from it.

TWEAKER Someone who enjoys this process.

VEILED Loss of detail due to limited transparency.

WARM A fullness in the lower midrange/upper bass.

WEIGHT A sense of substance and underpinning produced by deep, controlled bass.

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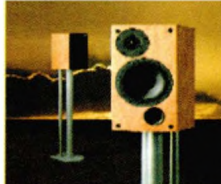
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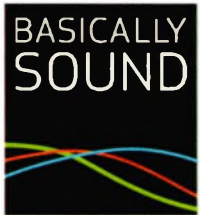
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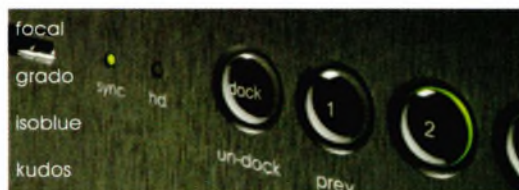
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Journey's end

To dispense with physical media now seems an entirely logical move, says **Malcolm Steward**

This is the final column documenting my journey thus far from being a physical media-based, traditional audiophile to a forward-looking, emerging technology-embracing, free-thinker. Well, that is roughly how the editor Dan George described it to me in his brief, which makes us both appear a lot less mundane than the reality, even though a few surprises have popped up along the way.

After all, most recordings in recent years began life on a hard disk, so why not make them available to the end-user as computer data and cut out all the intermediary palaver with physical media?

As audiophiles, we want the purest rendition of the original musical event that is attainable. Getting rid of the aberrations that discs – vinyl or compact – introduce seems a good place to start.

At this stage in the journey, the concept and sheer practicality of computerised audio have completely won me over, even though not everything in the discipline makes perfect sense. For example, the cables that transfer the raw data to and from hard disks appear able to exert an influence over the sound that eventually emerges from a NAS or hard disk player. There is no obvious reason why this should be the case but my ears and those of other folk tell a different story.

Even defragging the hard disk affects the way the music sounds, according to highly respected recording engineer, Tony Faulkner. There is an audible difference yet parity and CRC checks showed there are no 'missing' bits or data corruption, which computer types insist must be the case if the sound differs.

Expert advice

During a recent conversation with several audio engineers, someone even suggested that I investigate how different manufacturers' Cat5 cables affect the performance of my system. That would sound crazy to any logical being, but previous experimentation along those lines suggested that Cat5 makes a damned good radio antenna... and it is now increasingly clear how important it is to keep RFI away from everything involved in computerised audio.

One even suggested that my preamp might be rather more susceptible than more recent models are to RF, because homes were very different places when it was manufactured: there were fewer microwaves, mobile phones, computers and other RF generators.

Do not allow the apparent weirdness that appears to have an effect upon music stored on servers/hard disk players influence your decision as to whether to get involved, though. Computerised music, so long as it is regularly and securely backed up is, I feel, more securely maintained than LP which degrades with every playing, or CD. Just use a 3-2-1 back-up routine: that is three copies on two media, with one back-up being stored in a remote location.

I certainly think you will find life with an unpackaged media system more rewarding than you would with a CD player, a device that is fast becoming a legacy component for many music fans, myself included. If my CD player were to brick itself, I doubt that I would consider replacing it at this seemingly autumnal stage in the life of the format.

I am finally looking at a potential answer to the problem of reliably putting vinyl onto hard disk – a £799 phono stage with an integral ADC from Chord Electronics. For anyone who thinks that the seven or eight minutes it takes to rip a CD is a long time, stay well away from 'ripping' vinyl. Then the process does not end when you return the disc to its sleeve. Far from it, you need to type in the metadata for every track, after you have divided the recording into individual tracks, that is.

Whereas ripping CDs is a fully automated stroll in the park, one cannot say the same about the labour-intensive procedure of archiving vinyl.

Regardless, have fun! ●

Chord Electronic's new Chordette Dual phono amplifier enables vinyl recordings to be archived to computer

At this stage in the journey, the concept and sheer practicality of computerised audio have completely won me over



MALCOLM STEWARD is the former editor of *Hi-Fi Review* and one of the most outspoken reviewers around. He writes exclusively for *Hi-Fi Choice*

WHAT DO YOU THINK?

Does Malcolm's journey reflect your own, or are you sticking with CD and vinyl?

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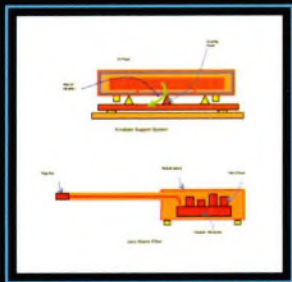
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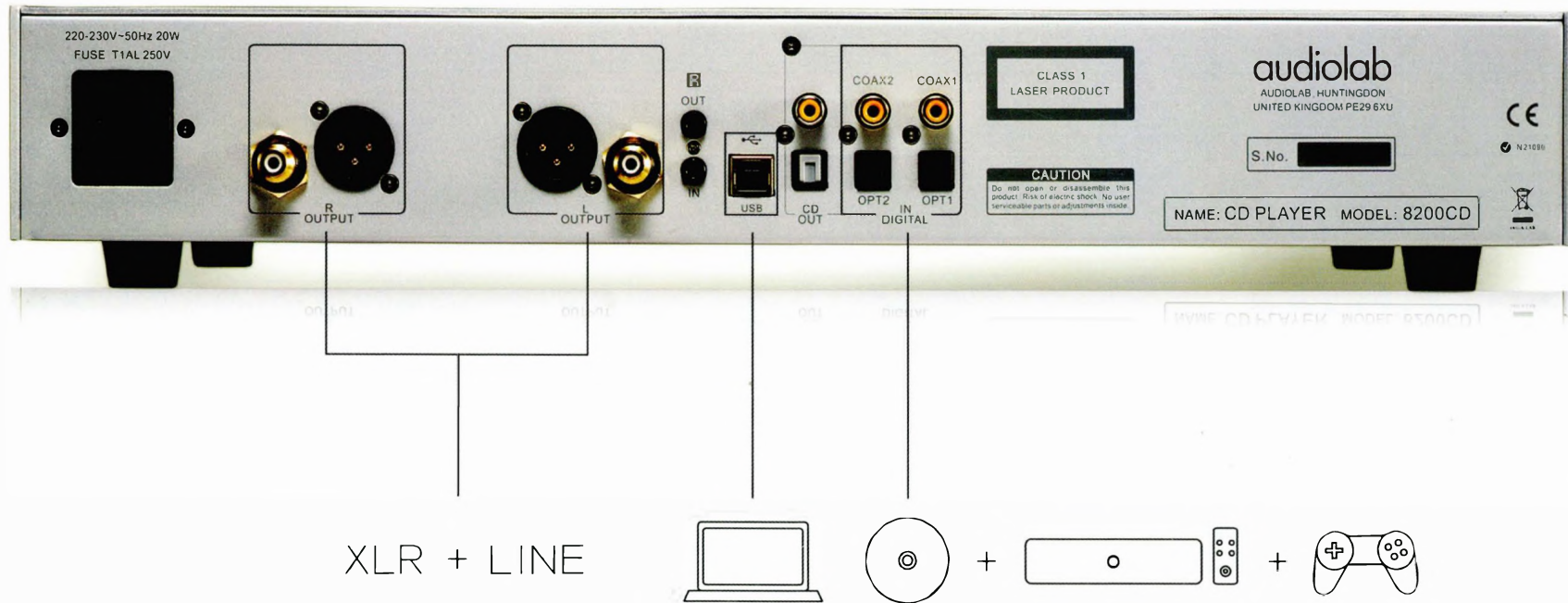
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