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HI-FI CHOICE

PASSION FOR SOUND

JANUARY 2010

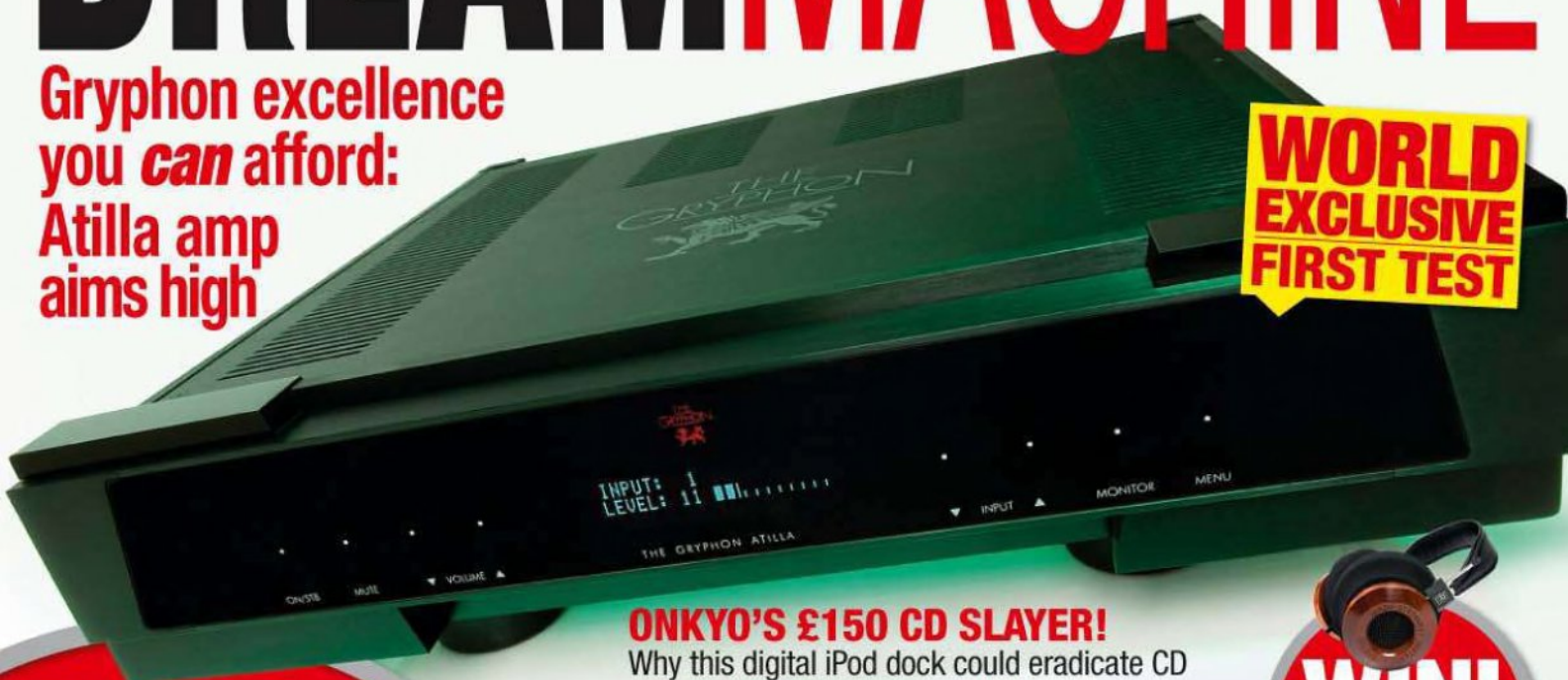
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full Naim system tested inside

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Why this digital iPod dock could eradicate CD

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Next year's tech revealed from the Manchester
Sound and Vision show

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Musical Fidelity V-Can
worth £1,200!



**THE ULTIMATE
CD PLAYER GROUP TEST**

Expert verdicts on six new CD stars



Micromega CD-10 **Tannoy DC8T**

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JANUARY 2010

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01>



BD 1260 R - the first true audiophile Blu Ray Player



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T+A is the 'brand of the year 2009' as awarded by Audio, Steroplay & Video Homevision magazine

WELCOME...

HI-FI CHOICE JANUARY 2010 ISSUE 328

Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW ☎ +44 (0)20 7042 4000



Welcome to the January 2010 issue. I for one, won't be sad to see the back of 2009 with its rollercoaster ride of gloomy economic data, the testing times for some of our most beloved hi-fi companies, and the washout that was summer.

We expect 2010 to be a much better year and we've already seen some encouraging signs: the recent Manchester show is a case in point

with a spectacular array of great-sounding new kit for the new year.

And then there's Blu-ray audio. For anyone seeking the ultimate in high-definition sound, Blu-ray audio is well worth seeking out and we're already looking forward to reporting on this high-def format in the coming year – it seems that multichannel may be back, again!

Dan
Dan George Editor

WHY WE ARE NO.1 FOR HI-FI...

- Since 1975, *Hi-Fi Choice* has delivered the world's most thorough, most reliable no-nonsense guide to buying high-performance hi-fi.
- Every issue contains a potent mix of the latest hi-fi news, views, music, reviews and in-depth tests, brought to you by a prestigious team of expert writers who are the best audio journalists in the UK.
- Our test regime is the most rigorous in the business and we are the only hi-fi magazine to offer 'blind' listening sessions, along with user-friendly laboratory tests in our six-way *Ultimate Group Test*.
- That's why *Hi-Fi Choice* is...

The Essential Guide To Audio Excellence In The Home



THE MOST RESPECTED NAMES IN HI-FI JOURNALISM...



PAUL MESSENGER

A former *Hi-Fi Choice* editor, Paul has been writing about his beloved hi-fi hobby for more than 30 years. In that time he has become one of the world's most respected scribes, and he is undoubtedly the UK's foremost loudspeaker reviewer.



JIMMY HUGHES

With more than 40 years as an enthusiast under his belt, Jimmy is one of the country's best-known hi-fi experts. His knowledge of system-matching, hi-fi-tweaking and record-collecting is unmatched in the industry.



RICHARD BLACK

Richard is a professional musician and recording engineer and a highly knowledgeable hi-fi analyst to boot. He has a knack for writing about complicated subjects in a readable way – and he only writes for *Hi-Fi Choice*.



MALCOLM STEWARD

Former editor of *Hi-Fi Review* magazine, Malcolm was one of the best-known and most outspoken reviewers of the 1980s and 1990s. He currently edits hi-fi industry bible *The British Audio Journal* and also writes exclusively for *Hi-Fi Choice*.



ALVIN GOLD

Alvin has been writing about his obsession for more than 25 years. In that time he has contributed his encyclopedic knowledge to almost every hi-fi periodical you can think of (and several more besides). He is widely regarded as one of Britain's finest hi-fi reviewers.



JASON KENNEDY

Jason Kennedy was a former editor of *Hi-Fi Choice* and spent an incredible 17 years on the title. Now he's back as a freelance writer and using his considerable hi-fi expertise to contribute to the UK's best hi-fi title.



ED SELLEY

A highly knowledgeable audio expert, Ed has worked for a number of prestigious manufacturers including Cambridge Audio and Yamaha. Specialising in product support and development, he brings a wealth of professional and enthusiast knowledge to the pages of *Hi-Fi Choice*.

To ensure you get the best information, opinion and advice, *Hi-Fi Choice* employs the most knowledgeable and experienced hi-fi writers in the business.



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0%*

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MXA60: £6,995

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*written details on request.

*buy now pay later / 0% finance available on most products.

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NEW - Full-blown McIntosh HIFI in-miniature

Conceived and executed by the same team responsible for the \$250,000 McIntosh Reference System, the MXA60 stands ready to introduce a whole new range of music lovers to the pleasures of owning a hand-made audio system; a system steeped in the McIntosh traditions of unerring quality and value; a system that is built to last a lifetime.

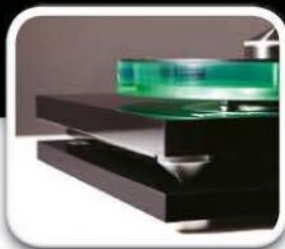
The new **MXA60 Integrated Audio System** from **McIntosh** challenges old notions about what constitutes serious audio hardware. Capable of true-to-life sound reproduction that belies its diminutive size (the product measures 22.5" long, 10.6" high, and 14.9" deep, including loudspeakers), the **MXA60 is a full-blown McIntosh HIFI in-miniature**. Now, perhaps for the first time, music aficionados need not trade performance for convenience.

Features include: Amplifier (75wpc) and Preamplifier, CD/SACD Player, AM/FM Tuner and specially designed 2-way loudspeakers (in high glass piano black).

You have to hear the **MXA60** to believe it - **because its that good. A new all-in-one reference!**



McIntosh



The striking Eclipse Turntable

Don't just take our word for it - take a look at the Eclipse's stats:

- The turntable is supported on three highly machined steel and acrylic cones on which incorporate a new concept in sorbothane shock absorber isolation
- Highly machined bearing and inner bearing shaft manufactured to fit each other individually - not in batches
- Half inch thick machined alloy sub platter
- Individually machined pulley for 33 and 45rpm speeds
- 20mm thick acrylic platter in a sumptuous finish, the likes of which you will have not seen before
- A half inch bolted in arm base to fit the arm of your choice, machined from alloy and to a stunning finish
- Choice of packages available with the Inspire tonearms
- Distinctive and flame polished acrylic 2 plinth configuration, perfectly CNC'd to house all the parts
- Lower plinth designed to 'lock in' the sorbothane isolation system, giving an amazing solidity and impact to the reproduction of the music
- A highly tuned power supply perfected by electronics experts using the best audio parts available, and housed within an acrylic under platform
- Very high quality AC synchronous motor provides smooth and quiet operation, which is further isolated by the use of sorbothane between motor and the acrylic plinth
- Topped with a most desirable and highly engineered record weight.



Inspire Hi-Fi

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Eclipse: £1,530

(excluding tonearm)

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Hi-Fi World

VERDICT



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(STRICTLY LIMITED EDITION)

SA-KI CD/SACD Player: £2,500

15% Deposit: £375.00

Term: 12 months

Monthly Payment: £177.08

(STRICTLY LIMITED EDITION)

PM-KI Integrated Amp: £2,500

15% Deposit: £375.00

Term: 12 months

Monthly Payment: £177.08

*subject to status/conditions.

*written details on request.

*buy now pay later / 0% finance available on most products.



Limited Edition Pearl Components

When they are gone - they are gone forever...

When you first encounter the new **KI Pearls**, the first thing you notice are their unique '**Silk Pearl**' finishing. The first of its kind in fact for **Marantz**. But it's the magic that **Ken Ishiwata** has created inside the box that really gets the pulse racing. He has built-in everything possible to ensure that the music is reproduced exactly as the original artist and recording engineer intended.

SA-KI: "Fed all manner of SACDs from Mobile Fidelity, Linn, Telarc and other admirable die-hards, the SA-KI showed itself to be a thoroughbred player reminiscent of the far costlier Esoteric devices, though the voicing differs. **Marantz** itself used the adjective 'silky' to describe the Pearls' black finish."

Ken Kessler, Hi-Fi News Sept 09

PM-KI: "The phono stage was open, quiet and precise, especially the MM setting, and in every sense - from vinyl to CD to SACD - the bass was consistently quick. Decay or transient stops down below were as progressive or abrupt as required, high on perfect, while well-recorded bass drum kicks were reproduced with a vividly detailed sensation of pedal, hammer and skin in motion."

Ken Kessler, Hi-Fi News Sept 09

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CHOICE

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Beautiful Systems

A stunning Naim/Neat combination for under £10,000

BUYER'S GUIDE

Ultimate guide to high-performance hi-fi, gathering together all our favourite products for you. Updated monthly...

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REGA ISIS AND OSIRIS

Rega's latest move into the high end comes in the form of the Isis CD player and Osiris amplifier

In nomenclature, Rega may have switched allegiance from Roman gods to Egyptian, but the company has employed circuitry developed for the Saturn in certain key areas of the Isis. The digital section of the new machine is apparently a 'blue-print version' of the Saturn, with improvements to the mechanism, optical amplifier, DSP core, Phase-Locked Loop, master clock and motor power supplies. A dedicated 50VA toroidal transformer and 10 separate regulators feed the various parts of this digital section.

Offering peace of mind for long-term users is the fact that three identical, graded laser units will be selected for each Isis. One will be fitted during production, the other two will be marked with the same serial number and held in storage as replacements for the original.

Bridging the digital and analogue domains is a pair of Burr-Brown PCM1794 DAC ICs operating in parallel dual-mono mode, feeding a fully balanced discrete class A current-to-voltage amplifier. This is followed by another discrete class A stage, an enhanced version of the fully balanced output of the Saturn. Again, a 50VA toroidal and 10 regulators provide the power. On the rear panel are phono and XLR analogue sockets along with Toslink optical and coaxial outputs and a USB input.

The Osiris amp employs a similar approach; each channel has its own 400VA toroidal transformer, with separate supplies for the input switching, display, micro controller and protection circuits. A total of 40,000uF of Rega K-Power capacitance smooth the rails to the eight Sanken power transistors in each channel, while high-speed rectifier diodes minimise switching noise. Further audiophile touches are provided by the Nichicon audio-grade capacitors in bypass and decoupling roles and the paralleling of electrolytics with polyesters where necessary, to improve high-frequency performance.

Rega claims the minimalist design of the active circuitry, enclosed in carefully optimised feedback loops, has been designed to yield, 'a tight and controlled soundstage, especially at the low-frequency end of the audio range.' A direct input means sources with variable outputs can be connected straight to the input of the power amp, thereby sidestepping the Osiris' passive volume control.

Both the 18kg Isis and 25kg Osiris are supplied in wooden crates with high-spec mains leads and aluminium remotes. In addition, packed with the former is a Rega Couple interconnect.

Price: £5,998 each **Due:** now ☎ 01702 333071 🌐 www.rega.co.uk



NEWS

BOWERS AND WILKINS P5

Moving from large transducers to smaller ones, Bowers and Wilkins has just announced its first headphone, the P5. In the search for a less fatiguing character than that of most headphones for mobile use, the company's engineers opted to employ ultra-linear neodymium magnets in conjunction with mylar diaphragms in a closed-back design.

The P5 is supplied with a Made For iPod-approved cable, in addition to a standard audio cable with gold-plated plugs. Switching between the two involves popping off the magnetically attached ear pads. Expect a review soon.

Price: TBA **Due:** Jan 2010 ☎ 01903 221500

www.bowers-wilkins.com



THE CARTRIDGE MAN MUSICMAKER CLASSIC LIMITED EDITION

Building on the design of the critically acclaimed MusicMaker Classic, The Cartridge Man has produced a new Limited Edition version. The LE retains the silver coils of the Classic, but benefits from a sapphire cantilever and a finer stylus tip to give better tracking, dynamic range and information retrieval.

Price: £1,600 **Due:** now ☎ 08450 525259

www.thecartridgeman.com



AYON AUDIO CD-5 AND SKYLLA

Ayon Audio of Austria has extended its presence in the digital world with the new CD-5 CD player (below) and Skylla DAC (above), both of which feature built-in, class A, all-triode preamps.

Both components have four matched Russian 6H30 triodes providing the balanced/single-ended analogue output signal, which are coupled with silver-in-oil capacitors. There are three R-core transformers making up the power supply, the one for the analogue section feeding choke-regulated, valve-rectified rails. Conversion is undertaken by four Burr-Brown 1704K upsampling DACs, with multiple inputs and outputs on both the Skylla and CD-5.

Price: £6,500 (CD-5); £4,500 (Skylla) **Due:** now

☎ 01435 867438 www.ayonaudio.com

RUSS ANDREWS AC-12

Aimed at improving the already impressive performance of Cambridge Audio's DacMagic is Russ Andrews' new AC-12 power supply. Apparently, the use of a precision rack-wound transformer, rather than the more common high-speed-wound designs, produces tighter tolerances in the windings, thereby reducing stray magnetic fields. Further boosts to performance are said to come from higher quality supply regulation and the metre of woven Kimber Kable, which connects the AC-12 to the DacMagic to provide increased rejection of radio frequency interference.

Price: £99 **Due:** now ☎ 0845 345 1550 www.russandrews.com





REVO HERITAGE

Designed at its headquarters in Lanark, the Heritage is the latest multi-format digital radio from Scottish company Revo Technologies. Capable of receiving DAB, DAB+, FM and wi-fi internet radio, the Heritage not only provides wireless audio streaming and docking for all current iPod models, but can also access popular online music service Last.fm. Listeners can either use an existing Last.fm profile, or choose an artist or genre and let the site put together a playlist.

Housed within the aluminium and walnut-veneer case is a custom-designed, three-inch driver with neodymium magnet system, driven by a seven-watt amplifier. An OLED display and joystick navigation system form the user interface.

Price: £230 **Due:** now ☎ 01555 666161 🌐 www.revo.co.uk



PURE SIESTA IDOCK

Prolific manufacturer of DAB and internet radios, Pure is back with the Siesta iDock; a stereo DAB/DAB+/FM clock-radio with iPod and iPhone dock. Alongside the digital amplifiers and custom drivers are 15 DAB and FM presets and an auto-dimming display. As the iDock is fully compatible with Apple's Made For iPod and Works With iPhone programmes, users can control their iPod or iPhone via the radio.

Price: £90 **Due:** Christmas 2009 ☎ 0845 1489001

🌐 www.pure.com

SCANDYNA MEGAPOD

Available to special order through Scandyna's new UK distributor, Armour Home, is the eye-catching Megapod loudspeaker. The core of the system is a custom sub-woofer with 250mm bass driver and flared reflex port supporting the iconic Minipod speaker above, the two main components being available in white, black, silver, blue, yellow, and red.

Price: £2,396 per pair **Due:** now ☎ 01279 501111

🌐 www.armourhe.co.uk



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HI FI CLUBE / JOSÉ VÍCTOR HENRIQUES / CREMONA ELIPSA

Sonus Faber's introductions in the early "Noughties" of the floor-standing Cremona and the smaller Cremona Auditor were hailed as milestones in the Industry's long standing quest to achieve the highly-desired marriage of both aesthetics and sound quality. Such a marriage would please both ends of the consumer spectrum, the audiophile as well as the cineaste.

Indeed, it seemed incredible that the legendary, exquisite craftsmanship of the original Cremona and the Cremona Auditor could have been surpassed.

However, the recent launch of two new models with 'M' designations, along with a flagship speaker, the Cremona Elipsa, were inspired by that most astounding of transducers, the Stradivari. Thus, they are testaments to the fact that Sonus Faber's designers are in a constant process of perfecting the art of music reproduction, and of pushing the boundaries in the creation and engineering of awe-inspiring handcrafted works of art. These speakers are all the more precious because of their rarity, in a world characterised by so much automation and mechanisation.

The Auditor M, the smallest of the new Cremonas and the successor of the original Auditor, is a versatile two-way system ideally suited for smaller environments craving a large-scale musical picture. Its natural maple enclosure follows the Sonus Faber signature form of a lute in cross-section, while its components and final sound have been ear-tuned by the Sonus Faber team.

For larger rooms, the original floor-standing Cremona has evolved into the new superior Cremona M, which displays a more elegant, stylish finish and benefits from the introduction of new components.

Like their Homage siblings, both the Auditor M and Cremona M reflect the findings of Sonus Faber team's longstanding research, with attention paid to every detail, from small components, to wiring, to the drive units themselves. Equally, the aesthetics and external details have been refined to indicate a new stage in the speakers' evolution.

At the top of the new Cremona range lies the brand-new Cremona Elipsa, designed for the connoisseur with both the means and the environment to exploit a larger system. The Cremona Elipsa provides near-Stradivari performance in a more compact, economical package. Its sound is room-filling, open and natural, while its form is as beautiful as the speaker that inspired it. The Elipsa is, without question, another Sonus Faber masterpiece.



Sonus Faber CREMONA M



Sonus Faber CREMONA ELIPSA

For your nearest dealer contact:

absolute sounds ltd
58 Durham Road, London SW20 0TW
T: +44 (0)20 89 71 39 09 F: +44 (0)20 88 79 79 62
www.absolutesounds.com info@absolutesounds.com

Sonus faber.



ROTEL SE SERIES

Rotel has lavished some of the tuning applied to its range-topping 15 Series to its more affordable components. The RCD-06 SE CD player, RA-06 SE, RA-05 SE and RA-04 SE integrated amps are all tweaked versions of budget Rotel kit.

Inside the RCD-06 SE the list of changes is headed

by the replacement of the original Burr Brown DAC with a new model from Wolfson. Of the integrateds, the RA-06 SE has been most modified, primarily in a significant alteration to the decoupling of the power supply from the input switching and buffer stages.

Price: from £299 (RA-04 SE) to £599 (RA-06SE)

Due: now ☎ 01903 221500 🌐 www.rotel.com

VINYL SALES SOLDIER ON

The Recording Industry Association of America figures for 2008 show that retail sales of vinyl LPs and EPs grew healthily for the second consecutive year, rising 124% to 2.9 million units (they were up 36.6% the previous year). This still accounted for only 0.007% of the total music market, and is a minuscule fraction of the 1.69 billion LPs and EPs sold in America in 1983.

The rosy glow of such a strong increase in demand isn't duplicated here in the UK, despite the fact that Tower Records reported a 36% rise in sales in the first half of 2008. This side of the pond, statistics from the British Phonographic Industry show the number of LPs sold in 2008 was 208,526, a meagre improvement on 2007's 205,292, and well below 2001's high of 761,558. Single sales suffered badly both here and in the US, with British sales slumping from 1,040,008 to 485,514 as electronic downloads of singles continued to grab market share.



LUXMAN D-05

In the same range as Luxman's flagship D-08 is its latest CD/SACD player, the 14kg D-05. Fronted by the company's own LxDTM disc transport mechanism, the digital section is built around the Burr-Brown PCM1792A hybrid multi-bit/single-bit converter running from a master clock optimised for very low jitter levels. There are digital inputs as well as outputs too, both on either co-ax or Toslink. The analogue stages (with both RCA and XLR balanced socketry) have their own oversize R-core transformer and multiple regulated power supplies.

Price: £3,895 **Due:** now ☎ 01900 813064 🌐 www.selectaudio.co.uk



Soundbites

TEUFEL of

Germany has just launched the Concept B 200 USB.

Aimed at PC users, the small, slim cabinets house two-way loudspeakers driven from an external box which contains four 30-watt amplifiers (a pair for the woofers and tweeter for each channel). As well as the USB sound connection, there's a USB hub built into the £184 set-up.

🌐 www.teufel.eu



NAIM has updated its CDX2 CD player with a number of improvements, including a switchable S/PDIF output on a 75-ohm BNC connector, new four-layer PCB for improved ground planes and isolation and better power supply regulation. Smaller improvements have also been implemented in the CD tray, board-mounting and general wiring. Priced at £3,250.

☎ 01722 426600



NUFORCE the American firm, has just released Version 3 of its class D amplifiers. The new PCB layout incorporates improvements in the feedback path and overall control, which produce a more linear circuit with a wider bandwidth. Harmonic distortion has also been significantly reduced.

☎ 08450 525259

ROBERTS' ClassicLite is the latest DAB/FM radio to join its Ecologic family of low power-consumption products. It has an unlimited number of station presets, a USB socket for upgrades, a line input for MP3 player connection and a headphone socket. Available in black or white, the ClassicLite costs £70.

☎ 01709 571722



TEAC'S new SR-3DAB is a stereo FM/DAB/RDS radio which possesses the mandatory iPod and iPhone dock as well as a CD-player, all in a leather-effect cabinet. An AUX input on a 3.5mm stereo mini-jack and USB and SD sockets, mean external analogue sources can be connected, as can MP3 tracks on memory sticks and SD cards. For late-night listening, there's a headphone socket and dimmable display.

☎ 0845 130 2511



Sound and Vision 2009

Jason Kennedy drops in on Sound & Vision's first Manchester show

This was the first year that the Sound & Vision show held a second event, this time in Manchester. If the steady stream of enthusiastic visitors were anything to go by, then it was a successful addition.

Unlike last month's National Audio Show, (HFC 327) the emphasis here was on the affordable end of the spectrum and there was no shortage of kit from CD players to LCD TVs.

Fortunately, quite a number of the hi-fi brands also took rooms, including Bowers and Wilkins, NAD and Naim. Other companies sharing the venue included Tannoy, Audio Note and Dynaudio. In many respects it turned out to be a show with something for everyone.

1 Grado PS1000 (£1,795)

Grado has brought out its most substantial and expensive headphone yet, the PS1000 (see our exclusive review in next month's issue). This is an open-back, dynamic design with large ear pads and microscopically perforated aluminium outer housings that are designed to minimise resonance. The inner housing is wood and the driver a refinement on that in the GS1000.



1. Grado's PS1000 headphone

2 ProAc Studio 140 MkII (£1,650)

A company that deserves a higher profile, ProAc's fine loudspeakers have always been popular with glass-audio enthusiasts. ProAc showed the latest incarnation of its Studio 140 at the show, which uses a pair of carbon-filled, 6.5-inch polypropylene drivers,



2. ProAc Studio 140 MkII speakers



alongside a 25mm soft-dome tweeter. ProAc designs its own drivers and gets them made by specialists in the field, in this case SEAS. The speaker also has a matching plinth with a gap beneath the cabinet, so that the reflex port can vent downwards.

3. Cyrus CD Xt+ and DAC X+



3 Cyrus CD Xt+ and DAC X+ (£1,500 each)

Cyrus brought along very new revisions of its CD Xt transport and DAC X converter with a + suffix. The transport has gained a second mains transformer, a move said to make it equivalent to the CD Xt SE and an PSX-R power supply in one box. You can still add a PSX-R outboard supply to the CD Xt + as this provides the servo control system with its own supply. The DAC X+ now has a dedicated power supply for the re-clocking system.

4 Curvi Model 1 V2 (£3,995)

Curvi HiFi played some great music on an attractive transmission line speaker in laminated beech. It's said to produce a near ten-octave range from a single four-inch Jordan drive unit, which is hard to credit but we were surprised at the bass reach we heard. The technical bit is a low 83dB/6 ohm sensitivity, so it needs a bit of power, but full marks for innovation.



4. Curvi Hi-Fi's Curvi 1 V2 loudspeaker

5 Pioneer PDX-Z9 (£549)
The G-Clef range has been augmented by a new AIR studios-tuned receiver. The PDX-Z9 plays CDs and SACDs and receives FM/AM and internet radio. Pioneer struggled to demonstrate the latter due to a poor internet connection, but the unit is DLNA-certified, which means that it should integrate into a home network and stream music from a PC. It also has a USB input and iPod connectivity, plus Pioneer's sound retriever system for 'restoring' compressed music formats.



5. Pioneer's PDX-Z9 receiver and SACD player



6. Vita R1 MkII DAB radios

6 Vita R1 MkII (£160)
Vita has updated its smallest DAB radio, the R1, which offers DAB/DAB+/FM and now a larger display than its predecessor, alongside some useful accessories. There is the BackPack battery power supply that attaches to the back of the R1 and the Carry Pack, which is a leather case with a handle that wraps around the R1 and makes it truly portable.

are also IB systems. The absence of drive unit fixings and metal grille mounts mark these out as being impressive material value.

7 Olive Opus No4 (from £1,499)
Olive is a new name on the music-streaming front to these shores, with some particularly nice casework on its Opus No4 server, which comes in 500GB and 1TB versions. It has a touch screen and has been built with a Burr-Brown 24-bit/96kHz DAC on a separate PCB with its own dedicated power supply.

8 I.US i700 (£140)
I.US speakers are unusual in that they are infinite baffle (IB) designs without a reflex port, something that you rarely see on budget speakers these days. Designed in France there are two bookshelf models; the i700 shown and a smaller i70 (£110) alongside a centre channel and a range of subs, which



8. The I.US i700 bookshelf loudspeaker



7. The Olive Opus No4 server

WHAT HI-FI?
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AWARDS 2009

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DENON AVR-1910

DENON

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Denon AVR-1910 High Definition AV Receiver // What Hi-Fi? Sound and Vision selects the new Denon AVR-1910 as its Multichannel Receivers Group Test Winner, describing it as a 'frighteningly good all-rounder'. In its September 2009 edition, the UK's largest home cinema and hi-fi magazine, also says the new Denon sounds 'hugely entertaining' with an 'unbelievable amount of detail'. Part of Denon's new generation of AV Receivers, the AVR-1910 features Dolby's latest ProLogic IIz sound program which supports two additional front-height speakers, enabling an even more lifelike surround sound experience.



*What Hi-Fi? Sound and Vision
Multichannel Receivers Group Test Winner
Denon AVR-1910*

AVR-1610



AVR-2310



DOLBY
PRO LOGIC IIz

9. Michell's VTA adjuster for the Rega RB301 tonearm



9 Michell VTA device (£38)
Michell has designed a VTA adjuster for the relatively new Rega RB301 tonearm, a model that with its three-point fixing has made all the RB300 adjusters obsolete. It consists of two threaded collars, a base to fix the arm to, and smaller spacers for the armboard on Michell turntables. The standard of engineering is, as we've come to expect from the company, superb.

10 Focal Chorus 826W LE (£1,879)
Focal has gone to town on a limited edition, satin-red or black version of its 826W floorstander. The three-way benefits from a technique developed for the Utopia range that involves laser cutting the W cones for concentricity, then bevelling and cauterizing their edges for a perfect joint with the surround.



11. Sugden LS21 loudspeaker



10. Focal Chorus 826W floorstander

11 Sugden LS21 (£2,750)
Never ones to follow the crowd, Sugden has branched out with its own loudspeaker and its own cabinet work – something not many speaker companies do these days. The LS21 cabinet is made from deep-rout MDF and finished in book-matched veneer with solid wood edges. A six-and-a-half-inch coated polypropylene cone covers the midbass and hands over to a one-inch soft dome for the treble.

12 Anatek Research MCR.2 Reference (£2,000)
Sussex-based Anatek Research introduced its MCR.2 Reference phono stage at the show. The company claims to have

12. Anatek Research's MCR.2 Reference phono stage



XQ Series

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Home Cinema Choice, November 2009



Exquisite

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The line up includes elegant floorstanding and bookshelf models plus an outstanding three-way centre channel speaker. A choice of Piano Black, Khaya Mahogany or Birds-Eye Maple wood veneer finishes, all in stunning high gloss lacquer, allow the XQ Series to blend into the finest environments.

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KEF
INNOVATORS IN SOUND



13. Denon DCD-2010AE and PMA-2010AE

come up with an improvement to the RIAA equalisation system. It certainly sounded sweet on the end of a Funk Firm turntable. Moving coil only, it has adjustable load and is direct coupled. The company also showed a 100-watt power amplifier based on the Hypex module called D-100 for £1,500.

13 Denon DCD-2010AE & PMA-2010AE (£1,700 each)

Denon hooked up its top two-channel components (see review on page 44) to a pair of AH-D5000 headphones. The DCD-2010AE CD player has a 32-bit/192kHz Alpha processor and three-level 'restoration' for MP3 material, which it can extract in digital form from an iPod via USB. The PMA-2010AE integrated amp claims 160 watts per channel and has an MM/MC phono stage onboard.

14 Naim Ovator S-600 (£6,000)

Naim was making impressive sounds with its Ovator S-600, the first hi-fi speaker to use the NXT BMR (balanced mode radiator) driver; a six octave, four-inch unit with unusually wide dispersion. The driver is decoupled from the cabinet by leaf springs, more of which separate the cabinet from its die-cast plinth. Bass is provided by a pair of paper cone drivers in FEA modelled chassis.

15 The Chord Company Solstice (from £1,500)

The Chord Co. was having a frantic time selling cables, but managed to point out its new range-topping Solstice interconnects, speaker and mains cables. With interconnects starting at £1,500 per pair and speaker cable at £500 per metre, this is serious

wire. Built with polished, silver-plated OFC, insulated with foamed Teflon and shielded in 'very heavy guage' silver-plated foil, its got a lot to prove.

The atmosphere at Manchester was upbeat with a lot of exhibitors making good sounds and playing interesting music. The better sounding rooms included Electrocompaniet which didn't have any brand new product, but has a huge range from which to choose. We also enjoyed the Cyrus room where the new digital components clearly contributed to the impressive overall result.

The most exciting newcomer to the show has to be I.US loudspeakers, we expected them to be at least twice as expensive as they are and



14. Naim Ovator S-600 loudspeaker

look forward to hearing them in action. Best innovation has to go to Michell, however, for figuring out a way of making the Rega RB301 tonearm adjustable for VTA. **HFC**



15. The Chord Company Solstice interconnects

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Richard Black

Richard Black is a professional musician, recording engineer and a highly knowledgeable hi-fi analyst to boot. He writes about hi-fi exclusively for HFC

Technology

Amplifiers go green...



British company Audium Semiconductor is helping to make hi-fi components more 'green'

"...if we're going to deny ourselves all pleasures on the grounds of 'greenness', we might as well go back to living in caves or trees."

Whether you're a believer in climate change or a nay-sayer, it's common sense that wasting natural resources, including energy, can't be smart. On the other hand, if we're going to deny ourselves all pleasures on the grounds of 'greenness', we might as well go back to living in caves or trees. How nice, then, to learn that audio has potentially just become a good deal greener, thanks to a development in audio amplification from a British company called Audium Semiconductor.

Krell and similar Class A monsters draw hundreds of watts off the grid, whether playing music or not. By contrast, many of the integrated amps we've tested lately draw only 10-20 watts at idle, though most of them require an input of over 100 watts to deliver a total music output of 20 watts, the difference ending up as heat. Switching-type amps (Class D, or 'digital', designs) can be more efficient than that, though in practice most of them still consume a fair amount of power.

Audium is claiming that its integrated circuits allow amplifiers to be built that have efficiency in the region of 80 per cent over a very wide range of output, from 100 watts right down to milliwatts. The company makes an important point about this: designing for high-efficiency at high output is only a small part of the story, because in the real world, amps only spend a small portion of their time outputting high power. Even when one is listening loud, the average power level is low.


It's easy enough to assess this and we had a look at some music to see what's really happening. A typical example would be a bit of Led Zeppelin, which when played to full output by a 100-watt amplifier actually requires an average of just three watts. Some highly compressed modern pop might need a

bit more, while a lot of classical music would require much less. But you get the general idea – average power is way down on the amp's maximum capability.

But the amp is likely to be drawing several tens of watts on average, making for an overall efficiency of ten per cent or less. Even worse, if you listen at a level below the amp's maximum, which most people do most of the time, efficiency drops still further. Audium gives figures for efficiency of a Class D amp suggesting that it manages 50 per cent at one-watt output, but far less at a few milliwatts out. If anything, that's better efficiency than we've seen and it's certainly a lot better than any linear (Class AB) amp.

To achieve this kind of efficiency, Audium uses a whole battery of techniques, with digital switching circuits at their heart. One eyebrow-raiser is that the basic power supply voltage for the circuit is 1.5V, roughly what you get from a single battery. In linear circuit terms, that's good for little more than a headphone driver, but Audium includes step-up power conversion circuitry so there's enough voltage available to drive lots of watts into a loudspeaker when needed. When that kind of power isn't needed, the circuit operates on just the 1.5V, which avoids the biggest source of loss in most conventional amps: blocking off most of the power supply voltage.

The implication of this, is that realistic amplifiers can be built with a long-term-average power consumption of just a very few watts, saving energy and allowing truly cordless operation. At the moment, technical performance doesn't meet full hi-fi standards, but there's no reason why it can't be done in future. **HFC**

The image shows five black, spherical speakers from the Eclipse TD series. Two are positioned at the top, and three are in the center. Each speaker has a silver-colored driver visible through a circular opening. They are mounted on silver-colored stands and are reflected on the dark surface they sit on.

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Adam Hartley

Adam Hartley is a technology journalist currently trying to reconcile his passion for new music streaming services with his desire to see good artists get paid to make great music

Is Freemium the future for recorded music?

"Spoti-what?" said my dad, as I tried to explain...

"Spotify's growth has been nothing less than incredible, amassing 2.7 million registered users in the UK in the first six months."

Illegal music piracy and online file-sharing is killing the music industry. So the popular refrain goes. Yet recent studies show that it is exactly those 'pirates' that buy more vinyl and CDs than anybody else. And new 'freemium' music streaming services such as Spotify, Sky Songs and Microsoft's MSN Music are booming, giving users instant access to millions of tracks and – so these companies claim – providing music lovers with a legal and far more user-friendly option than dodgy torrent websites.

Yet what of audio quality? Much of the discussion about the rise of freemium has focused on the instant accessibility and the genuinely magical experience of discovering new music and rediscovering old favourites via an almost unlimited jukebox 'in the cloud'. And the wonder that is Spotify's iPhone app and the new dedicated 'Spotify' phone from lesser-known mobile manufacturer HTC. But can you integrate it into your current hi-fi set-up without too much fuss? And will it sound anywhere near as good as vinyl or CD?

"With all of the services you mentioned there is a lack of format and quality standardization," says Music Ally's Nik Miskov. "Stream quality will always fall somewhere in the wide range of 128 kb/s – 320 kb/s. Spotify, the new standard, streams at an approximate rate of 160 kb/s for all free members, while premium members can change the streaming rate to 320 kb/s in their preferences once they start paying."

Strangely enough, this high-bit-rate optional extra has not been widely publicised. For me, it gives me far more incentive to part with that tenner-a-month subs fee. In comparison, Sky Songs' £6.49-a-month browser-based service uses an AAC+ codec which streams at only 48kb/s. The difference is negligible if you are listening via

headphones at work or via your mobile phone, but instantly noticeable when you plug your laptop or netbook into your hi-fi via an optical cable, stereo RCA, or headphone jack.

Bottom line. Even if you are happy enough with the service to shell-out £120 a year, Spotify is not going to replace your beloved vinyl and CD collections as your primary source of music in the home for the foreseeable future. It is more likely that you will choose to dabble with the free ad-supported version now and then to help you decide which albums you want to invest in and spend some serious listening time with.

Either way, Spotify's growth has been nothing less than incredible, amassing 2.7 million registered users in the UK in the first six months since it launched back in February 2009 and delivering one billion streams to Brits throughout that same period. And while the audio quality is currently the best on offer, when compared with similar services from behemoths such as Sky and Microsoft, this apparent success story still raises more questions than it provides answers for the long-suffering music biz. Simply put, can Spotify convert enough of its users to pay £10 a month for its premium service? Or is it, as many critics have claimed, little more than the music industry's 'free lemonade stand'? The last gasp of a recording industry in its final death throes...

I can't answer that question. However, what I can say is that I've discovered more new music through sharing instant Spotify links and personalised-playlists with friends over email, Facebook, Twitter and Skype. It has also improved no end my overall experience of being slightly inebriated on the internet late at night. And for that, if nothing else, I highly recommend it. Though my wife may beg to differ. **HFC**



There's a universe of music available from online services like Spotify

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Paul Messenger

Paul Messenger is a former editor of Hi-Fi Choice and has been writing about his favourite hobby for more than 30 years

Tone control

Just how important is its impact on loudspeaker performance?

"Tone controls on speakers were much less common and were usually restricted to offering some degree of control over relative treble level"



The two- and three-way Audiovector S3 Super loudspeaker

Back in the 1950s and '60s, tone controls were a universal feature of amplifiers – and to some extent loudspeakers. There were – and are – good reasons for including them, but also counter-arguments that point out associated disadvantages.

During the 1970s, two newcomers to amplifier manufacture – Mark Levinson in the US and Naim Audio in the UK – broke with the tone control tradition, on the grounds that the circuitry involved added unwanted complexity and, if used, introduced phase shifts and resonances that compromised sound quality. It took more than a decade, but by the late 1980s hardly any genuine hi-fi amplifiers still had tone controls and few customers asked for them. It's a situation that persists to this day.

Tone controls on speakers were much less common and were usually restricted to offering some degree of control over relative treble level. These too seemed to fade out during the 1980s, probably in the wake of their disappearance from amplifiers and for similar philosophical reasons.

It might have been a simple lack of enthusiasm on the part of manufacturers and customers, or maybe a consequence of poor implementations undermining credibility. The simple fact remains, that including such a feature does make good sense and might indeed be on the point of making a comeback. Furthermore, since a speaker already includes equalisation circuitry, it's also arguably a better place to include such a feature than on an amplifier.

The bottom line is that the tonal balance one hears from a stereo hi-fi system today is fundamentally a consequence of the interaction between the loudspeakers and the acoustics of the listening room. The speaker manufacturer might have total control over his own products, but has only a vague idea of the sort of environment they'll be used in and has to accept that there will be huge variations across his customer base.

A perfect illustration occurred with the Audiovector S3 Super (reviewed on page 60). These have a simple switch that cleverly converts them between three-way and two-and-a-half-way operation, the latter supplying roughly 3dB more relative output through the bass and lower midband.

I tried them set to the three-way mode, but was disappointed by a lack of bass warmth and an over-prominent upper-midband in my room. I switched over to 'two-and-a-half-way' mode and immediately heard a substantial improvement.

That shows all too clearly how important the room can be in determining the net tonal balance of a stereo speaker system and how useful it can be if the speaker manufacturer incorporates some degree of adjustment.

Audiovector is not alone in helping start what could well be a new trend. PMC's new luxury fact.8 speaker (reviewed in *HFC* 327) has two little three-way switches next to its input terminals, allowing some adjustment of both bass and treble.

The treble switch offers a small 'fine tuning' adjustment labelled 0dB, -1dB, -2dB, allowing the 'brightness' of the system to be sensitively tailored to the characteristics of the system as a whole and the reflectivity of nearby surfaces.

The bass switch offers three rather larger variations, 0/-3dB/-6dB and is designed to compensate for the roughly 6dB variation that's found between free space and close-to-wall siting. This is harder to implement, because the capacitors involved are much larger and more costly, but carefully paralleling large and small audiophile grade examples ensures that sound quality isn't compromised.

KEF's Reference models have included a degree of adjustability for some time and with two of hi-fi's more progressive speaker designers joining in, the trend towards including 'tone controls' is gathering momentum. **HFC**

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PRODUCT OF THE YEAR

For the PMC IB2i



Alvin Gold

Alvin Gold began writing about hi-fi more than 25 years ago and has since become one of the most internationally renowned reviewers in the field

Design for design's sake

What's more important... aesthetics or performance?

"A very good example was its flagship disc player which, for reasons it's hard to guess, was based on DVD-Audio technology."

What precisely constitutes good design when the term is applied to high-fidelity? What is the formula for getting it right? And what about related areas such as build-quality and craftsmanship? These are questions I have taken an interest in, back to my earliest days in the industry and which influences my writing through to the present day.

One of the most impressive early examples was the Cambridge Audio P50. I continue to believe that this was one of the most exquisitely turned out components that the hi-fi industry has seen and which, incidentally, was one of the first amplifiers to be promoted on the basis of its sound quality, as well as design, and not just power output or other extraneous features. It was one of the original amplifiers from Cambridge Audio and its design had nothing to do with later iterations from this much travelled company, whose focus has changed completely in the years since.

Of course, it was not alone. A number of products spring to mind that epitomise good design, including the original SME 3009 arm. It was exquisitely turned out and presented. Another example, coincidentally, also happens to be another arm, the Rega RB300, which is not made to the same standard as the SME, but which earns its place in the annals of high-fidelity history for its simplicity, and, above all, because it worked. A real triumph of design over material means.

For all its qualities as a design statement, the Cambridge Audio P series was fatally flawed. It was made as slim as was thought feasible at the time; the whole amplifier was just two inches high, which meant using very short, compact main reservoir capacitors. This would be no problem now, but at the time the ones that were sourced for the job were none too reliable. I still have my old Cambridge Audio P50, but I think too much of it as a design statement to be willing to plug it into the main supply. I don't have any confidence it would survive a blast of 240 volts.

But it wasn't alone. The weak point of the Rega RB300, for example, was the cable, which was simple and not really up to the job. But the aftermarket can deal with this shortcoming quite easily. You can even upgrade the steel counterweight to the original tungsten part, which sits closer to the main bearing, reducing effective mass. The SME, however, was different. It may have been limited as a design, but its execution was near perfect.

One curiosity I learned along the way is that in the UK we have often done fairly well on the design fundamentals. The home of high-end high fidelity – the USA – has a comparatively mixed record. Obvious examples are a lack of attention to detail, second rate finishes, and poor shut lines. We frequently do these things better in the UK while the Japanese hi-fi industry does them best of all. Two examples that spring to mind are Teac's Esoteric sub-brand and the uniquely designed Stax electrostatic headphones.

This was something that was identified early in the work that went into the Classé brand when it was taken over by Bowers and Wilkins a few years back. There was never such a thing as a poorly finished Classé product and if you ran your finger across the control surfaces there are abundant tactile clues to its class. Classé's mistakes were more fundamental. A very good example was its flagship disc player which, for reasons it's hard to guess, was based on DVD-Audio technology, at a time when it was already obvious that the format was in terminal decline. But there were other striking miscalculations too, not least in the design of the home cinema processors and disc players they chose to run with.

Pulling the threads together, what we can say here is that good design doesn't exist in a vacuum. There is no rule book for design excellence. It is a process, ultimately a holistic one. **HFC**



The unique design of the Stax electrostatic headphone



NAIM NAC 202 PREAMPLIFIER | NAIM NAP 200 POWER AMPLIFIER | NAIM NS-01 HARD-DISK PLAYER |

Neat Naim

Debut review of the new NS-01 hard disk player with matching system

In the context of this collection of components, it is possible that the phrase 'beautiful systems' is perhaps not wholly appropriate. It's not that for a second we consider these units to be ugly, but with the term 'beautiful' comes certain inevitable connotations that this system could never be accused of. They are completely free of unnecessary adornment, they are made of materials of clearly terrestrial origin, and their styling is the result of providing an enclosure for their innards in a practical and sensible fashion. Maybe, for this column only, we are reviewing what might be more correctly termed a 'handsome system' instead.

These electronics are provided by Naim. Aesthetically they could be the

well as a brace of phono connections for any sources you own which may not have been born in Salisbury.

In common with all Naim preamps, the 202 has no power input of its own, but instead relies on being connected to a Naim power amplifier or – as we have here – a separate power supply. The NAPSC (£275) connects to the dedicated socket on the rear of the NAC 202 and provides an upgraded power supply which frees the delicate circuits of the 202 from any interference that power drawn from the amplifier might bring. The NAPSC is the same sleek black and green box as the preamp, but in miniature – it sits beside the NAC 202 almost like an infant version of a power amp.

“This is not a system that shows any reticence or holds back from a totally accurate rendition of what you happen to be listening to.”

products of no other company, with their trim, black casework and green illuminated logos and buttons. Presented here is the classic Naim system set of preamp, power amp, power supply and source. With the latter there is a twist that belies the simple appearance of the system. The amplification and power supply though are classic Naim and none the worse for that.

NAIM CONTROL

Control over the signals of sources connected to the system is provided by the NAC 202 preamplifier. The face it presents to the world is clean, crisp simplicity itself, with a large and perfectly weighted volume control to one side of the illuminated logo and source selection buttons to the other. That is the sum total of control options on this device – there really is nothing else the user has to concern themselves with.

The rear panel is similarly single-minded with the firm's customary DIN connections provided for all inputs as

In this system, the power amp in question is the NAP 200. A direct consequence of the research work that led to the creation of the mighty NAP 500, the NAP 200 is the same size as the preamp and even more spartan in appearance. The fascia consists purely of another glowing Naim logo and a partially recessed power button. Again, the styling of the casework is formulated to meet the fundamental requirements of housing the circuitry of the amplifier, and protecting it from the degrading effects of external vibration. When assembled, the three boxes sit like a lesson in simplicity, their logos aglow.

The electronics are a classic example of the Naim philosophy – a painstakingly laid out topology which yields an output of 70 watts of a type which always feels rather more muscular and powerful than 70 watts output by virtually any other amplifier.

NAIMNET

The source in this instance has a few more surprises than its minimalist



Naim NAC 202 preamplifier
£1,650

Includes six line-level inputs, low-resonance circuit boards, high-quality motorised potentiometer and intelligent balance control



Naim NAP 200 power amplifier
£1,575

Features a new top-quality 430VA toroidal transformer, a continuous power output of 70 watts and a frequency response of 2Hz to 65kHz (-3dB)



Naim NS-01 hard-disk player
£2,935

Rips CDs directly to an internal hard drive and is designed for touch-panel control. Pictured above with the NAPSC power supply (£275)



Neat Momentum 4i loudspeaker
£2,845

2.5-way floorstanding loudspeaker features a 165mm main driver, 88dB sensitivity and eight-ohm impedance



front panel might suggest at first glance. The NS01 is not a conventional Naim CD player, despite the presence of a CD tray on the front panel. It is instead part of the NaimNet distributed audio system.

Connected up to a home network, the NS-01 will rip CDs directly to an internal hard drive. Not only that, it will also locate and play music from elsewhere on the network. It does this in a bit-perfect, lossless manner – whatever convenience is added to the system by its networking capability is not achieved at the cost of sonic performance.

As these functions require more space than a front panel display can easily provide, the NS01 is designed to be used with an external screen, or as was the case during listening – a touch-panel. This may sound like a recipe for complexity, but the interface proved to be so intuitive in use that returning to a remote-driven system afterwards felt like stepping back a decade in terms of functionality and ergonomics.

There will undoubtedly be avid readers out there who will immediately be aware that they can connect unit A from this manufacturer; to unit B from another in order to replicate the function of the NS01 at a fraction of the price. To think this is to miss the point, slightly. The joy of the NS01 is that it is so well sorted. It

can be up and running in mere minutes, and the vast feature set is simplicity itself to operate. In short, you are paying for the research and development time which went into honing this experience and ease of use, and it would be unwise to underestimate the benefits this brings to usability.

NEAT IDEAS

To partner these four handsome boxes, we selected the equally good-looking Neat Momentum 4i loudspeakers. Neat's equipment is frequently partnered with Naim electronics and even on aesthetics alone there is much to be said for the pairing. Just like the Naim components, the Momentums are devoid of frivolous adornment and, like the NS01, hide rather more technology than you might at first imagine.

As well as the tweeter – with its inverted Titanium dome and the 165mm driver visible on the front baffle – each Momentum hides away an integrated isobaric subwoofer in the base of its cabinet. If you tilt the speaker for a quick look at its base, you'll see the lower of these two drivers is visible. It's for this reason that the Momentums are fitted with spikes which can't be removed. The result is a slim and relatively compact cabinet which has the ability to go

rather lower and punch rather harder than you might expect.

The final system contains a minimum of visible controls, features and drivers respectively, but achieves this look by concealing quite a few of them within the pared down case and cabinet work. The overall effect is a set of components designed around the maxim "speak softly and carry a big stick." The big stick, in this instance, is the sonic performance this combination offers. The well-engineered touch-screen interface of the NS01 and isobaric subwoofers of the Momentums would both be for nothing, if this system was unable to deliver the goods sonically, but it does and then some.

ALL SYSTEMS GO

This is not a system that shows any reticence or holds back from a totally accurate rendition of what you happen to be listening to. It will not sugarcoat a bad recording and neither does it produce sounds that you put on in the background while you attend to other tasks – you are entirely unlikely to complete them.

What it produces is a totally engrossing performance, that is as ferocious or delicate as needed, when required. The NAC202 and NAP200





“This is a brilliant combination of elegance, performance and features. At the same time, the ability of this system – and, most importantly, its sound – is beyond question.”

are fast, clean and possessed of headroom that is unlikely to be tested too rigorously outside of an aircraft hangar. Small adjustments of the 202's perfectly weighted volume knob will produce levels that will have your neighbours forming a lynch mob in no time.

The NS01 is technically not in its designed environment in this 'conventional' system, but you would be none-the-wiser based on the sonic performance it turns in. Behind the clever interface and large feature set is a truly sorted digital music player. All the Naim virtues of speed, propulsive force and natural tonality are present and correct. The NS01 then shows these to great effect as you browse swiftly and easily around its content from the comfort of your listening position.

The right music for any mood is seconds away (and this particular NS01 came loaded with some real treats) and moving rapidly through genres shows how well-sorted this system is.

PERFECT SOUNDS

As could be expected of perfect partners, the Neats take this talent and run with it. The Momentums are aptly named, as they possess this quality in abundance. The isobaric arrangement of the subwoofers gives them a low end that starts and stops with immense speed, allied to an extension which seems incredible coming from a cabinet of relatively limited internal volume. This bass is not a blunt instrument – it has a precision, tunefulness and dexterity which together help to bring every nuance out of a complex bass line.

The Neats' rendition of Nils Lofgren's *Acoustic Live* captures the guitar with spine-tingling realism. The space around the artist, his position in relation to the other musicians, and the placement of the group as a whole within a believable acoustic, is relayed with unfailing accuracy and seemingly without a second thought.

The results with some of the electronica available on the NS01 were simply

stunning – *Dirty Epic* by Underworld had all of the epic scale which befits the title and every last drop of the latent emotion was reproduced effortlessly, when it can so easily be glossed over if the song is filtered through a less revealing component.

This is a brilliant combination of elegance, performance and features. In avoiding some of the wilder design traits, sometimes apparent in electronics design, these are units that should sit happily in any environment without drawing unnecessary attention to them. At the same time, the ability of this system – both in its features and, most importantly, its sound – is beyond question.

The results are greater than sum of the parts and this is always an indicator that the ingredients are 'right.' Whilst this might still be judged as a handsome system on account of its calm aesthetics, the sonic results and user experience are unquestionably beautiful and that is why it belongs here. **HFC**





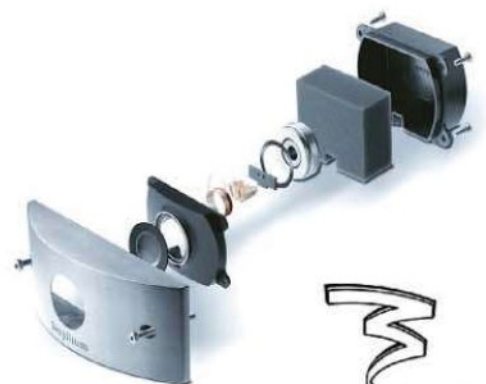
Electra 1000Be 2 - small details, great effects.

How do you improve a range that has been as successful as the Electra 1000Be? These, after-all are the speakers that brought the benefits of beryllium to the audiophile masses.

With over 30 years of expertise in loudspeaker and drive unit design, Focal have always been aware that attention to detail is paramount, and a fine example of that resolve is here in the new tweeter diaphragm of the 1000Be 2. Only 2 millimetres larger, and artfully re-profiled, this remarkable dome (identical to that used in our flagship Grande Utopia) is a large contributor to the greatly improved performance.

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Available in three standard finishes - *Champagne* (pictured), *Basalt* and *Slate Grey*.



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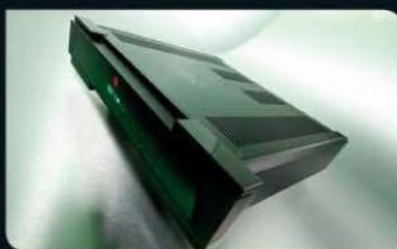
REVIEWS

Welcome to the HFC hardware reviews section – the only place for definitive tests of the latest hi-fi components. Our unique combination of extensive listening, unsighted comparisons and scientific lab reports, conducted by the UK's most experienced set of reviewers, ensures you're holding the most comprehensive and reliable guide to high-performance hi-fi in the world.



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OUR RATINGS EXPLAINED

Star ratings for various different criteria, like sound quality and value for money

Our overall conclusion

You can find... civilised players for this money. But few combine dynamics with fine timing skills as effectively as this. *HFC*
Jason Kennedy

VERDICT

SOUND	★★★★★	PRO	Good build and open, lively sound from a value DAC with plenty of inputs. Transport is also great value for money.
FEATURES	★★★★★	CON	DAC doesn't engage as well as the transport with loss of weight and power through the bass unless you price the quality. Cables cost extra and competition from single channel designs won't help.
BUILD	★★★★★		
VALUE	★★★★★		
CONCLUSION	Reference Acoustic is being very ambitious producing a best-in-class player of this build quality and price. Something just has to give and it is the DAC, which can't do justice to the transport's efforts.		
HI-FI CHOICE OVERALL SCORE	★★★★★		

The things we like most about the product

The things we think could be better

The product's final score. All criteria are taken into account, but the emphasis is on performance. Components scoring four or more stars may qualify for an HFC Award Badge

OUR AWARD BADGES EXPLAINED



Best Buy

A component receiving the coveted Hi-Fi Choice Best Buy Badge has been judged to deliver excellent performance at its price point, thereby offering outstanding value for money.



Editor's Choice

This Badge is awarded only to those components that are judged to deliver reference-standard performance, regardless of cost. These products may be considered among the very best of their kind.

Turn the page for the most rigorous tests of serious hi-fi in the business...



Affordable luxury

The nearest that Gryphon gets to amplification for the proletariat

PRODUCT Gryphon Atilla

TYPE Integrated amplifier

PRICE £6,995

KEY FEATURES Size (WxHxD): 48x13x38cm

Weight: 8.6kg Inputs 4x line single-ended, tape, 1 x balanced XLR Power output 2x 100 watts per channel (8 ohms), 2x 200 watts per channel (4 ohms) Output impedance: 0.027 ohms

CONTACT ☎ 0141 333 9700 # www.gryphon-audio.dk

Cheap it isn't? Gryphon's Atilla costs practically £7,000, for what at first sight looks like a modestly equipped 100-watt integrated amplifier. And this is the entry-level model, which is a long, long way from the top of the company's range.

There is nothing matter-of-fact or ordinary about the Gryphon Atilla, from the vaguely threatening product name, to the opening passage in the product information, describing the integrated amplifier breed as 'the ugly ducklings' of high-end audio. Yet, this rather extravagant claim simply doesn't hold water.

It's true that a majority of the very best cost-no-object amplifiers are configured as separate pre and power amplifiers, but there is no necessary correlation between packaging and performance. There are plenty of under-achieving component pre and power amplifiers and a surprising number of truly excellent integrateds, a category that includes exceptional machinery from Belles (the IA-01), the Plinius 9100, Unison Research Unico Primo, Sim Audio Moon, Krell FBI and the MacIntosh MA6300 – and there are more where they came from.

In any case, the idea of calling such a drop-dead gorgeous object as the Atilla an ugly duckling (using the term in its other

more directly pejorative sense) is more than unfair – it is nothing less than a travesty.

Looked at simply as a piece of industrial design, the Atilla is remarkable and in some ways stunning. The amplifier itself inhabits a more or less rectangular box, though it is very slim and unusually heavy for a 100-watter (that's the eight-ohm rating, it delivers 200 watts into four ohms).

It is supported at an appropriate angle by two shock-absorbing feet and a single centrally mounted solid cone. At the sides, it is propped up by two strikingly shaped diecast aluminium feet. The design of the

“...the amplifier looks conventional, with inputs for four line-level items, a tape circuit and a single-balanced mode, XLR-based input.”

amplifier is clearly intended to ensure good convection cooling

Gryphon describes the Atilla amplifier as minimalist and again we think it has overstated the case, though it is a reasonably simple amplifier in some ways. There's no phono input for example, although an all singing MM/MC input is available as an optional extra. And there are no tone controls or filters.

From the back the amplifier looks reasonably conventional, with inputs for four line-level items, a tape circuit and a single-balanced mode, XLR-based input. But some of the design is clearly minimalist in intent. When under power, the front panel shows the volume level and input status.

The amplifier is configured internally as a dual mono amplifier, based around two high-

current independent transformers from the prestigious Holmgren stable. The independence of the two channels internally is intended to minimise crosstalk and the product information supplied, makes the claim that the Atilla is a no feedback amplifier, though the usual point should be made that there is almost no such thing as a true feedback-free amplifier. That form of words usually serves to describe an amplifier with no global, overall feedback, even where local feedback around individual gain stages is used.

The Atilla was designed lock, stock and barrel in its Danish home and it has many powerful

qualities. The operating firmware is upgradable, as and when the manufacturer gets around to adding new features, but the feature set already includes a programmable start-up volume level and a maximum level.

The amplifier can also be configured to provide a fixed-level output, bypassing the volume control, so that this function is supplied externally. This is for those who have a multichannel amplifier or processor and are not willing to accept the usual compromises.

We recently heard some of Gryphon's equipment on a visit to The Audio Salon in Glasgow and were surprised by how musical this relatively unfamiliar brand proved to be – not as individual products, which there wasn't the time to explore, but as complete working systems. 



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Many More...

Peter Martin
Run by professionals for professionals.

❑ In the context of a review like this, which involves a single component mixed and matched with 'foreign' equipment we had to hand, there was no opportunity to explore this element of Atilla's makeup, though at the time, we were surprised and impressed by what we heard as a very strong impression of system synergy.

In fact, we were able to test the Atilla with another Gryphon component, namely the Mikado CD player, but this is a much more costly product, almost twice as expensive as the Atilla and not really intended as a cost-effective partner for this amplifier. However a lower cost CD player is apparently in the works, so there may be an opportunity to try out this entry-level Gryphon pairing at some point in the future.

So for test purposes, the Atilla was used with the Mikado and also with some other players, including an EMM Labs XDS1 SACD player

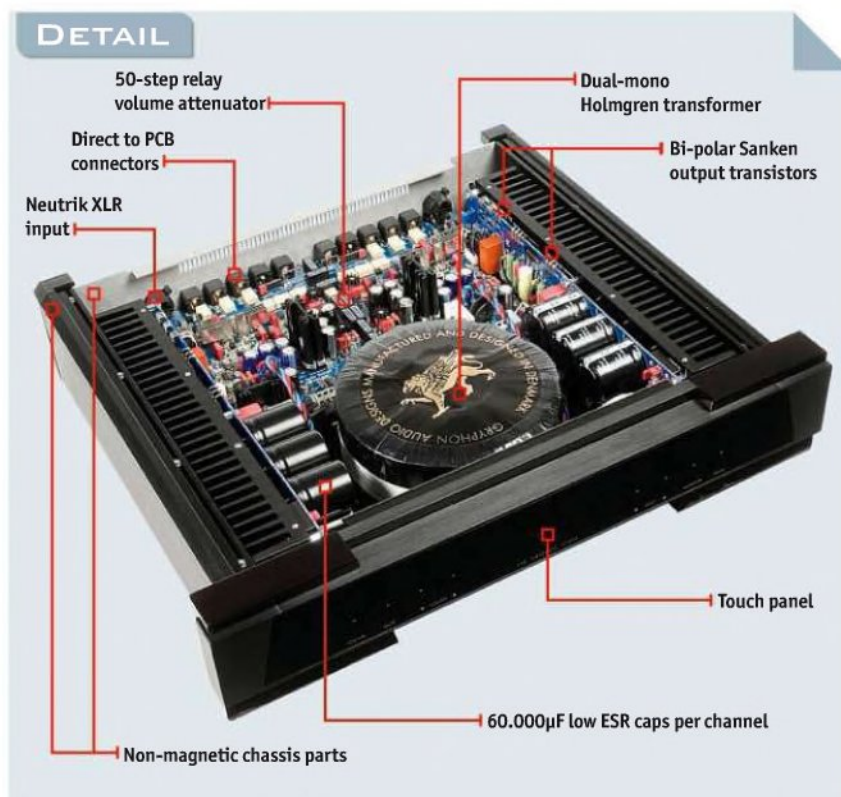
MAKING IT WORK

Easily the most striking part of the design is the least expected, namely the remote control. It is a compact, moulded plastic object with a four-way rocker switch, with a central select button for input and volume settings and seven separate selector buttons, for mute, monitor selection, five levels of display brightness and some other housekeeping functions. But it is a better handset than the rather prosaic description implies: it is beautifully made and the unit is anatomically designed to nestle snugly in the palm of the hand.

OUTPUT STAGE AND VOLUME CONTROL

One unusual feature of the amplifier is that there is no output inductor, which is normally included as part of a Zobel network for stability, though some amplifiers (eg Naim) have traditionally relied on the residual inductance of the speaker cable, which is deliberately specified for this purpose. The Atilla can be made unstable if it is wired with certain test set-ups, but Gryphon issue a clear warning on this and how to avoid it. In fact, it appears that the omission of the output inductor is for sound quality-related reasons.

The Atilla's volume control is also noteworthy. It is built around a 50-step attenuator, free of the usual microprocessor and there is no opamp either. According to the maker, only two resistors are in-series with the audio signal at any time. The designer's claim is that it is an unusually transparent volume control – which is implied by the transparency of the amplifier as a whole.



(see review in *HFC* 327). We also had access to a Denon DCD-SA1 SACD player and various speakers, though much of the work involved Mordant-Short's Performance 6LE. The amplifier and speakers give every indication of being a completely natural match, they speak with one voice and ditto the Mikado CD player when used with the Atilla, notwithstanding the large price disparity.

SOUND QUALITY

There was no suggestion that the other disc players were in any way lacking in system synergy when used with the Atilla, at least not directly, but nevertheless, we can only report that there is something not quite convincing about the combination, which didn't quite live up to what we had experienced back in Glasgow on three different systems.

If we were asked to name the factor responsible, it would be difficult to put a finger on what it is, but somehow the two Gryphon components do have a remarkable similarity in their responses to musical stimuli, which the Atilla doesn't quite live up to when the Denon DSD-A1 (and (particularly) the EMM Labs player are used as signal sources, even though the disc players, the EMM Labs especially, clearly outperforms the Mikado in most respects when used in their best case form, as SACD players. The Atilla has a distinctive quality of its own, but in the context of this test we were unable to completely nail down its character. The evident synergy of the two Gryphon components tends to reinforce this suggestion.

This is nevertheless, a first-rate amplifier. Without suggesting it is as muscular as some similarly rated amplifiers, it has more than

enough grunt and authority to cope with just about anything during the test period. But the Atilla is far from being defined by its power output. It just doesn't lay it on with a trowel. It also has lightning reflexes plus a treble, which is not quite silky in the valve amplifier sense, but is clearly articulated and very finely detailed. It makes the amplifier very comfortable to listen to, even for extended periods.

The Atilla is a very special amplifier, that works well with a wide gamut of recordings, and which preserves what is so special about particular recordings. It does have voicing, which is slightly unusual and suggests that care should be taken when choosing a partnering source component. This makes the Atilla harder than usual to sum up, but at the end we're convinced this is one of the very finest integrated amplifiers available. **HFC**

Alvin Gold

VERDICT

SOUND
★★★★★

FEATURES
★★★★★

BUILD
★★★★★

VALUE
★★★★★

PRO
Delicate, articulate and refined-sounding amplifier with distinctive voicing. It's also very comfortable to listen to over a long period of time.

CON
Some issues arose over system synergy, while the matching Gryphon CD player may well be its best partner.

CONCLUSION

At its best, when used with a sympathetically chosen partner, the Atilla has an unusual poise and exceptional subtlety and definition. It has more than enough power and grunt to cope with just about anything musical.

HI-FI CHOICE
OVERALL SCORE ★★★★★

Search for the best price at www.techradar.com/reviews



Middle man

The middle model in Tannoy's three-strong Definition range still packs plenty of punch

PRODUCT Tannoy DC8T

TYPE Floorstanding loudspeaker

PRICE £4,000 per pair

KEY FEATURES Size (WxHxD): 27x103x26cm
 • Weight: 21 kg • Drivers: Dual Concentric 200mm bass/mid./treble, 200mm bass-only driver
 • Deep cryogenic treated crossover components

CONTACT ☎ 01236 420199 • www.tannoy.com

Tannoy is the grand old man of British hi-fi (and professional audio) loudspeakers, which is why the company has changed hands several times. While it's now part of Danish professional digital audio specialist TC Group, it has kept its own identity both in terms of key design personnel and the company's unique proprietary Dual Concentric drive unit that has been a foundation stone for its products since the 1940s.

For several years after the 2002 TCG merger, Tannoy's attentions seemed primarily focused on the professional market. However, its interest in the hi-fi sector seems to have been revived in the last couple of years, with the introduction of three separate model ranges – the Revolutions, the Revolution Signatures, and more recently, the much larger and more upmarket Definition series.

This DC8T is the middle model in the three-strong Definition range, which have very little in common with the models of the same name that were marketed in the mid-1990s. It is essentially a cross between the other two, using the driver size of the standmount DC8 within a floorstanding two-and-a-half-way configuration like the DC10T.

At £4,000 per pair, this is a decidedly costly loudspeaker, but it's also very substantial and beautifully built. As the name implies, 'DC' refers to the Dual Concentric drive unit which covers the whole audio range, augmented by a similar size bass-only driver. The '8' refers to the size (in inches) of both drive units, while 'T' is for Tower, an Americanism for floorstander.

Each 200mm drive unit has a 145mm doped paper cone. The Dual Concentric driver combines the bass/mid cone with a 25mm horn-loaded tweeter that fires through the centre of the cone, so it's effectively a two-way full-range drive unit. A bass-only drive unit of similar size and construction sits below the DC unit, to ensure plenty of low frequency output. Whereas the DC10T drivers had surrounds

made from heavily doped fabric, the smaller units used in this DC8T use more conventional rubber surrounds.

Unlike the more costly Dimension series, the Definitions have no separate 'supertweeter', because the 25-micron titanium dome tweeter diaphragm used in this latest DC driver has a frequency response that extends to 35kHz. The tweeter horn is the latest version of Tannoy's 'tulip waveguide' and, incidentally, keeps the very delicate diaphragm well away from prying fingers.

The crossover network components have received deep-cryogenic treatment, which cools

techniques to couple the driver/enclosure interface rigidly with appropriate self-damping.

A major criticism, however, concerns the floor-coupling arrangements. Floorstanders often show marginal physical stability, especially examples like these with tapering narrow backs. This is usually best countered by fitting an oversize plinth, or alternatively some form of outrigger arrangement to increase the stability footprint. The DC8T does have a plinth, but paradoxically it's under-sized, and actually reduces the footprint. As a result, the physical stability of this speaker is severely compromised and we very much doubt if it

“...a speaker that lacks some openness and delicacy, but nonetheless delivers music with a fine measure of authority and drive...”

them slowly to around -190 degrees Centigrade, then restores them equally slowly to room temperature. This process is believed to relieve stresses created during manufacturing processes to create more consistent physical structures at a microscopic level.

Internal wiring is silver-plated, high-purity copper. Twin terminal pairs are fitted for bi-wiring or bi-amping, and a fifth terminal optionally allows the driver chassis to be earthed to the amplifier, reducing RF interference and enhancing dynamic range.

The beautiful enclosure is very elegantly shaped, with crisp, clean contemporary lines. The silver trim around each driver and near the base dramatically contrasts with the high-gloss black finish of our samples. Dark walnut and cherry veneer (again high-gloss finished) are also available. The sides are strongly curved towards a much narrower back, so that reflections and internal horizontal standing waves should be well dispersed. A silver-trimmed port in the rear reflex-loads the enclosure. The grille is held in place by magnets concealed beneath the front panel surface, which are invisible if the grille is not used (the preferred option, due to its rather hefty frame).

Under the pretty surfaces, the carcass is constructed from high-quality plywood, made from dense birch grown in cold regions of the world. The bracing incorporates Tannoy's Differential Material Technology (DMT)



BRENNAN JB7

Small enough to pick up with one hand.
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What's the point owning CDs you don't Play?

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 hundreds of cheap plastic boxes. CDs are great but they are also inconvenient, inaccessible and a bit of a chore - that's why Martin Brennan designed the Brennan JB7.

Good news for CD owners

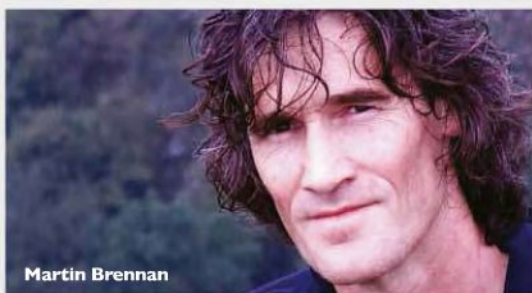
British company re-invents the HiFi

"Mr Brennan you are a genius. The JB7 is truly a wonderful thing. I have only owned mine for two days but already it feels like an old friend. I admire its simplicity of operation, its range of functions, its unobtrusive size, and the quality of sound simply delights me. It's all I could wish for. Thank you. Kind Regards"

When Martin Brennan designed the Brennan JB7 he threw out the rule book. The Brennan is a CD player with a hard disk that stores up to 5,000 CDs. It saves space and clutter and delivers near immediate access to an entire music collection. Customers rediscover/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 it out of the way in another room or retire it to the attic. You can use the JB7 in two ways. You can use it with

loudspeakers or you can play it through your existing HiFi. The Brennan gives names to tracks and albums from a database of 2.6 million CDs as you load each CD. It takes a few minutes to load a CD. The Brennan has a unique text search facility that shows a reducing number of matches as you press successive letters on the remote control. Once you get the hang of it you can find one track or album out of your entire music collection in a few seconds. So to find "Nessun Dorma" you would press letters "NES" or "DOR" and scroll through the shortlist of matches.

The face behind Brennan



Martin Brennan

Martin is a physicist and computer engineer. He has around twenty silicon chips to his name, written over a million lines of computer code and 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. My second was a ten CD changer for the car. I liked the idea of quick access to more than one CD and music that didn't repeat after 40 minutes. These players were fine but a bit clunky - there were several seconds of silence between CDs and in the car I could

never find the right CD. A few years ago I had a go at loading my cassette collection onto a PC. Cassettes were obsolete but I owned around 100 and the music on them reflected an important period in my life. I recorded all of the cassettes on to the PC over a period of several weeks. The thing is I never listened to the music on the PC. Somehow using the computer to listen to music never worked out. Maybe the computer was in the wrong place but I think it lacked the immediacy of a physical play button. In the end the computer got a virus and the music files were lost - I still had the cassettes thankfully. The JB7 is really my personal ideal music player".



Key Points

Three sizes - up to 5000 CDs

- One button plays the entire collection at random
- Text search finds tracks/ albums/ artists in seconds
- Browse albums by spinning the volume knob
- Display tracks by name as they play
- Load

- CDs in about four minutes
- 2.6 million album database - updated monthly
- Seven rainbow colour coded playlists
- 180 x 32 soft scrolling vacuum fluorescent display
- Segue function blends one track into the next
- One touch record from vinyl, cassette or radio
- Loads and plays MP3 from USB
- Remote control or front panel
- Volume knob pushes to use as a selector
- Delete tracks you don't like
- Clock with alarm
- 60 Watt power amplifier
- 4.8 x 16 x 22 cm steel and aluminium construction
- Small and tough enough if you are on the move
- Used by restaurants, hotels, pubs,

- dentists, schools
- Sold to more than 30 Countries
- Backup music to external USB hard disk for safe keeping
- "Superb" - Gramophone
- "Best Buy" - HiFi Choice
- "Huge fun to use...a great talking point" - Daily Mail
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"Huge fun to use... a great talking point"

Daily Mail



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❑ would meet the approval of the EC's Health and Safety legislature.

SOUND QUALITY

It comes as no surprise to find that the DC8T represents something of a cross between the DC8 and the DC10T. The question that needs to be asked, and answered, is whether or not the Goldilocks syndrome applies. Does the 8T manage to combine the best features of both its range-mates, as one might hope, or does it turn out to be something quite different?

There are certainly similarities between the DC8 and the DC8T, as the in-room measurements reveal, though there are differences too. Obviously, this floorstander's extra bass driver adds considerably to the low frequency output – if anything a little too much perhaps, especially 40-60Hz, as it also has a rather dramatic effect upon the load presented to the amplifier. The claim for 89dB sensitivity is more than comfortably met, though not that for an eight ohm load: below 500Hz the impedance is mostly under six ohms and one of our pair registered a three ohm minimum at 35Hz. Furthermore, weak pair matching below 60Hz indicates inconsistent damping.

Although there's clearly close correspondence between the '8 and the '8T through the midrange and treble, our measurements did show minor but significant differences, which had equally important implications for the sound quality.

It is normal practice in loudspeaker design to balance the relative weights of bass and treble



DUAL CONCENTRIC

Tannoy's Dual Concentric loudspeaker drive unit is one of very few hi-fi components that can truly be called revolutionary. It cleverly consists of a bass/mid drive unit, in which a horn-loaded tweeter is mounted onto the back of the main driver motor in such a way as to fire its output through the middle of the main driver's voice coil, using a tulip waveguide as well as the main cone as part of the horn flare.

This inevitably adds to the constructional complexities, but it does create a 'point source' for the complete audio band with completely symmetrical off-axis behaviour. It therefore eliminates the crossover region phasiness that inevitably results from trying to integrate two separate-spaced sources.

Tannoy's first Dual Concentrics were large devices used for high-quality PAs, but they quickly found themselves used as studio monitors and in upmarket hi-fi systems. Today they are found in a range of different sizes, right down to small AV 'satellites'.

either side of the midband, yet despite its considerably greater bass output, it's curious to notice that the DC8T's sensitivity is actually rated 1dB less than the DC8 and careful comparison of our in-room far-field traces does indeed show that this DC8T has 1-2dB less output than the DC8 above 1kHz. Which in turn, neatly explains why this speaker has an overall tonal balance that's just a little too laid back and dull.

The combination of a somewhat heavy – albeit agile and lively – bass and some lack of output in the presence zone does tend to dominate the subjective character of this speaker. Another key factor concerns the horn-loaded tweeter, which by design restricts its dispersion to a 90 degree cone. This reduces the amount of room-reflected treble compared with the conventional direct-radiating flat-baffle speakers, which results in a tighter and more precisely focused stereo image at the expense of creating 'in the room' airiness. This keeps the soundstage securely anchored to the speakers themselves and the space in between.

The consequence of both these factors is a speaker that lacks some openness and delicacy, but nonetheless delivers music with a fine measure of authority and drive and which can be driven hard to high sound levels without a hint of complaint. Furthermore, those larger than average 200mm main drivers

deliver an obvious bonus in generating rather greater dynamic grip and tension than is normally encountered in more conventional domestic speakers.

In the final analysis, the DC8T does represent something of a cross between the DC8 and the DC10T, but under our room and system conditions it sounded a little heavy and shut-in compared to the smaller model. And while it may have less coloration than the DC10T, it also lacks much of the sheer drama and excitement of the larger model. **HFC**

Paul Messenger

VERDICT

SOUND



PRO

Attractive presentation with high-gloss enclosure finish and silver trim. Sound quality has fine point source coherence, impressive stereo image focus, and some dynamic tension.

EASE OF DRIVE



BUILD



CON

Physical stability is very marginal and speaker is too easily knocked over. Sound lacks openness and airiness.

VALUE



CONCLUSION

Poor floor-coupling arrangements rather let down an otherwise very attractive design. The sound has more than ample bass, some dynamic grip, plenty of loudness capability and superior stereo image focus.

HI-FI CHOICE OVERALL SCORE



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Solid Gold-ring

Goldring's new Legacy cartridge showcases 100 years of expertise

PRODUCT Goldring Legacy
TYPE Moving coil cartridge
PRICE £595
CONTACT ☎ 01279 501111 🌐 www.armourhome.co.uk

Goldring's Legacy is the most ambitious moving coil cartridge yet produced. At just under £600 it doesn't seem all that excessive by high-end standards, but compared to Goldring's usual fare which doesn't break the £400 mark, it's quite a jump.

Unlike the company's other moving coils (and magnets for that matter) which are made out of moulded Pocan plastic with a black finish, the Legacy has a cast magnesium body chosen for its low mass, high rigidity and low resonance at the appropriate frequencies. The moving parts consist of a Vital fine line stylus on the end of an aluminium cantilever. It's suspended in a bespoke rubber compound that's said to ensure optimum compliance and the recommended 1.75 grams tracking force and 16mm/N static compliance puts it in the moderate range that should suit a wide variety of tonearms.

The coils attached to the back end of the cantilever are hand-wound using high-purity copper and one has to assume that there are not that many windings because the output is

a low 0.3mV. This means that there is less mass to keep under control and greater demand placed on the phono stage which has a smaller than usual signal to amplify.

Set up is assisted by threaded inserts in the cartridge body and short bolts in the box – our usual bolts proving too long for the job. The stylus is easy to see which helps with alignment.

SOUND QUALITY

The Legacy proved quite sensitive to set up, especially when it comes to downforce and the impedance at the phono stage. Its requirement at that point is 100 ohms, which is pretty

“...the Legacy has a cast magnesium body chosen for its low mass, high rigidity and low resonance at the appropriate frequencies.”

much the standard for MCs, but some will work more effectively into higher and occasionally lower loads. Trying both one Kohm and 47k to see what it would do certainly makes a difference, primarily affecting the shape and coherence of the image. At 100 ohms you get a well focused centre strong image, increasing the load seems to broaden the soundstage but leaves a hole in the middle.

Downforce variations from the 1.75g has a distinct effect, too. Reducing downforce adds a bit more zip and excitement to the music, but this is probably because the cartridge is having more difficulty tracking. Turn it up even 0.2 grams and while there is a slight increase in bass weight, this is offset by a reduction in timing quality. It would seem that Goldring has got the specs just right for this sample, at least.

Its key skill seems to be in the timing department: it can really pick up a rhythm line and run with it thanks to impressive speed when it comes to defining the beginning and end of notes. The Keith Jarrett Trio's *Yesterday's* album

really swings in its grip. There isn't quite as much body or power as some at the price, but there's no denying that it has considerable finesse.

A van den Hull DDT II provides the contrast, adding considerable substance to a Rickie Lee Jones piece that makes the recording seem far richer than you get with the Goldring. That said, the Legacy fares well in comparison with CD, it adds openness in the usual vinyl fashion and brings out the mood of the music rather better, but remains tonally close to the flat line of the digital medium.

The Legacy is a neutral and precise cartridge with an eye for detail – it will always pick out cymbals – and some will prefer a more romantic sound from their vinyl. It does, however, deliver a revealing clean and dynamic version of events and can easily combine the vibe with the finer points of the sound. **HFC**

Jason Kennedy



VERDICT

SOUND



FEATURES



BUILD



VALUE



CONCLUSION

Better suited to the smoother-sounding turntable, it can unearth a mountain of detail and present it in a remarkably coherent and entertaining fashion.

HI-FI CHOICE
OVERALL SCORE



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Dynamic Duo!

Introducing an amazing hi-fi double act from Denon...

PRODUCT Denon DCD-2010AE and PMA-2010AE

TYPE CD/SACD player and integrated amplifier

PRICE £1,700 each

KEY FEATURES (DCD-2010AE): Size (WxHxD): 43.4 x 13.7 x 33.6cm • Weight: 10.5kg • Inputs: S/PDIF electrical digital, TOSLINK optical digital, USB digital (iPod cable supplied) • MP3 compatible • Compressed Audio Restorer (three settings) (PMA-2010): Size (WxHxD): 43.4 x 18 x 43.5cm • Weight: 24kg • Inputs: phono MM/MC, 4 x line, 2x tape, with monitor, power amp direct • UHC-MOS output stage (see main text) • 80 watts per channel (8 ohms), 160 watts per channel (4 ohms)

CONTACT ☎ 02890 279830 • www.denon.co.uk

For some time we've had access to a Denon DCD-SA1 CD/SACD player, matching PMA-SA1 integrated amplifier and a pair of Mordaunt-Short Performance 6LE speakers. They constitute a very fine and surprisingly unfussy high-end partnership, with each component working synergistically with the other.

The player is certainly well-equipped, but most people have difficulty in taking seriously the idea of a high-end amplifier, rated at a mere 50 watts per channel that isn't Class A and valve-powered – and preferably both. These models have finally been replaced by an even more upscale pairing, but in Japan only. The replacements will not be available outside Denon's domestic market.

Say 'hello' then to two brand new Denons: the DCD-2010AE CD/SACD player and the PMA-2010AE amplifier. They both look very similar to the old top of the range models and also boast much of the same technology, but with some simplifications in the cause of affordability. With the demise of the DCD-SA1 and the PMA-SA1, they are in effect, Denon's flagship products in Europe and the US.

Many of the changes included in the DCD-2010 and the PMA-2010 are aimed at reducing microphony and electrical noise from internal and external sources, though the absence of balanced-mode operation doesn't help and similar thinking applies to the disc player. The power supply sections have also been redesigned, with other circuit changes addressing the wide-bandwidth requirements of SACD. Both the amplifier and the disc player are fitted with new, higher performance passive components chosen after extensive sound quality evaluation – the new reservoir capacitors are good examples. They are

connected in pairs and then attached to ground via copper plates. The amplifier has two large-frame transformers which share, what Denon describes as a leakage-cancelling mount. These changes to the internal configuration help improve high-current capacity and grounding.

Changes to the structure of the player, which are echoed in the amplifier, include new dual-layer aluminium and steel mounting arrangements for the transformer and a triple-layer steel base for the player to further control microphony. Other developments extend to subtly altered mounting points for

MOSFETs or bipolar power transistors and without the problems inherent when using multi-parallel connected output devices – but there have been detail improvements. New output capacitors are purpose-designed for this application.

Another change is a new volume control based on a wider diameter 27mm shaft, for which better noise-rejection and finer, more accurate level control are claimed, as well as being designed to suppress external vibration and noise. Both Denons come with a new, more attractive and more sensibly laid out remote control, which operates both units.

“...the 2010 pairing sounds impressively stable and solid and they are both capable of extremely fine-grain resolution.”

the feet, as well as revision to the layout of key internal boards and other components. The in and output sockets used in each case have also been respecified and appear to be of higher than usual quality.

The basic signal topology of the amplifier is unaltered in principal from the original PMA-2000. This is still a UHC-MOS amplifier. UHC-MOS output devices are a sophisticated variant on the MOSFET theme, but capable of higher power from a single device, using

The D&M group, which includes Marantz as well as Denon, has long been a stalwart supporter of the SACD format and the DCD-2010AE is the latest in a succession of players to drive the format forward. Of course, Denon is not a software house and is only peripherally able to encourage the release of new material on SACD. So, until Blu-ray establishes itself as a high-resolution music carrier, which is not going to happen any day soon, the main interest in the





Tucana II



Tucana II

The Tucana was Leema Acoustics' first hi-fi electronics product. Within a short time it established itself as a true reference amplifier winning many prestigious awards. The new Tucana II extends both the performance and features, to set a new world-wide benchmark.

Borrowing heavily from developments pioneered in the staggering Leema Reference Series Altair IV amplifier, the Tucana II is an even more accomplished performer than its multi-award winning predecessor. Improved dynamic range, resolution of fine detail, and remarkable clarity help the Tucana II present music with life-like verve into even the most fussy of today's audiophile speakers. This highly refined amplifier can deliver over fifty amps to each channel with a vice-like grip and precise control of the loudspeakers.

New features on the Tucana II include an MP3 input, balanced input, headphone output, direct input selection, adjustable input gain, and a balance control.

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DCD-2010 for many, will be in its qualities as a conventional CD player.

SOUND QUALITY

CD player is a job that the Denon DCD-2010AE performs to a very high standard. It is a very transparent-sounding player, even though it uses PCM clockwork to unwrap DSD data – a trick that Esoteric performs in some of its players to a very high standard. The Denon is a powerful, muscular-sounding CD player and a consistent one, whose upper registers are free of the glare and hash that afflict lesser players.

It's a long time since we heard the predecessor of either of the two new Denon components, so no direct comparison can be made. But it was possible to make an assessment of their relationship to the much

INTERNAL CHANGES FOR THE DCD-2010AV

The most important change to the CD/SACD player is a new Denon designed so-called Advanced SVH player mechanism. This includes an anti-vibration, aluminium disc-loading drawer and a new improved top panel which anchors the disc clamp.

Other changes include a new Advanced AL32 processing circuit, which has improved pulse (transient) response and a new interpolation algorithm, to increase the amount of data being processed, which also reduces levels of post-filter ringing.

Also new is the master clock from which all the individual system clocks are derived and is claimed to reduce both jitter and noise.

SUPPORT FOR COMPRESSED FORMATS

A key change introduced by the DCD-2010AE is an expanded remit: it plays more types of recorded media. iPods can be connected via USB or S/PDIF (electrical) or TOSLINK (optical) digital inputs and a supplied iPod adaptor cable connects to the player through USB or S/PDIF (coaxial) sockets. Audio files can also be connected using a flash memory drive through the USB port and the player works seamlessly with signals from 32kHz–192kHz.

D/A conversion is performed by a very sophisticated counterpart in the Denon player rather than the original low-grade Apple part. The audio signal used for this purpose is unconverted PCM, though ACC/MP3 decoding is still performed in the iPod. The Denon also has a surprisingly effective 'restorer' circuit for MP3 or WMA data from disc or USB.



more costly DCD-SA1 and PMA-SA1. The PMA-2010 is about fifty percent more powerful than the senior model, but you would never guess this from the way it sounds, at least not with the Mordaunt-Short speakers, which are not especially current-hungry. The higher voltage output may well be more audible with some speakers, but outside the upper bass, which can sound a tad lean, the power advantage is barely apparent, though it might be with speakers which have a greater appetite for current than volts. In this respect, the performance of both 2010 units is quite close to the senior models.

Specifically, the 2010 pairing sounds impressively stable and solid and they are both capable of extremely fine-grain resolution. Our impression is that the SACD performance of the newcomer is a little leaner, but virtually as refined as the DCD-SA1 and that this advantage is sustained through the reproduction chain at moderate volume levels.

When driven hard, the senior amplifier carves out a clear lead. The familiar warmth and euphony of the SA1 player and amplifier carry over to the 2010, which by itself is neither a good nor a bad thing. But the poise and definition of the cheaper units is very impressive and we can see many users preferring the slightly more analytical quality of the newcomers, the amplifier in particular, which for much of the time is delivered without any obvious losses.

But when the amplifier is asked to deal with complex material at high volume levels, the old flagship amplifier finally comes into its own. It sounds a little softer in some ways, but paradoxically it is also better defined and its

clearer, slightly more clinical demeanour is likely to be preferred by those who have been critical of Denon's hi-fi components in the past.

The curiously old-fashioned quality of the two previous models is retained in these newcomers, but this is a matter of the amplifier's presentation, as there is little influence on the sound. Although the Denon pairing has its share of unnecessary gadgets – the amplifier's tone controls being an obvious example – they can be bypassed when not needed. **HFC**

Alvin Gold

VERDICT - DCD-2010AE

SOUND



FEATURES



BUILD



VALUE



CONCLUSION

Retro styling, well equipped, finely detailed and articulate sound quality, excellent remote control. Good support for compressed audio and iPod.

HI-FI CHOICE OVERALL SCORE



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VERDICT - PMA-2010AE

SOUND



FEATURES



BUILD



VALUE



CONCLUSION

High-class and well-equipped integrated. Performance was muscular, refined and detailed on audition. Remote control is also excellent addition.

HI-FI CHOICE OVERALL SCORE



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NEW **A-Line** get MORE from your music

The new Spondor A5 and A6 are compact high performance floor standing loudspeakers. Each model benefits from important advances in Spondor's drive unit technology, cabinet design and crossover engineering.

The Spondor A5 offers exceptional performance in relation to its compact dimensions, while the A6 lifts performance to an even higher level with noticeable improvements in clarity, resolution and bass extension. Each model has excellent power handling and the easy-to-drive 8ohm loading ensures complete compatibility with a wide range of amplifiers and cables.

Engineering innovations include Spondor bass-mid drivers with ep cone technology, wide-surround tweeters and dynamic cabinet damping. 4th generation Spondor linear flow port technology gives the Spondor's an unrivalled ability to deliver deep articulate bass in almost any listening room, even if they are placed close to a wall.

With their clean modern styling and natural veneer finishes the new A5 and A6 will blend comfortably and confidently with almost any room décor.

A6

- 2-way system
- Spondor 18cm bass-mid driver
- 29mm wide-surround tweeter
- Mono-bloc crossover module
- WBT terminals
- Designed and manufactured in UK
- Black ash, cherry, light oak, wenge

A5

- 2.5-way system
- Spondor 15cm bass-mid driver
- Spondor 15cm bass driver
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- WBT terminals
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PRODUCT Onkyo ND-S1
TYPE iPod dock
PRICE £150
CONTACT ☎ 01628 473350 🌐 www.onkyo.co.uk

Onkyo is better known as one of the heavy hitters of the multichannel AV world, but the Osaka-based concern has a line of interesting two-channel products; distinctive technologies such as Class D amplification; and speakers that mimic the resonant properties of a guitar. The ND-S1 iPod dock is a new arrival to the range, however, and includes some distinctive technologies of its own.

The ND-S1 is more accurately described as a 'digital media transport' and in the manner of the Wadia 170i (reviewed in *HFC* 321) bypasses the digital to analogue conversion of the iPod and will output a digital signal to the DAC of your choice. The Onkyo is in many regards an even more minimalist proposition to the Wadia, as it has no analogue audio out at all and is entirely reliant on a DAC or AV receiver to function. This paring back of features does mean that the ND-S1 is less than half the price of the Wadia and comfortably the cheapest iPod transport on the market.

It does have some interesting additional functionality, however, including a USB input that not only allows the connected iPod to sync with a PC whilst in situ, but will also play material from the PC by converting the signal

to output over optical or coaxial. This is a boon for anybody wishing to incorporate a PC into a hi-fi system that does not have a USB DAC. The unit feels well constructed and has some clever touches such as the dust cover for the iPod mounting and a remote link that allows it to be controlled by other Onkyo products.

SOUND QUALITY

The ND-S1 was tested with a latest generation iPod classic and an iPhone into the digital inputs of a Cambridge Audio 840C and an Audio Note DAC Zero. With a variety of material ripped to AAC lossless, the ND-S1

Essentially, the ND-S1 only has the sonic properties of the DAC it is connected to – be that the calm detailed sonics of the 840C or the more soulful, if less accurate warmth of the Audio Note. Equally impressive was the performance of the ND-S1 with more compressed material. MP3s at 320K and AAC tracks were still an entertaining listen and even smaller files were not rendered unlistenable by the Onkyo.

The ND-S1 then destroys any equivalent CD player in terms of convenience – the iPod classic will hold roughly 170 lossless albums, which can be browsed at leisure via the Onkyo

“The ND-S1 is capable of replaying the Spotify application on an iPhone and accessing a vast collection of music online.”

gave a thoroughly convincing demonstration of the potential of the iPod as a digital transport.

Flicking between the CD in the transport of the 840C and the digital input, where the ND-S1 was plugged in, revealed no real difference in presentation between the two, while listening to the excellent, self-titled *One eskimO* album. The ND-S1 reproduced the album with the same gorgeous sense of space and realism as the CD had and there was no sense of a softening of the bass, or lack of detail that can occur with analogue output docks even replaying AAC lossless.

remote (and any additional albums in iTunes could be replayed via USB) and, of course, you can then pop a pair of earphones into the iPod and keep listening on the move. The ND-S1 also demonstrated an unusual feature in which it is capable of replaying the Spotify application on an iPhone and therefore accessing a vast collection of music held online. The limited bit-rate is clearly apparent, but the ND-S1 demonstrates the principle of a music on-demand server admirably.

That this functionality is not achieved at the cost of sound quality and is available for £150 is all the more impressive. This then, is a brilliantly thought-out and well-executed product that should appeal to many listeners, both as an addition to an existing digital setup, or for the bold, a complete replacement for a CD transport. **HFC**

Ed Selley



VERDICT	
SOUND ★★★★★	CONCLUSION Demonstrates the genuine audiophile potential of the iPod at a very reasonable price. Highly recommended and with amazing potential at a cost-effective price.
FEATURES ★★★★☆	
BUILD ★★★★☆	
VALUE ★★★★★	
HI-FI CHOICE OVERALL SCORE ★★★★★	
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The First Naim DAC

Naim takes the jitter out of S/PDIF connections

PRODUCT Naim Audio DAC

TYPE DAC

PRICE £1,950

KEY FEATURES Size (WxHxD): 43.2x7x30cm

• Weight: 5.6kg • Inputs: (4x S/PDIF coaxial, 4x TOSlink, 2x USB) • Digital filter: SHARC DSP running custom code • Maximum sampling rate/resolution: 32-bit/768kHz • iPod connectivity using digital output of iPod or iPhone

CONTACT ☎ 01722 426600 • www.naim-audio.com

Some 20 years after the first stand-alone DAC – the Arcam Black Box – appeared, Naim Audio has finally joined other manufacturers at the party. For years, the company ignored external DACs completely, but with today's proliferation of digital media and music that does not come stored on silver discs, it is no longer an option. The DAC is fast becoming a must-have component in any contemporary hi-fi system.

The price of the Naim DAC pitches it well above budget favourites such as the Cambridge Audio DacMagic, but comfortably below the high-end Chord Indigo DAC/preamp. So, in price terms, it sits in the middle ground, along with the likes of the Bryston BDA-1. But where does it stand in terms of performance?

The Naim DAC's biggest claim to fame is that it promises to deliver zero jitter through its S/PDIF inputs. Let us, however, just clarify that for the sake of any pedants: Naim says that the DAC adds no jitter to the signal coming through those inputs. Any jitter that was present in the original production of the music – and there is nearly always some – will still be there so Naim cannot truthfully describe the DAC as zero jitter. No DAC can deliver that!

This zero-added-jitter is achieved by passing the incoming signal to, what Naim describes as a rotating data RAM buffer, independent of its timing information. The signal data is subsequently read out of the buffer having been re-clocked by one of ten ultra-low noise, fixed frequency oscillators selected to match

best the average incoming clock frequency and then send it through a SHARC DSP digital filter, running Naim-written code, which over-samples – or up-samples – the data (16-times on a 44.1kHz sampled signal.) This ensures that the signal entering the dual mono, 24-bit, Burr-Brown PCM1704K DAC chips – as used in Naim's top-of-the-range CD555 CD player – is completely isolated from any incoming S/PDIF jitter.

As usual with any Naim design, great – some might say obsessive – attention has been focused on the power supply arrangements and upon keeping mechanical interference at bay. At several points in the design these

“We tested the DAC within the context of a Naim system, but it can easily be used in any other manufacturer's set-ups.”

considerations meet. The main power supply capacitors, for example, are removed to their own separate circuit board because they can vibrate when charging up – a mechanical disturbance can cause problems if it reaches other components.

We tested the DAC within the context of a Naim system, but it is important to note that it can just as easily be used in any other manufacturer's set-ups. Make sure, however, that you feed it with the best sources, if you want to exploit its full potential. For example, we used it with an iPod Touch and the performance was exceptionally good for an iPod. That said, making a purse out of a sow's ear is beyond any DAC we have yet encountered, the Naim included. And that's not being rude about the iPod, the performance of which was very credible, but nonetheless wanting in comparison to genuine high-end sources. We found it simply lacked the dynamic edge required to elevate it above the status of hotel lobby music.

The Naim DAC comes with eight S/PDIF inputs through BNC, RCA and TOSlink connections, has two USB ports and can process hi-resolution audio data files up to 32-bit/768kHz (although these will need to be on top-notch USB sticks). The S/PDIF inputs are all isolating and work up to 24-bit/192kHz. The DAC is also, naturally, power-supply upgradeable. To augment the integral supply of the DAC, we took advantage of this by using the XPS that formerly powered the analogue stages of an HDX hard-disk player. This provides a worthwhile lift to its already dramatically impressive performance, and is well worth doing if you find yourself

with an otherwise redundant XPS... or you have £2,850 burning a hole in your pocket with which to buy one.

SOUND QUALITY

All of Naim's fanatical attention to detail pays dividends here: that much is obvious from the moment the DAC starts doing its job. Its performance is clearly in another league to anything we've heard before. Music emerges with startling clarity and amazing levels of detail, while timing is absolutely on the button. In fact, you had better prepare yourself for a real surprise if you do not associate stereo niceties with Naim, because the DAC does sound-staging, timbre, spaciousness and all that high-end audiophile stuff as well.

Given suitable material and an appropriate source – in this instance an HDX hard-disk player – its performance can be breathtaking: listening to experimental-metal tracks from the System of a Down album, *Mezmerize*, we notice that the DAC not only renders the



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□ vocals with pristine clarity and intelligibility, but also presents Daron Malakian's guitar as producing clearly individual notes rather than the frenzied blur that other systems often deliver when he plays at full speed. The music's timing – and the band delights in playing about with rhythm and tempo – is portrayed forcefully and precisely, but there's also a great naturalness and feeling evident that counters any notions of metronomic sterility.

Of course, this DAC would not be worthy of carrying the Naim logo if it could not connect the listener with the emotional aspects of a performance. It does not disappoint in this respect... and we suspect that much of its communicative ability comes courtesy of its extreme clarity and resolution. We listened to AC/DC's *Rock & Roll Ain't Noise Pollution* and the way that the band's timing and interplay

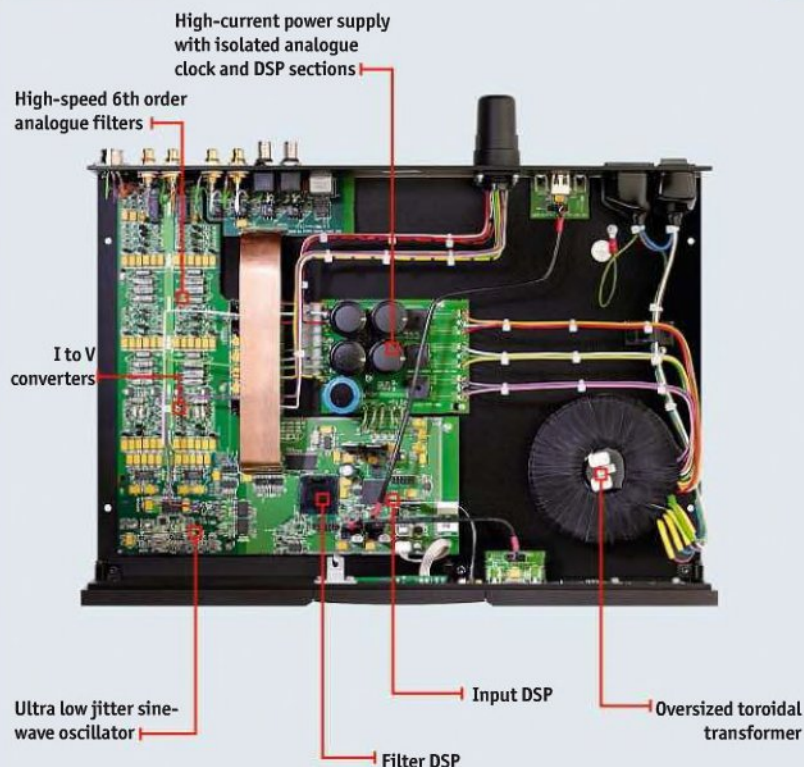
SHARC BYTES

The Naim DAC uses the Analog Devices SHARC DSP for its digital filter and this feeds an accurately reclocked, oversampled – or integer up-sampled – data stream to two mono, true multi-bit Burr-Brown PCM1704K DAC chips. The SHARC processor runs Naim software, which engineers whittled down to just five lines of code. The advanced processor uses 40-bit floating point computation and this results in arithmetic noise at about -156dB, which is well below the noise floor of the DAC chips. At a more mundane level, the SHARC DSP also monitors the rate at which the 'rotating' RAM buffer is either filling or emptying and selects a clock signal of the appropriate frequency to prevent under- or over-runs of data.

MACVERSATILITY

As well as wanting to produce a DAC with high-end performance to satisfy audiophiles with high-end CD and hard-disk players, Naim recognised an opportunity with this component to broaden its audience to include many who own and use lower-fi equipment, but who might appreciate better sound quality. Many people use MacBooks and Mac Minis as their music stores and these are best connected through the optical S/PDIF input, as there is no Firewire connection. Owners of iPods and iPhone users are also well catered for, as are PC users using, say, the £59 (approx) M-Audio Transit external USB sound card. Both camps – PC and Mac – can use USB sticks, of course, and these provide the way to play ultra-hi-res files through the DAC: its USB input will accept 32-bit WAV files with sample rates up to 768kHz.

DETAIL



came across was sublime. Drums and bass are clearly differentiated and provide a thrilling sense of the track's changing impetus even when listening at wholly inappropriate levels, ie far too gently. At a more respectable volume setting, the sound of air moving when the kick drum is pedalled has timbre, definition and credulity that brought a smile to our faces. The drum is tight and crisp even though it's playing at chest-pummelling, dance-floor levels. How admirable!

Moving to the classical end of the spectrum gives the DAC a chance to demonstrate its high-end stereo capabilities. Its success here seems attributable predominantly to its dynamic control, which enables it to portray instruments with stunning fidelity. A gently blown flute, for example, sounds simultaneously delicate, yet has sufficient substance to appear wholly believable. Vigorously beaten timpani explode from the rear of the soundstage, yet retain their subtle harmonic overtones, which reinforces the credibility of their presentation. What is more, these instruments emerge from a fastidiously sculpted, three-dimensional, richly detailed acoustic space, which, when there is no signal, can be eerily silent. This assumes, of course, that the recording is free from noise.

No matter what genre of music you play, though, you will quickly discover that the Naim DAC presents the frequency extremes quite unlike any other component you might have heard. The bass has weight, speed and authority quite beyond comparison in our

experience. Low frequencies exhibit exceptional power, extension and control, along with an analogue-like warmth and substantial feel that even vinyl cannot match. In truth, even the finest vinyl replay would struggle to hold a candle to that of the DAC at low frequencies. Similarly, at the top end, the DAC is vibrant and revealing, but it never sounds brittle or harsh and its midband is as open as one could wish to hear.

Put aside your feelings and preconceptions about 'the Naim sound'. Should you be looking for a versatile DAC you are doing yourself no favours if you do not, at the very least, audition this extraordinarily capable machine. **HFC**

Malcolm Steward

VERDICT

SOUND



PRO

It manages to sound meticulously detailed without detracting from the cogency and flow of the music. Its performance in the bass is simply breath-taking.

FEATURES



BUILD



VALUE



CON

Even being churlish, it is hard to find fault with this DAC, other than to say that it does not tolerate poor sources – which is hardly a fault.

CONCLUSION

The Naim DAC offers exemplary levels of performance in terms of both its hi-fi presentation and its musical fluency from a wide range of sources thanks to its sensitive use of highly advanced – and frequently proprietary – technology.

HI-FI CHOICE OVERALL SCORE



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TYPE DAC

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It's been almost a year since we last reviewed any YBA products in these pages (HFC 316: YA201 integrated amp). The brand goes back a long way, though, to 1981 when Yves-Bernard André set up the company that bears his initials. His past included work with some of the classics of French hi-fi, including Goldmund and Pierre Lunné (both among the most rarefied names in turntables), but his own company has been his main focus since its foundation.

The range currently includes CD players and amplifiers – integrated and pre/power separates – and has recently been extended to incorporate this, the first YBA DAC, as well as a matching receiver and CD player. Unlike most other YBA products, however, they are made in China, but are still designed at the French headquarters.

The design offers a tempting array of features. Obviously there are S/PDIF inputs on both coaxial and Toslink connectors, but also the professional-style AES-EBU on XLR and a USB socket for computers. Audio outputs are both unbalanced and balanced and a headphone socket on the front makes this potentially a one-stop-shop. Volume control is provided and this is separate for headphones and line outputs (and can be disabled entirely for the latter). There's even a remote control, something of a rarity with DACs.

Construction is to a high standard, with a smart and well finished solid-aluminium case. An array of familiar integrated circuits inside handles the usual functions, including upsampling to 192kHz, while good quality op-amps look after analogue output. Technical performance is to a high standard, with excellent rejection of jitter, including via USB.

SOUND QUALITY

We had some very satisfying times with this DAC, which seems to be an assured and confident all-rounder. If it has a weakness, it's very bright and busy music, which sounds like

“Midrange is particularly beguiling, with some very nice distinction between the timbres of different instruments.”

a close-miked orchestra or jazz with a lot of wind instruments. With such material the sound can be just a touch on the strident side and a little detail is sacrificed in both treble and midrange.

Otherwise, there's a great deal of poise and insight in the sound. Midrange is particularly beguiling, with plenty of detail but also some very nice distinction between the timbres of different instruments. This makes it uncommonly easy to follow what each instrument, or indeed voice, is doing in a complex piece of music and if one prefers to listen to the overall soundscape rather than its constituent parts it is perfectly possible to do so.

There's also some fine rhythmic integrity and

drive. It would be an exaggeration to say that this is the most foot-tapping piece of audio kit we've ever encountered, but for a component that offers such fine melodic flow it is unusually persuasive in terms of timing. Playing an assortment of more-or-less funky tracks quickly convinced us that this DAC understands how to make a rhythm communicate.

Part of that must be due to the particularly tight bass, which extends well but never loses grip. It's also tuneful – sometimes this is less apparent than the grip, but it's still there and prevents low-lying melodies from becoming an indistinct dull thud. Jazz fans will

appreciate that, as it makes the old jazz favourite of the walking bass line much easier to follow and we enjoyed a similar benefit with piano recordings, especially those of works that exploit the bottom register of the instrument. At the other extreme, the high treble is clear and open, though as noted above it closes in slightly when there's a lot going on. It's nothing short of gorgeous with subtle, small-scale recordings.

We would be unkind if we neglected the headphone output, which is clearly no afterthought: it is a very capable addition to the unit and gave excellent results with various models of cans plugged in. It has enough output to drive moderate-impedance headphones quite loud and maintains a high degree of control which makes for very satisfying listening. **HFC**

Richard Black



VERDICT

SOUND



FEATURES



BUILD



VALUE



CONCLUSION

A winning combination of timing, bass and melodiousness, puts this DAC in a class of its own. Very slight treble congestion is its only (mild) vice.

HI-FI CHOICE
OVERALL SCORE



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Gallic flair

Reinvented for the noughties, Micromega is back once more...

PRODUCT Micromega CD-10

TYPE CD player

PRICE £799

KEY FEATURES Size (WxHxD): 43x 7x25cm

• Weight: 4.6kg • Analogue Devices D/A converter AD1853 using internal digital filter and 8x oversampling • Electrical digital output (switchable) • CD Text

CONTACT ☎ 020 8971 3909

🌐 www.micromega-hifi.com

The real surprise here is the fact that the CD-10 exists at all. Micromega has had a fine reputation, in particular for its range of CD players. Since its first outing in the late 1980s, the range has included what is claimed to be the first top-loading CD player, (the CD-F1 Hightech in 1987) and in the following year the first separate two-box transport/DA converter combination, though we are not convinced of the veracity of either of these claims. From this reviewer's memory, we thought both Philips and Meridian had prior claims to top-loading players and one of the early iterations of Cambridge Audio was surely the first with a two-box player?

But from the outset Micromega had a real cachet for sound quality, but some of its models were hit by reliability problems with the Philips-sourced mechanisms, which was surely not Micromega's fault, but eventually led to the company's demise – temporarily anyway.

And now, after a gap of several years, the company is back with a reorganised leadership and design team, a new range of products and new UK distribution. The company, still based in Paris, is now headed by one-time motorcycle-racing champion Didier Hamdi, whose other interests include the company that provides the very impressive lighting for the Eiffel Tower. He has since reconstituted the design team under the company's original founder, Daniel Schar. All this came to light on

a recent visit to Paris, where the reconstituted company was formally announced.

Here in the UK, distribution is now in the hands of Absolute Sounds, the company that handles many of the most prestigious audiophile companies including Krell, darTZeel, Wilson Audio, Koetsu, Sonus faber, Audio Research and Magico.

Another surprise is, that at the tail end of the most severe economic recession in recent times, Micromega's focus has been on the affordable end of the market, the sector that has suffered most during the recession. Most of the new components, which include amplifiers, CD players and tuners, cost less than £2,000, while the entry-level award-winning CD player tested here costs just £799.

“...the company is back with a reorganised leadership and design team, a new range of products and new UK distribution.”

A price which puts it in line with counterparts, from the likes of Rotel and from the mainstream end of the Marantz and Denon range. This is virgin territory for Absolute Sounds, which makes the new distribution deal all the more intriguing.

As for the bits you don't see from the outside, the CD-10 is built around an R-core transformer, chosen for its narrow bandwidth, which is said to be superior in current-limited situations to the more usual toroidal solution, because it provides higher levels of interference rejection.

The linear power supply is constructed in several stages to mitigate crosstalk between digital and analogue circuits. The digital section provides sufficient current to power the CD drive and the user interface – the display and associated logic. The analogue section is optimised in a different way. After rectification

and filtering, a high-impedance, low-noise power section is combined with tracking regulators, in a design with a rejection level higher than 100dB. The digital section of the D/A converter has a constant power source and a very low noise shunt regulator.

The disc drive in this player is a DVD-type, chosen because this kind of mechanism, is produced in very large quantities at low prices and with extremely high levels of reliability, a subject that Micromega is understandably sensitive about.

The mechanisms are the latest-generation Sony KHM3413 and Sanyo SFH8450, with error correction algorithms of Micromega's own making, which are optimised for audio applications – in most cases DVD mechanisms

are optimised for CD-ROM – and without some of the strategies that are not appropriate when reading single-speed CD-DA discs.

SOUND QUALITY

It didn't take long to recognise that the CD-10 is a high-quality product and for the price, represents exceptional value for money. It just doesn't have the less desirable qualities of some other similarly priced players. There is no hint, for example, of the rather heavy-handed feel we expected, while the level of detail the player lifts off the disc easily surpassed expectations.

In fairness, the baby Micromega doesn't quite manage to tick all the boxes. It is not a true heavyweight. Its bass is deep enough and powerful enough for most situations, but it doesn't have the devastating authority of the very best, but then it doesn't even come close to costing what you'd expect to pay for ▶



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the very best either. It is a fine, detailed, and unusually lively player and it has the rare ability to resolve instrumental and vocal detail that is simply not fully audible, using many otherwise comparable players.

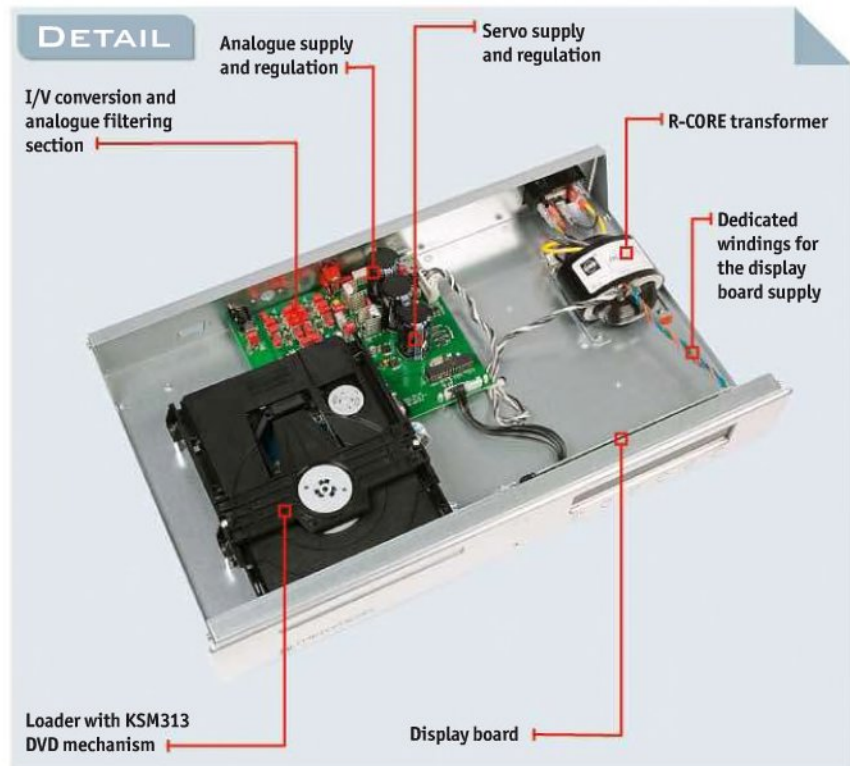
If there is one word that sums this player up, it would be texture. The detail is there and the bass depth and weight is creditable, though no more than this. But the sound has an unusually tactile quality, it really does seem capable of resolving the texture of some of the recordings on test. Examples being the gravelly strings and woodwind in the Castrol GTX theme from the second movement of Mahler's 7th Symphony (Mariss Jansons/Oslo Philharmonic on Simax), and the exquisite opening Allegro from Brahms Clarinet Quintet (Fitzwilliam String Quartet and Lesley Schatzberger (clarinet) on the Linn label (the CD layer, not the accompanying SACD one, of course).

D/A CONVERSION

The D/A convertor is the Analogue Devices Delta Sigma AD1853, which Micromega rates as amongst the best in its class, as well as being extremely affordable. While the design of the power supply stages – with its constant current source and shunt regulators – is to maximise immunity from external disturbance, while the local decoupling provided by the low-inductance, low-series resistance capacitors helps guarantee better signal integrity.

The convertor uses an 8x oversampling filter, with better than 115dB out of band rejection, which should effectively suppress images from the digital filter. The D/A converter analogue output is extracted in differential mode which improves signal/noise by 6dB, and common mode rejection is virtually eliminated when the two phases are added. The analogue stage uses SMD (surface mount) devices, and a third-order Bessel filter, with a cut-off frequency of 75kHz chosen to ensure close to constant phase operation within the 20kHz nominal operating band. A capacitor-less feed is included to eliminate DC offsets, presumably a DC servo, though Micromega doesn't specify.

There are plenty of other examples that could be given, but the basic aural feature of the player is that it has an unusual sensitivity to recorded textures and to the reproduction of fine detail generally, which helps ensure a more credible, colourful and a more lifelike, expressive quality from the discs it was fed. The Brahms recording, in particular, has a lightness of touch and an agility, a sense of life you will rarely hear in this work which can sometimes sound rather heavy-handed



USER INTERFACE

The player is fabricated from well-finished anodised aluminium panels (for 'elegant soberness' in Micromega speak), with a ten-segment blue dot-matrix display, which shows all the usual basic information and can be switched to show a CD Text display, which will scroll if necessary to display all the available information.

Although Micromega has concentrated on a subset of interface features that will serve general applications, including a well endowed (if rather plastic) generic system remote control, the CD-10 is better equipped than quite a number of its peers. As well as the usual basics, the player has a full roster of repeat modes (track, whole disc and A-B), track programming using the remote control, intro scan and random play. The display can also be turned off. You can even alter the speed of the loading drawer and the digital output can be enabled or disabled – leave it disabled when not needed. One slightly esoteric option for you AMX and Crestron users out there is the ability to add an RS232 control interface to the rear panel of the player.

– though in fairness, this is more than partly a function of this particular recording.

The Micromega is also more effective than most at suggesting the scale and sound of the space in which recordings are made, which in effect means it is better than most with small groups of instruments recorded

in limited spaces. The subtleties of such recordings often escape lesser CD players.

Although the CD-10 misses out on some of the weight and sonorities of certain CD players, it is correspondingly more than usually capable at the opposite end of the spectrum. The fine detail has already been alluded to, but what has not been emphasised sufficiently is the CD-10's very fine sense of control and inner colour, which put us in mind of the kind of quality that SACD is often much more capable of reproducing, than a conventional compact disc.

A very good, expressive and subtle-sounding player, the CD-10 easily lives up to and arguably exceeds expectations, based on the reputation of earlier models from this famous Parisian manufacturer. **HFC**

Alvin Gold

VERDICT

SOUND



PRO

Agile, expressive sound quality, high levels of detail, and a fuller specification than you might expect. It's all at a very reasonable price, too.

FEATURES



BUILD



CON

The agility is achieved at some cost to weight and sonority in the lowest octave. Plastic remote control looks and feels dated

VALUE



CONCLUSION

Overall an excellent proposition, the cheapest Micromega in the new range has clearly been thoughtfully designed, and fine tuned to please the audiophile who wants the best at a relatively modest price

HI-FI CHOICE
OVERALL SCORE



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Superdane

The S3 Super might look conventional enough, but it's full of clever features

PRODUCT Audiovector S3 Super

TYPE Floorstanding loudspeaker

PRICE £2,600 per pair

KEY FEATURES Size (WxHxD): 19x103x31cm

• Weight: 20kg • Drivers: 30mm silk tweeter, 165mm main drivers • Power handling: 250 watts • Impedance: 8 ohms • Sensitivity: 91dB • Rear-vented tweeter • Three-point driver fixing

CONTACT ☎ 01302 711528 # www.audiovector.com

Audiovector might not be one of the larger Danish loudspeaker companies to participate in the global hi-fi scene, but it does create models that bristle with original and interesting ideas. We've reviewed some half-a-dozen examples to date, but these have been spread across a 15-year timespan, and the current distributor, South Yorkshire dealer Mayflower Sounds, is the fourth operation to take on the company during that time. In truth, Audiovector finds UK distribution no more difficult than any other overseas brand, but over the years, very few non-UK firms have managed to get themselves properly established here.

Yet few deserve UK success more than Audiovector, which has a string of mostly worthwhile USPs to shout about. The most interesting of these is, perhaps, the upgradeability concept. The four S3 models in the S-series are identical in size and configuration, but purchasers can start with the base model and subsequently upgrade its performance. This £2,600 S3 Super is just one rung up the ladder from the 'standard' S3, while above it the Signature and Avantgarde models include superior components at higher cost, with the option to move up the ladder, if desired.

The basic ingredients of the S3 Super appear to be conventional enough: two 165mm main drivers, plus a solitary tweeter housed in a very attractively presented and reasonably compact floorstanding enclosure. The two sides are curved towards a narrower back to minimise internal standing wave focusing and the enclosure is mostly decorated in a smooth and very nicely finished real-wood veneer. It was cherry for our samples, with black, rosewood, maple or silk-finished silver the options.

This Super variation features an extra silver-painted half-baffle and thick back panel for additional stiffening, with exposed magnets

holding the optional grille in place. A matching moulded plinth tilts the base slightly at the back (again to reduce standing wave focusing), and supplies an outlet for the port. This plinth accommodates the spikes securely and does also extend the footprint, but only slightly, so physical stability remains rather marginal.

The promotional brochure is quite nostalgic, identifying a whole string of features with a whole string of mostly unmemorable initials,

forward and exposed, factors which inevitably dominated the sonic character. Furthermore, these two subjective observations were clearly confirmed by the far-field in-room averaged measurements we made.

However, this was using the delivery settings. When we moved the switch to the upward position, we effectively converted the speaker from three-way to two-and-a-half-way operation, lowering the impedance ▣

“The basic ingredients: two main drivers, plus a solitary tweeter housed in a reasonably compact floorstanding enclosure.”

some or all of which apply to the S3 Super (the brochure is a little vague on which feature applies to which model). Certainly, it has the SEC (soundstage enhancement concept) treble system, and the DFF (dynamic feed forward) and NCS (natural crystal structure) from cryogenic treatment crossover. Optional ARA (audiovector room adaptation), LCC (low compression concept) technology, and IUC (individual upgrade concept) Future Proof might (or might not) also be part of the mix.

Such technobabble notwithstanding, the S3 Super does incorporate several features worth further examination. The main drivers' cast frames have three-point fixing to ensure firm and accurate contact and use 120mm diameter cones formed from a woven carbon fibre and Nomex sandwich. The tweeter has a 30mm fabric dome, the rear of which is vented through two holes at the top of the rear panel – the SEC treble system, which adds some extra high-frequency airiness via room reflections.

Possibly, the most interesting feature doesn't seem to have found its way into the documentation. There's a little switch between the three pairs of terminals labelled 'on/off'. Experiment revealed that this switches in or out a high pass filter feeding the upper main driver, so that the speaker may be converted between three-way and two-and-a-half-way operation. The latter is the 'normal' setting and supplies substantially more bass output.

SOUND QUALITY

First impressions were a little disappointing, as the overall tonal balance sounded rather cool and lean, while the upper-mid was distinctly





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through the bass region and boosting the bass. This transformed the sound into a tonal balance that was not only much more acceptable to us, but which was actually very good indeed.

Surprisingly, when I mentioned this to Simon Pope, who is currently acting for Audiovector in Britain, he commented that the speakers had sounded much more comfortable in his smaller, squarer room with the switches down. This clearly illustrates the importance of the interaction of the loudspeaker with the listening room, as well as the usefulness of the adjustment provided by those switches.

That aside, with the switches up (and therefore an impedance trace around four ohms through much of the bass region), the S3 Super delivers a very decent averaged in-room response which holds within very respectable ± 4 dB limits from 60Hz upwards. There's rather too much 50Hz output and smaller peaks are visible at 850Hz and 1.8kHz, but otherwise the trace looks pretty well ordered, with decent in-room extension down to 24Hz or thereabout. However, a sensitivity rating of 89dB looks more realistic than the specified 91dB and a 6ohm rather than 8ohm nominal impedance.

While the measured performance goes some way towards defining the sonic character of a speaker, it's no substitute for listening to music and it's here that the S3 Super really shines (switches up everyone!). Midband voicing is particularly impressive,



D/A CONVERSION

While most consumers regard the purchase of a hi-fi system as a one-off event, a much smaller proportion catch the 'hi-fi bug' and find themselves addicted to upgrading the performance of their music systems.

The truly hard-bitten have to try all possible alternatives for themselves. Others are happy to build a relationship with the dealer that initially supplied a truly satisfying system and want a regular 'fix' that supplies 'more of the same'.

The latter approach has much to do with the success of Naim Audio's electronics, where component performance may be improved by upgrading the outboard power supplies. Since Audiovector distributes Naim in Denmark, it's maybe no coincidence that the loudspeakers of both companies share a similar philosophy.

The floorstanders within the S-series comprise a ladder of four models that share the same basic enclosure carcass, but which offer improvements in main drivers, tweeters, panels, plinths in four distinct stages, presumably upgrading performance appropriately.

timing is very good and there's plenty of notably coherent musical detail.

Although the bass end might have a bit more weight and authority, it's always agile and informative while the midband is commendably free from any boxy colorations. Even the measured upper mid-peak is barely audible and it is certainly not in any way intrusive. Indeed, this Super is so good it's quite difficult to conceive that there are two stages of upgrade that presumably perform even better.

Perhaps its most engaging quality is the open midrange, which might not be the last word in dynamic grip and tension, but which is always informative with very little audible coloration. Another key factor is the lack of boxiness, which ensures that the actual speakers themselves do a very good job of 'disappearing', aurally speaking, while the stereo image they create is well-formed, with good focus and a good measure of depth.

The top end does just what it's required to do – add appropriate detail while remaining discreet and not drawing unwanted attention to itself. I presume the tweeter fitted here is a little less sweet and transparent than the more costly example used in the Signature, or the planar device found in the Avantgarde,

but it certainly does what's required without fuss or foible.

The secret of a fine loudspeaker is not found in any one characteristic, but rather in achieving a good balance across a range of different qualities. That is the real strength of Audiovector's S3 Super, which is a good looking speaker that delivers a genuinely high all-round standard of performance at a realistic price. **HFC**

Paul Messenger

VERDICT

SOUND



PRO

This exceptionally well-balanced and presented floorstander has an attractively open and airy character and a fine freedom from boxiness.

EASE OF DRIVE



BUILD



CON

Tonal balance might be smoother and the plinth only slightly improves its rather marginal physical stability.

VALUE



CONCLUSION

This splendid loudspeaker does most things very well and even includes a useful ability to upgrade performance by stages in the future. Its fine openness and freedom from boxiness confers good musical communication and stereo imaging.

HI-FI CHOICE
OVERALL SCORE



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GROUP TEST & LAB REPORTS: RICHARD BLACK

CD PLAYERS

Dedicated CD players should be part of every audiophile's system

ON TEST



Creek Destiny
£1,400



Electrocompaniet ECC-1
£1,700



Moon CD3.3
£2,200



Shanling CD-T1000se
£1,700



Sony XA5400ES
£1,200



YBA YC201
£890

Among non-audiophiles, the upmarket CD player is a frequent object of bewilderment, not to say derision. "You spent how much on it? – and it doesn't even play DVDs?" And indeed on purely feature-for-money grounds, the whole proposition does look decidedly shaky. Of course, something similar could be said about expensive amplifiers, but at least you usually get a few more watts for your money and/or some fancy-looking valves to admire.

It's also surprising just how good the audio performance can be from a very basic supermarket DVD player. We've had passing contact with the odd one and they play all the notes in the right order, with usually something that one can recognise as dynamics and ditto bandwidth: joking apart, they do actually play music. But the crunch always comes after the initial shock has worn off and within a minute or two one starts to feel that something's missing.

It's that 'something' that decent hi-fi is all about. While the standard of budget equipment has improved enormously down the years, in our experience, the Real Thing has continued to be rather elusive, not necessarily the sole preserve of fantastically expensive kit, but certainly justifying the sort of expenditure that one might have to save up for. That's certainly true with CD players, where distinctly more satisfying results come with careful equipment selection.

In this *Ultimate Group Test*, we consider CD players costing between £900 and £2,200, a sizeable chunk of money. Some of them offer extra features, including digital inputs and

multi-channel SACD replay, while a couple include valves in their circuitry, but that only accounts for a small part of the price. What we're really looking at is the kind of aural refinement that makes one really want to listen, rather than occasionally slapping a CD on because there's nothing on telly.

Without giving away our specific findings, we can confidently say we found plenty of that kind of quality and were sorry to see the players go. The features, looks and build quality are great too, of course, but it's the sound that really gets the pulse going.

Over the next few pages, we've done our best to put into words just what that sound is like. **HFC**

EQUIPMENT USED

- ⊕ Exposure 3010 integrated amp
- ⊕ EAR802 preamp/519 monoblocks
- ⊕ Bowers and Wilkins 803S loudspeakers
- ⊕ ATC SCM20 loudspeakers
- ⊕ Kimber, Furukawa and custom cables

MUSIC USED

- ⊕ Ian Dury *The Bus Driver's Prayer and Other Stories*
- ⊕ The Penguin Café Orchestra *Concert Programme*
- ⊕ Alan Bush *Song Cycles*
- ⊕ Rachmaninov *Symphonic Dances*

EARS USED

We extend grateful thanks to our panel of expert listeners, highly experienced veterans of the industry, who gave up their time to listen to the players and give us the benefit of their findings:

Phil Hansen (Red Sheep PR)
Steve Harris (Audioplus)
Abbas Hussain (Wireworld)

LISTENING TESTS

Each of the players in the group was subjected to a rigorous programme of listening and laboratory tests. Measurements were made using a combination of custom-made CDRs (devised specifically for these tests) and a potent combination of 'traditional' lab instruments with a high-quality ADC, which converted the analogue output of each player back to digital for analysis on a PC. Our methodology provides a searching analysis of a multitude of aspects, the most important of which are summarised in the bar graphs (with other significant findings mentioned in the text). Not all measurements are reported for all players – for instance absolute speed accuracy, which was fine for all of them.

LAB TESTS

Our comprehensive listening tests were no less rigorous, conducted under blind, level-matched (to 0.05dB) conditions with some of the industry's most experienced hi-fi panellists. In addition, there were extended sighted listening tests by the author, using a wider variety of equipment and music, as well as a varied range of volume levels to attempt to determine real-world performance.

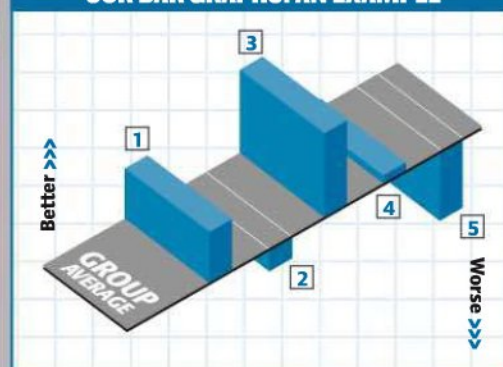
No other magazine offers an equivalent test and listening programme for comparative tests.

LAB REPORTS: THE BAR GRAPH

Our 3D bar graphs are a simple way of showing how the products compare across five key technical measurements. A percentage is given that falls above or below the group average. In this test, the five measurements are:

- 1) Total harmonic distortion.** The classic distortion criterion, measured as the purity of a single sine wave at various frequencies and levels.
- 2) Jitter:** A measure of how stable the timing clock is. Measured at the analogue output, this distortion shows up as increased noise and/or low-level interfering frequencies which can contribute to sonic 'grunge'.
- 3) Linearity:** How accurately the output behaves at very low levels. Poor figures can lead to distortion rising considerably in quiet musical passages.
- 4) Dynamic range:** This is effectively the same as signal-to-noise ratio, the difference between full output and the practical noise floor of each player.
- 5) Digital filtering:** Frequencies above half the sampling frequency should be efficiently filtered off. The filter is tested by playing tones at various frequencies and looking for ultrasonic spurious signals that accompany it.

OUR BAR GRAPHS: AN EXAMPLE





CREEK DESTINY

Creek's flagship CD player is a star performer

£1,400 ☎ 01442 260146 🌐 www.creekaudio.com

Creek's background is in affordable hi-fi separates, being at one time the brand that you bought if you couldn't afford to buy Naim product. Founder and chief designer Mike Creek has never deserted that market, but in 2005 he announced a new approach with the Destiny range, something much more deluxe and upmarket than previous Creek products. The Destiny CD player was the first model to hit the market and it has found consistent favour. But how does it stack up against the five promising rivals?

Well, for starters, the thick aluminium front panel and immaculately assembled case make a good impression, as do the high-quality audio sockets at the rear. The front panel is better equipped than many, with unique buttons for pause and play, for instance, making operation more straightforward than when both functions share a button. The display is a pleasant shade of turquoise and can be dimmed or switched off.

Creek has kept things simple, with no upsampling apart from that carried out in the course of normal digital filtering. The chip is a Cirrus (Crystal) component, not quite the latest thing but still with a more than competent technical specification. It is followed by a minimum of analogue circuitry, just a single op-amp per channel, which handles the small amount of analogue filtering and output buffering all in one go. The quality of all audio components is very good and Creek has taken particular care with the power supply, which has no less than three toroidal transformers, one each of analogue, digital and control functions. The transport loads discs quite quickly and makes next to no mechanical noise.

SOUND QUALITY

It seems clear from our listeners' notes that its performance is characterised principally by a

lack of character. To put it another way, it doesn't impose itself on the music or try to add any kind of spin, colour or other artefact. In a sense, no more needs to be said: surely any hi-fi component that achieves that aim is an automatic recommendation?

Not necessarily, though, for all our listeners. One of the interesting things that often arises in our blind listening sessions is the discovery that the nearest approach to neutrality isn't always the one that gives the most pleasure. We can say with some confidence, that the player is neutral because we've correlated the recordings and other equipment used to review it across huge amounts of kit and because we have the lab results to back up our ears.

But to the casual listener this is neither so obvious nor really relevant. What matters is the impression the player makes alongside its peers and while it's highly unlikely that such a neutral machine as this will ever actually make a bad impression, it might not be the most striking one.

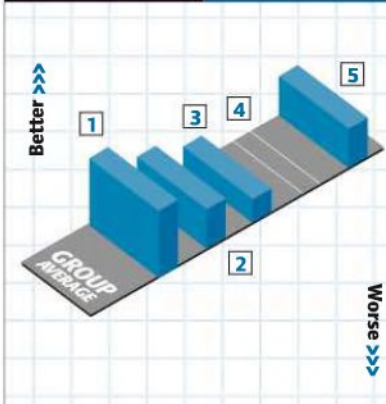
In fact, one of our listeners had nothing but praise for the Destiny, finding its sound: detailed, spacious, dynamic, well-balanced and pretty much everything one looks for. Another, however, generally enjoyed it, but would have liked just a little more energy, life and kick – particularly in the bass. For him, its sound was slightly tame and lacked some of the spark that a couple of the other players provided.

All the same, it's impossible to deny that detail from this player is really first-rate and there is loads to enjoy at every level, from the most casual listen to in-depth aural analysis of familiar discs. Bass weight, treble sweetness and midrange neutrality are all admirable and images are precise and rock-steady. A fine piece of kit all round. **HFC**

LAB REPORT

As hinted in the listening notes, the measured performance of this player is a testament to some fine design engineering both by Creek and by the makers of the various integrated circuits used inside. Distortion within the audio band stays below 0.001% (-100dB) under any combination of frequency and level we could come up with and most of the time it's more like -110dB. It's very hard indeed to conceive of such small departures from pure linearity having any audible effect. There are other distortions, of course, such as jitter (so low it's unmeasurable), pre-echo (no sign of that either) and aliasing, the one area where performance slips a little. In common with most current CD players, the Destiny allows some ultrasonic aliasing which can, in principle, result in audible results through alias-intermodulation distortion. That apart, this player pretty much writes the textbook for 16-bit performance.

HOW IT COMPARES



- 1] Distortion >> +40%
- 2] Jitter >> +20%
- 3] Linearity >> +10%
- 4] Dynamic range >> 0%
- 5] Digital filter >> +20%

SPECIFICATIONS

Measurement	Rated	Actual
Maximum output level	2.0V	2.07V
Total harmonic distortion	0.0008%	0.0003%
Signal-to-noise ratio	97dB	105dB

VERDICT

SOUND

★★★★★

FEATURES

★★★★★

BUILD

★★★★★

VALUE

★★★★★

With an almost complete lack of character of its own, performance from this player presents the whole music and nothing but the music. It's also a delight to own and use – thoroughly recommended.

HI-FI CHOICE OVERALL SCORE
★★★★★





ELECTROCOMPANIET ECC-1

Upmarket CD player that compromises on its design

£1,700 ☎ 020 8893 5835 🌐 www.electrocompaniet.com

Hot on the heels of Electrocompaniet's cheaper PC-1 player, which we reviewed in *HFC* 327, this is the basic CD-spinner from the company's 'Classic' line. It's an unusually large machine and very heavy too, mostly due to the use of thick steel for the casing, though the generous toroidal transformer will add a bit, too. The front panel is a piece of polished acrylic sheet, with the CD drawer in the centre. The characteristic Electrocompaniet four-button control set is at the right, the buttons themselves attractively made of solid brass.

The machine itself may be very attractive to behold, but we reckon the ergonomics could do with some improvement. For a start, even by current standards, it's terribly slow to load a disc. Via front panel or remote, one must press and hold the 'Stop' button to open the drawer and even after the display has acknowledged this you still have to wait a few seconds.

Reading a new CD also takes a while and the player then unavoidably goes on directly to play Track one. It is impossible to start playing with any track other than the first one. Seeking within a track is only possible from the remote and only at a pitifully slow speed. CD ergonomics have never been great, but this is, at times, frustrating.

Electrocompaniet has been more original than most internally. The sample-rate converter chip for digital filtering and the DAC itself, are familiar parts of recent vintage, but the analogue stages are evidently all in-house and use discrete transistors instead of the more common integrated circuits. This includes the balanced output, which is not an afterthought – quite the reverse, in fact, as the phono sockets are wired to two pins of the XLR output connectors. A single digital output is available.

SOUND QUALITY

Although nothing seemed overtly wrong with the sound of this player, our listeners were not entirely drawn into its music-making and expressed a variety of reservations regarding it. None of these were major, but the overall picture is of a sound that's just not quite completely rounded-out, especially as regards fine detail and insight. This became evident from the first track played, where one listener was concerned to find the timing unclear, while another thought the vocals and reed instruments were a little on the thin side.

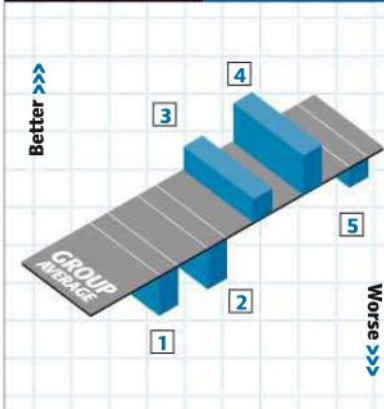
Things picked up a bit in the classical tracks, with more satisfying tonality and better timing – or could it just be that most classical music relies less critically on this aspect and so it is less obvious if it is slightly compromised? The large forces of Rachmaninov's *Symphonic Dances* were clearly differentiated in the lower parts of the spectrum, but comments were made indicating that a little more precision in the treble would have been welcome. Solo piano had plenty of body, but lacked a little refinement and had a slightly 'twangy' quality.

In our sighted listening, after the panel had departed, we found that the real problem seems to be a slightly grainy quality in the high treble. Bass and midrange, on the odd occasions when they occur with little or no treble accompaniment, are very clear and well-defined, but the treble grain makes itself felt across the range – we get a lot of information from the high treble and when that is frustrated, our ears react badly to the whole sound. It's a pity as it does compromise the performance of this player and conceals some good performance in areas such as midrange tonality and imaging. Maybe Electrocompaniet could score a double whammy by addressing that at the same time as the ergonomics? **HFC**

LAB REPORT

Electrocompaniet's all-discrete circuitry has low distortion, but not quite as low as that offered by several of the others in this group. It also has rather more jitter than we are accustomed to finding in modern CD players. At approximately 1ns, this is enough to raise the noise floor noticeably in the presence of high-level, high-frequency signals, though most real-world music will only suffer an increase in noise floor of about 1dB or so. All the same, that looks to us like the most likely candidate for explaining the grainy sound. The distortion figure may be a lot worse than some CD players can manage, but it's no worse than some very respected amps, for instance, and especially as it improves at lower signal levels we're inclined to regard it as largely benign. There's also a small amount of ultrasonic noise and the player inverts absolute phase (polarity). Other results are fine.

HOW IT COMPARES



- 1] Distortion >> -20%
- 2] Jitter >> -20%
- 3] Linearity >> +10%
- 4] Dynamic range >> +20%
- 5] Digital filter >> -10%

SPECIFICATIONS

Measurement	Rated	Actual
Maximum output level	2.25V	2.31V
Total harmonic distortion	0.002%	0.005%
Signal-to-noise ratio	120dB	107dB

VERDICT

SOUND	★★★★★	Outwardly an attractive player, this is let down by a disappointing amount of graininess in the upper treble and also by annoying ergonomics and slow disc-handling.
FEATURES	★★★★★	
BUILD	★★★★★	
VALUE	★★★★★	HI-FI CHOICE OVERALL SCORE ★★★★★





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*Music
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Quality or

Music Compression – friend or foe?

A remarkable thing has happened within a few short years. The music industry has become what must be one of the very few, alongside perhaps the food industry, to be driven downwards in relation to quality by consumer demand - and the majority of consumers are not even aware of it!

It is normal for an industry to try and improve on what has gone before. High definition TV's are an obvious upgrade from the previous standard. The computer industry constantly strives to provide faster processing speeds and larger memory capacity. However, it is the crossover of the computer industry with the music industry, the linking of the two, where things have started to go wrong. This is not to fault the computer industry, for speed and user convenience are the selling tools of its trade. Nor is the music industry inherently culpable, although it has largely acquiesced while complaining of lost revenues through illegal downloads. It is consumers that have driven quality down through a deepening, but blind, love affair with the MP3 and AAC formats and the ubiquitous iPod.

Falling Music Sales

I do not believe it is any coincidence that world-wide music sales tumbled in 2007 to their lowest level since 1985 and this is despite an overall far more affluent population than all those years ago. So why put the finger on MP3 & AAC (iTunes default format) and the iPod? It is not that they exist, nor resentment at their undoubted success. It is more the lack of knowledge on the part of consumers in what they are embracing and the hi-fi industry must shoulder its share of the blame. Both of these formats are compressed mediums, with different levels of compression. There is information irretrievably lost and they lack the full dynamic range. In short, they are inferior mediums in comparison to the standard CD format, let alone even higher resolution formats now available (such as studio quality 24 bit, 96kHz FLAC files). The sad part is that convenience and 'music on the move' has helped to create a demand for these inferior substitutes and, what is

even sadder, is that most users are not even aware of what they are missing.

There are still discerning people around who know how exciting and involving music can be, how it can deliver an emotional experience. Twenty years ago there were many hi-fi enthusiasts who enjoyed pursuing quality. It mattered which speaker leads were used, or the quality of the interconnects, or the rigidity provided by speaker stands. These still make a very significant difference but relatively few realise it now. The performing artists, musicians and sound engineers who strive to make the recording quality as high as possible must despair at the current trend.



Quality or Quantity?

When a friend's teenage son bought his first iPod, he was thrilled that it could store 2000 tracks. That this was at a low quality setting with a high degree of compression was not a relevant or indeed a cognitive factor. The maximum download quality for AAC is 320kbps. Most tracks are available at no better than 192kbps but many iPod users legally download at 128kbps, the most popular, or even 64kbps because either that's all that is available, or because they can store a greater number of tracks or, very often, because they're unaware of the difference. The cost is usually the same regardless. If you are jogging and using a cheap pair of in-ear headphones, you probably wouldn't greatly appreciate a high quality recording. But play back through a decent quality hi-fi and all you are doing is amplifying a very poor quality signal and the difference from, for example a full resolution CD (1.411kbps), is huge. The old maxim holds true - rubbish in, rubbish out.

The 80 Gigabyte iPod Classic is advertised as holding 20,000 songs (4MB per song). In comparison, a high quality music server will use approximately 500MB to store an average CD (with say

10 tracks) at full resolution, a ratio of 10 or 12:1. It's no wonder that the music server, also a flexible computer based product, can reproduce music far more faithfully and far more enjoyably and, therefore, more suitable as a prime listening source. The reality is that a generation is now growing up without recognising the loss and appears to be indifferent to quality, almost as if it's an irrelevance. This may be because so many have not heard the difference. Earlier generations enjoyed listening to 78rpm records until LP's came along. A cheap hi-fi stack system could be enjoyed until CD's came along (although a high quality record deck could, and still does, compete). The point is, once you've heard better, it's difficult to downgrade again.

So where do we go from here when many hi-fi systems feature an iPod docking station as standard? The future of quality music in the home is certainly not MP3 & AAC recordings because they are not suitable as a prime listening source. That is not what the formats were designed for. Download speeds are now far faster and computer hard drive memories far larger than a few years ago when these formats came into mass usage. Discerning music lovers using downloads will be listening to studio

quality FLAC files, or their equivalent, in the near future. The quality is so far removed from MP3 that the additional cost is easily outweighed. Even CD quality recordings are left behind. Vinyl has staged a strong comeback recently because it's still immensely enjoyable to listen to. However, technology doesn't stand still and it's therefore more important than ever that you seek out a specialist hi-fi dealer to set you on the right path.

Get Expert Advice

For anyone who has a good collection of vinyl or CD's, there are some wonderful hi-fi products available today that will extract a level of performance that is totally involving and tremendously enjoyable. Specialist hi-fi manufacturers continue to try to make their products perform to the highest standards in any given price range. Specialist dealers, of which the ones listed below are amongst the very best in the UK, know how to choose the products that combine as a superb system and how to get the best out of it. However, it also needs the consumer to get listening again and to demand quality, to seek expert guidance on how to achieve the best performance at home and to have it expertly installed and set up. If there's a price premium over an internet purchase by using a specialist dealer, it's probably a small one but it's unquestionably worth the difference.



quantity?..

LISTED HERE ARE 20 OF THE BEST HI-FI DEALERS IN THE COUNTRY.

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

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VERDICT



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RAYLEIGH HI-FI
33 Sir Isaac's Walk.
01206 577682

East Grinstead

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26 High Street.
01342 328065

Kingston-upon-Thames

INFIDELITY
9 High Street,
Hampton Wick.
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Maidenhead

AUDIO VENUE
36 Queen Street.
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RAYLEIGH HI-FI
44a High Street.
01268 779762

Southeast-on-Sea

RAYLEIGH HI-FI
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01702 435255

Southampton

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MOON CD3.3

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Canadian company Moon offers quite a wide range of CD players, with this one being a middling example. It's quite unpretentious externally, but it hides some intelligent use of technology and also one or two pleasant surprises. One of these is the digital input, just the one but a useful addition if one has computer or other server-type source with a digital output. Another is the very welcome ease-of-use. Far too many CD players that we've seen recently operate with near-glacial slowness: this one, by contrast, wakes from standby in about three seconds, loads a disc in six, responds to button-pushes immediately and searches through a track at a sensible 10x speed. Yes, sound is obviously the main criterion, but cursing at a player while it decides what to do next doesn't half spoil the fun of owning it!

Moon's literature lays down some ground rules for sensible audio design of a CD player, including no use of upsampling as all modern DAC/filter chips do oversampling anyway – a fair point. Funnily enough there is a sampling-rate converter chip inside the CD3.3, but as far as we can see it's being used purely for jitter-reduction in the data stream from the digital input. The DAC is a recent part from Burr-Brown, while the output op-amps are that Jurassic dinosaur, the 5532, reviled in the 1990s but now back in favour here and elsewhere.

Vibration breakthrough has been fingered as a degrading factor in CD replay and Moon has countered this by mounting the transport on four 'gel-based' feet. Other measures to counter unwanted interference from the outside world, include multiple power supply regulation stages, while multi-room integration is catered for with an RS-232 port and Moon's own 'SimLink' controller ports.

SOUND QUALITY

In a group that tended to divide opinion among our listeners, this player was notable as one that drew not just praise, but similarly worded praise, from all of them. In particular, it was felt to have probably the best timing of the group, with plenty of energy, especially in the bass. We wouldn't want that to be read as meaning that the bass is excessive, though: it's very well controlled and admirably judged in level.

In fact, that tonality of this player seems very even-handed all round, including the frequency extremes. The actual frequency response of CD players is almost invariably ruler-flat, but some still manage to give a subjectively uneven response. This one, though, maintains its composure pretty much through thick and thin, as uncoloured in highly dynamic and/or thickly scored tracks as it is in simple ballads.

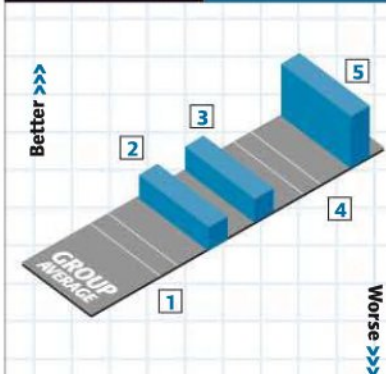
The sound is not entirely blemish-free. Our listeners commented in a couple of instances on its slight tendency to box images in rather than letting them soar free and we were forced to agree with that when we auditioned it later, sighted. This seems most apparent with voices, singly or in groups: the image is invariably stable, but seems a little smaller than we'd become used to with the same tracks. On the other hand, detail is generally very good and it's possible to hear all the various lines buried deep in a mix. Dynamics seem very assured on both the small and the large scale, which no doubt helps keep the rhythm tight, too.

The digital input was not part of the blind listening, but we were very impressed by it. Fed from a computer source of known poor jitter performance, it gave a clear and open sound, something that in the circumstances can certainly not be taken for granted. **HFC**

LAB REPORT

It's a sign of the high standards generally prevailing among CD players, that the measured results from the CD3.3 fall behind several of its peers, although from most points of view its performance is very fine. Its distortion is some way from vanishing at levels approaching full-scale, but even there the amounts bear very favourable comparison with most amplifiers, to say nothing about loudspeakers. This distortion fades away very rapidly as level drops and below -15dB, there's simply no audio-band distortion visible, but it's just possible the presence of a few higher harmonics in the top 5dB or so of dynamic range can make itself felt. Jitter is vanishingly low and there's no sign of any of the more arcane distortions such as analogue jitter. Above 22kHz there is the usual mild aliasing, but there's very little ultrasonic noise or breakthrough. Absolute phase is inverted.

HOW IT COMPARES



- 1] Distortion >> 0%
- 2] Jitter >> +10%
- 3] Linearity >> +10%
- 4] Dynamic range >> 0%
- 5] Digital filter >> +30%

SPECIFICATIONS

Measurement	Rated	Actual
Maximum output level	2.0V	1.92V
Total harmonic distortion	0.001%	0.002%
Signal-to-noise ratio	115dB	105dB

VERDICT

SOUND



FEATURES



BUILD



VALUE



A very well thought-out player that's a joy to use and offers a genuinely useful feature in its digital input. Sound is clear, detailed and energetic, though images occasionally seem constrained.

HI-FI CHOICE
OVERALL SCORE
★★★★★



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SHANLING CD-T1000SE

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Designed and built in China, Shanling's products arguably represent what's best about the 'new wave' of Chinese hi-fi – good value, but with a build quality that doesn't need any special pleading. Aesthetics, meanwhile, are very much the company's own and this was the CD player that attracted notice from non-audiophile visitors during the review period. With the valves proudly displayed in front of transformer cans, there's a clear heritage from valve amps such as the famous Leak models, but the visual design has also allowed the use of a manual, top-loading CD mechanism which is a blessing for the impatient and reads discs particularly fast.

The valves reflect not just one, but two added features in this player. At the rear are two sets of output sockets, 'Direct' and 'Tube' (that'll be 'Valve' to the English!), giving the user the option of valve sound or no valve sound, but only one pair of valves is in circuit at that point. The other pair makes up a headphone amp – the socket is round at the side, so you might need a right-angle plug. And yes, volume control is available (it also affects the phono-socket outputs).

Yet another feature is the option to turn upsampling on or off. A fine machine for inveterate fiddlers, then, and well put together too, with good quality upsampling and DAC chips, plus more op-amps than we've seen in any other CD player we can recall.

Functions, apart from the basic transport set require the remote control, including volume and searching, the latter being very fast indeed after an initial slower speed.

SOUND QUALITY

With no less than four combinations of operating mode available, we stuck with just

one for the blind listening, upsampling and tube output. It turned out that this isn't necessarily the sound for everyone, but it has plenty of enjoyable aspects to it, not least the considerable amount of space it portrays around and about the musicians. It also offers some very enjoyable bass, with both weight and precision in plentiful measure, yet at the same time well-controlled and stable.

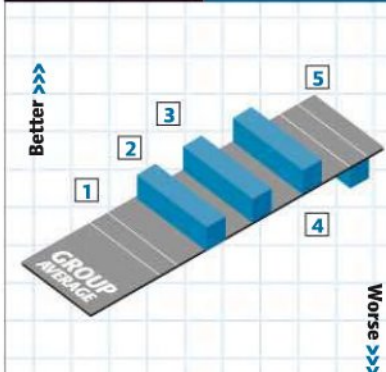
Rhythm and timing is good, but not entirely consistent between tracks. In the end – rather bizarrely given the good qualities just mentioned regarding the bass – we found that if the music contains significant bass energy, the timing seems a little compromised. This obviously works against the player in music-like rock, which makes copious use of kick drum, but made it very successful in the toe-tapping, but relatively light-textured music of the Penguin Café Orchestra.

Detail is good via the tube output and this was one aspect that we felt remained consistent via the 'direct' sockets. Other aspects changed rather markedly, though, including the spaciousness mentioned which was significantly reined-in. Although this is clearly audible in quick comparisons, the sound via the direct output does not seem unduly constrained when heard in isolation: rather, it has a greater degree of control and the sense of space is made more clearly dependent on the recording. Timing and general precision seem generally better in this mode, too. Between upsampled and non-upsampled the differences are much more minor and we found it easy to forget which we were listening to. The headphone output is clearly no afterthought and drove several models with considerable conviction and control. **HFC**

LAB REPORT

As one would expect, the various operational modes give slightly different measurements, the most obvious difference being in distortion when comparing tube and direct outputs. The quoted figures below and on the 'Conclusions' page refer to the direct output, but adding tubes bumps distortion up to 0.2% at full level. This drops rapidly as output level falls, vanishing completely below about -30dB, just as a well-behaved analogue circuit should do. Noise is just a shade higher (i.e. still very good) in tube mode and there's a trace of hum detectable. Jitter is just measurable, though still good, in either upsampling or non-upsampling mode, while the upsampling filter gives a little less aliasing around 22kHz though the basic filter shape is very similar. It's clear that all the options have been well implemented, which makes comparisons unusually fair and straightforward.

HOW IT COMPARES



- 1] Distortion >> 0%
- 2] Jitter >> +10%
- 3] Linearity >> +10%
- 4] Dynamic range >> +10%
- 5] Digital filter >> -10%

SPECIFICATIONS

Measurement	Rated	Actual
Maximum output level	2.2V	2.21V
Total harmonic distortion	0.0025%	0.0015%
Signal-to-noise ratio	105dB	106dB

VERDICT

SOUND	★★★★★	Perhaps recognising that one CD player can never please all tastes, Shanling has effectively provided at least two here, the valve/direct option giving choices in terms of presentation with clear and full sound.
FEATURES	★★★★★	
BUILD	★★★★★	
VALUE	★★★★★	
		HI-FI CHOICE OVERALL SCORE
		★★★★★



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SONY XA5400ES

CD player has the added advantage of SACD replay

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Along with the YBA, the Sony is one of the cheapest players on offer in this month's *Ultimate Group Test*. Yet, it's also one of the Japanese company's more high-end products. And if there's one thing that a giant like Sony should know, it's how to get the best out of a budget. Take, for example, the electronics content of this model coupled with an impressive array of componentry beneath the lid. A large part of that is down to one particular feature that distinguishes this player from the others in the group, its ability to play not just CDs but SACDs, including multichannel ones.

Most of the SACD players we've seen recently have been stereo-only machines and, in fact, this one only has stereo outputs in the analogue domain. Sony has built in an HDMI output, however, which can transmit high-resolution, multi-channel digits to a suitable multichannel receiver such as Sony's matching STR-DA5400ES. For the purposes of this review we treated the XA5400 as a stereo source, but if you are a multichannel fan this is one of rather few such choices currently available.

Audio-only circuitry is not vastly different from that in the CD-only players. Conversion from digital to analogue is handled by a Burr-Brown chip, which deals with SACD's DSD format natively, while the analogue output is courtesy of familiar op-amps, feeding both the phono sockets and the balanced-output XLRs. Twin R-core mains transformers and plentiful regulators look after the power supply. The player is smart and well-featured, but like most SACD machines it's awfully slow at loading discs and the twist'n'push knob for track selection is let down by a display that's very slow to respond, making it annoyingly easy to overshoot the track one wants to play.

SOUND QUALITY

Some audio kit makes such a good impression in some areas that, for many listeners, its less assured performance elsewhere may be barely noticeable. That seems to be the case here. If our listeners' notes are anything to go by, this player has great clarity, ease and flow in the midband, but rather less extension and precision at both bass and treble extremes than some of the others managed. As so often happens, this is going to make it something of a matter of taste, with both sound and music preferences deciding who will like it and who will not.

Obviously, musical works that rely heavily on bass will be at something of a disadvantage and even for our most midrange-aware listener the Ian Dury track was the least successful of the programme. There's still plenty to like about it, including very fine clarity on the vocals, but the lack of drive from the (excellent) percussion section put the Sony's version behind the group average. On the other hand our classical track for voice and piano was thought very successful, with particularly realistic piano sound and lots of acoustic cues.

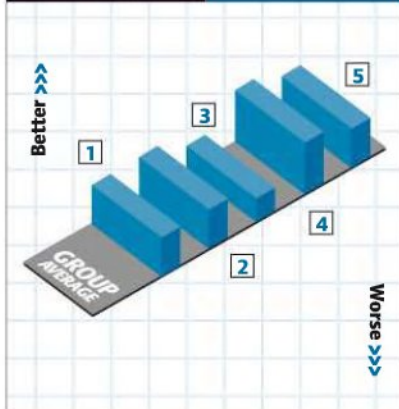
Full orchestra again showed a slight lack of bass extension, but what's there is well controlled and the overall balance is good. Perhaps the fine detail here is not quite the best of the group, but it's certainly in the top half. High treble in any music seems just a touch shut-in, but while this is detectable in rapid-fire comparisons with other players, we found that over a long period it's not bothersome – clearly a mild effect.

We also tried a few SACDs and felt that this player is particularly successful with the high-res discs. SACD treble sometimes comes across as a little indistinct, but here it was crisp and well-defined, while bass also seemed a shade more extended than on CD. **HFC**

LAB REPORT

It's pretty hard to find any cause for complaint here. Just about the only thing that one might legitimately criticise is a feature common to every player in this group and the vast majority of those currently available at any price; inadequate filtering above 20kHz. This means that legitimate music signals between 20kHz and 22kHz are accompanied by 'alias' frequencies a few kHz away, in turn possibly causing audible distortion due to intermodulation in loudspeakers. That won't be at a high level, but it could still exceed the level of 'regular' distortion which hovers around 0.0005% to 0.001% at full output (any frequency), but drops rapidly with output level and basically vanishes under most conditions. Jitter appears to be just about measurable, but is certainly very low, while frequency response is as flat as the proverbial and noise is about as low as it gets in practice.

HOW IT COMPARES



- 1] Distortion >> +20%
- 2] Jitter >> +20%
- 3] Linearity >> +10%
- 4] Dynamic range >> +30%
- 5] Digital filter >> +20%

SPECIFICATIONS

Measurement	Rated	Actual
Maximum output level	2V	2.30V
Total harmonic distortion	0.0017%	0.0007%
Signal-to-noise ratio	100dB	108dB

VERDICT

SOUND ★★★★★	As a multichannel SACD player it's a rare beast: judged in stereo it's a fine player with excellent midrange. Slight lack of precision in bass and treble will bother some listeners more than others.
FEATURES ★★★★★	
BUILD ★★★★★	
VALUE ★★★★★	HI-FI CHOICE OVERALL SCORE ★★★★★





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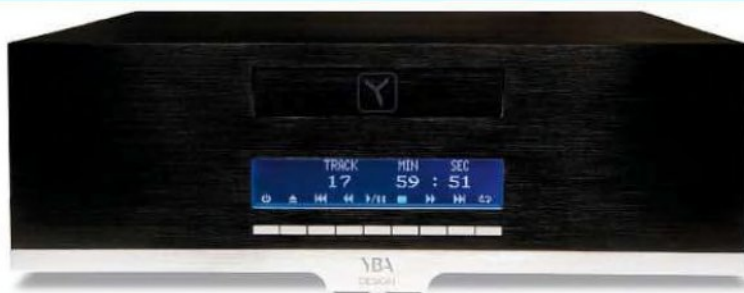


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YBA YC201

Budget-player's performance is something of a mixed bag

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From the French designers at YBA, but made (like so many other components these days) in China, this model may or may not have anything definably Gallic about it, but is certainly rather natty. We're very much taken with its use of the display to indicate the function of the nine buttons on the front: unpowered, it tells you absolutely nothing, but once fired up is very easy to use. Round one to YBA.

The rest of the appearance is quite impressive for the price, the case being made mostly of aluminium, neatly shaped and fitted together and angular without having the skin-piercing sharp edges of one or two brands we could mention. The remote control is a definite point in YBA's favour, a solid-metal affair that feels and looks particularly impressive.

The electronic design is fairly conventional. A computer CD-ROM drive is connected via its digital output to an audio board that includes a familiar digital receiver, upsampling and DAC chips, plus a typical analogue output circuit. There's a conventional linear power supply based on an R-core mains transformer, and parts are of decent quality, if nothing particularly outstanding. We're not entirely sold on the idea of CD-ROM drives, for a couple of reasons: first, they are a bit slow to load a disc and second – rather more seriously – they have a marked tendency to make a lot of mechanical noise. This player is definitely one we'd rather have a good distance from the listening seat, as it emits a slightly tuned whistle that has a way of making itself heard above surprisingly loud music.

SOUND QUALITY

That apart, the sound has plenty going for it. One of those things, it should be made clear at the outset, is a degree of character that we

anticipate not all audiophiles will care for. Some, however, will love it. One listener's comment sums it up well; "A bit lively, isn't it?". And yes, it does certainly seem to be that, in both good and bad ways.

Of course, there's nothing bad about lively as such – there's nothing worse than lifeless music-making. But it's not necessarily the job of music-reproducing equipment to put the life in, merely to preserve it as recorded and just occasionally we felt this player may be a bit too much of a good thing. It sounded great in our Ian Dury track, marvellously energetic and revelling the grit and sarcasm of the singer's delivery. But with the complex sounds of the Penguin Cafe Orchestra it seemed to be on the verge of hysteria, the carefully layered music lacking some control and precision.

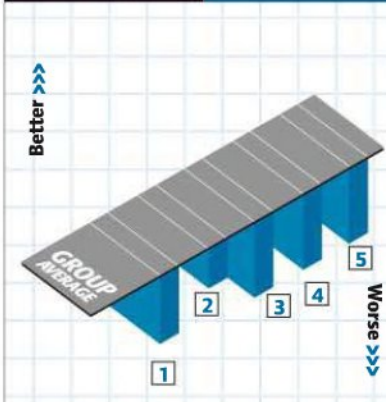
Classical voice and piano produced generally neutral results, though the piano showed off the YBA's good bass extension and attack to advantage, but again Rachmaninov's orchestral fireworks seemed perhaps a touch on the over-excitable side. Experiments with further tracks in various musician veins confirmed that rock is a good stylistic match to the player, with quite a lot of jazz faring well too and, perhaps surprisingly, simple ballad-style stuff scoring quite a hit. That may well be more due to the player's appealingly neutral and unforced detail in the midrange, which suits voices well. High treble is a little congested and lacks some of the finesse of the best players in this group, but as mentioned above the bass is very good, with both presence and detail in plenty. What it doesn't manage quite so well is the tuned quality of instruments like double bass and gently-played orchestral timpani, but that may be splitting hairs when the essential bass quality is so very likeable. **HFC**



LAB REPORT

The most obviously unusual feature of this player – which will, however, only really matter in comparisons with its peers – is the output level, at about 1.3V, a full 4dB below the general average which is very audible. In a typical system, however, the only effect of that (apart from a need to turn the amplifier's volume control a little higher than usual) will be a very slight increase in effective amplifier noise floor. That's unlikely to be audible, as the YC201 itself puts out rather more noise than we'd like to see, including some 'tuned' noise that's presumably some kind of feed-through from the digital circuits. It's not easily audible at normal volume settings, but could well contribute to the player's slight lack of treble detail. Distortion is a little on the high side by current standards and jitter is also higher than average, worsening the noise floor slightly in the presence of very energetic treble.

HOW IT COMPARES



- 1] Distortion >> -40%
- 2] Jitter >> -20%
- 3] Linearity >> -50%
- 4] Dynamic range >> -50%
- 5] Digital filter >> -50%

SPECIFICATIONS

Measurement	Rated	Actual
Maximum output level	1.35V	1.32V
Total harmonic distortion	~%	0.02%
Signal-to-noise ratio	110dB	96dB

VERDICT

SOUND	★★★★☆	Something of a mixed bag, it does very well at portraying musical vigour, but rather less well with subtleties, becoming rather confused with complex yet tightly-knit music such as full orchestra.
FEATURES	★★★★☆	
BUILD	★★★★☆	
VALUE	★★★★☆	
HI-FI CHOICE OVERALL SCORE		★★★★★

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CONCLUSIONS

These six CD players cover a lot of bases in terms of detail and performance

We were glad to be able to award some very high marks within this group and the particularly good showing by the Creek Destiny player, is very well deserved. We could hardly score it higher than four stars for features, when all it does is play CDs, but on the other hand it does that very well indeed. It's a fine machine from every point of view and we would feel comfortable recommending it to almost any music-lover.

Given that, does Moon's player really add anything at its

considerably higher price? It's always hard making value judgements and some prospective purchasers might consider Creek and Moon models to be in completely different markets, but comparing the two we reckon that Moon's extra £800 has some justification in the slightly more refined sound it manages on occasion to produce.

On other hand, it doesn't always offer as clearly defined an image as the Creek. The digital input is good to have, but given what decent USB DACs cost

that's not a major deciding factor. On the whole, we'd say the Moon is slightly more highly characterised than the Creek, but is most certainly worth a serious listen, if the price is acceptable.

The Sony is in a class of one here as an SACD player, but even with CDs it puts in a more than decent showing. The multichannel SACD capability is the major selling point, but we'd live with it happily enough in stereo. Shanling's idiosyncratic player is great for the inveterate

tweaker – who could resist four players in one? – but in any configuration seems more than capable of giving pleasure.

And that leaves the models from Electrocompaniet and YBA, which we found ourselves criticising on some rather similar grounds, including lack of detail and clarity in the high treble. What they do well is rather more differentiated, though, with the YBA being particularly energetic and fast-paced, while the Electrocompaniet offers an appealing midrange and some good bass definition, too. **HFC**

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HINTS AND TIPS

» If the display can be switched off, do so for any serious listening. It often subtly improves resolution.

» Many CD players emit a just-audible mechanical whistle. The easiest 'cure' is not to place it too close to your listening seat and use the remote control!

» While most players aren't microphonic as such, resonances in their casework can be minimised with suitable feet and/or damping material placed on top.

» Buy a CD lens cleaner and use it every month or two. Dust and grime is easier to remove before it gets baked on.

CD PLAYERS AT A GLANCE



MAKE MODEL	Creek Destiny	Electrocompaniet ECC-1	Moon CD3.3	Shanling CD-R1000se	Sony XA5400ES	YBA YC201
PRICE	£1,400	£1,700	£2,200	£1,700	£1,200	£890
SOUND	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
FEATURES	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
BUILD	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
VALUE	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OVERALL	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
CONCLUSION	Very little character of its own – presents the whole music and nothing but the music. A delight!	Outwardly attractive, but let down by grain in the upper treble and also by slow disc handling.	A well thought-out player with sound that's clear, detailed and enjoyably energetic.	Flexible to an unusual degree, while in terms of presentation, sound is clear in any mode.	A rare multi-channel SACD player: judged in stereo it's a fine player with excellent midrange.	It's a mixed bag, doing well at portraying musical vigour, but less well with subtleties.
KEY FEATURES						
ELEC DIG O/P	Yes	Yes	Yes	Yes	Yes	Yes
OPT DIG O/P	Yes	No	No	No	Yes	No
CD R-W	Yes	Yes	Yes	No	Yes	Yes
CD TEXT	No	No	No	No	Yes	No
BALANCED O/P	No	Yes	Option	No	Yes	No
OTHER FORMATS	None	None	None	None	SACD	None
SIZE W×H×D	43x7x31cm	48.5x10.5x39cm	43x9x33cm	43x6.5x29cm	43x12.5x39cm	39x13x39cm
WEIGHT	6kg	9kg	8kg	10kg	10kg	11.5kg
LAB CONCLUSIONS E = EXCELLENT • G = GOOD • A = AVERAGE • P = POOR						
DISTORTION	0.0003% E	0.005% G	0.002% G	0.0015% E	0.0007 E	0.02 A
JITTER	<0.12ns E	0.25ns G	0.15ns G	0.15ns G	<0.12ns E	0.3ns G
LINEARITY	<0.1dB E	<0.1dB E	<0.1dB E	<0.1dB E	<0.1dB E	1.5dB A
S/N RATIO	105dB G	107dB G	105dB G	106dB G	108dB E	96dB A
STOPBAND REJECTION	95dB E	75dB G	100dB E	80dB G	95dB E	66dB A

Round-up

Here are the gadgets that successfully merge your iPod with your hi-fi

The success of the iPod range doesn't mean it's the only game in town for portable audio – but it is the best-supported product in terms of accessories and connection to other audio components,

thanks to the docking connector on the base of all but Shuffle models. We tested four docks that allow iPods to connect to a hi-fi, using a 4th-generation iPod Nano loaded with uncompressed (wav) files as source.

Cambridge Audio iD50

Type iPod dock

Price £100

Contact ☎ 0845 090 2288 🌐 www.cambridgeaudio.com

As part from iPod-enabled products including the One and Sonata mini-systems, Cambridge makes two iPod docks, the utterly basic iD10 and the present candidate. It is quite comprehensively featured, but Cambridge makes particular play of its audio abilities, which rely on 'quasi differential noise cancelling' circuits and audiophile-grade output buffers. Connections include audio output on phono sockets, composite video and S-video, and RS232 for multi-room installations. Two modes of operation are available, Simple Mode using the iPod's display, while Advanced Mode uses an attached TV as the display device. A remote control is supplied, which is rather larger and considerably heavier than most of its kind and we found that this makes it much nicer to use, though the feel of the buttons is a bit uncertain. Output level is two volts, the same as most CD players.

Bucking preconceptions, this dock really brought out the best in

our iPod and produced sound that we can honestly say deserves the term 'hi-fi'. More than with any other dock we've tried, the Audio iD50 can extract music from the diminutive players and make it bloom. There's real bass extension with very impressive grip and definition too, while midrange and treble are open and detailed. Images are well spaced out and have good stability; maybe not quite on a par with a good CD player, but not so very far behind. The overall presentation has poise, but also plenty of bite and attack when needed. Lest you think we're imagining things, we also measured the performance and got figures that wouldn't disgrace any CD player. **HFC**

VERDICT

A straightforward, but flexible dock that gets the best out of iPods, with sound that can stand comparison with hi-fi separates.



Onkyo DS-A3

TYPE iPod dock

PRICE £100

CONTACT ☎ 01628 473350 🌐 www.onkyo.co.uk

Onkyo has just announced the first affordable digital iPod dock, so are analogue docks now redundant? Not according to Onkyo's representative, to whom we put that exact question. He pointed out, reasonably enough, that not everyone will have a digital input available, nor will they want to buy a separate DAC just for an iPod. Accordingly, this dock is optimised for extracting the most from an iPod's analogue output. It has much the same connections as most, though the provision of a component video output is not so common. You can use an external TV or the iPod's own display as monitor while operating with the iPod's own buttons or the supplied remote. Using the iPod's buttons is easier than on many docks, as this one has some weight to it and decent non-slip feet, so it doesn't slide away! The adjustable backrest for the iPod is a neat idea too. Output level is very low at 0.7 volts.

We felt that the sound of this dock didn't quite match up to that of the Cambridge, but it's quite a close thing. There's plenty of detail to the sound and some impressive extension at both frequency extremes, but it doesn't quite hang together with the same convincing realism,

and as a result one is just that little bit less involved. All the same, there's a lively character in evidence, which makes the most of energetic rock, for instance, and for foot-tapping inspiration this is a hard act to beat. It's also quite dynamic, making the most of well-recorded classical tracks with their large changes in level. **HFC**

VERDICT

A particularly well thought-out dock, this one has a dynamic quality that's always enjoyable, even if it's not quite the ultimate for insight.



NAD IPD-2

TYPE iPod dock

PRICE £95

CONTACT 01279 501111 @ www.nadelectronics.com

Offering broadly similar connectivity to the Cambridge and Onkyo models (video output on an S-video socket only), this unit is, however, rather more closely tied to its manufacturer's own systems. It has a data port intended to connect to a matching one on a NAD home cinema receiver, which allows advanced functions involving an on-screen display to be used. Still, normal operation is perfectly possible using either the iPod's own controls or the NAD remote and sound will, of course, be the same. This unit also has a bit of weight added to its base, which makes it pleasant enough to use. Like Onkyo, NAD has not boosted the iPod's output level, which remains at the 0.7-volt native output level of the device. We're not keen on that feature, as it means the volume control must be turned up quite high on the amp, resulting in the odd nasty surprise if one then switches to CD without readjusting!

But once again the sound makes a strong case for Apple's little music storage devices. We felt that the treble sounded a little tight and constrained through this dock, but its performance in the lower octaves is very likeable, with both grip and drive giving the music a real sense of purpose. There is also some good detail, especially in the bass: it may seem a little dry at times but the insight it gives is

VERDICT

Sound is precise and tightly controlled. On occasion it verges on dryness, but in general this is a good, clear-sounding iPod add-on.



certainly welcome and a useful antidote to the rather vague quality of the bass on all too many recordings. Imaging is slightly less full than one might expect from a decent mid-range CD player, but is generally stable and believable. **HFC**



Roth Audio RothDock

TYPE iPod dock

PRICE £79

CONTACT 01462 492090 @ www.rothaudio.co.uk

This dock differentiates itself from its rivals in one significant way. It incorporates a wireless transmitter in the actual docking part, which conveys the iPod's output to a matching receiver up to 10m away. This not only saves wires, but also allows the same audio signal to be used by more than one receiver in different rooms of a house. That apart, operation is much like most other docks. The iPod (or indeed, iPhone) is charged while in the dock and can be operated either using its own controls or with the dock's remote. Setup is simple enough with the transmitter and receiver detecting each other. The operating frequency can be changed to counter interference. It's slightly confusing though that the transmitter actually seems to stop working if it doesn't detect an audio signal, so the receiver doesn't pick up a signal until music is played. Both transmitter and receiver need to be connected to the mains, so this is not a fully cordless system.

Nor is it a fully transparent one in sonic terms. The business about not transmitting when there's no signal means that, for example,

VERDICT

We can't really recommend this to the audiophile, but it has its place and does what it claims to do for more undemanding music.



fadeouts can be suddenly cut off, but what's even more perturbing in highly dynamic music is the level of background noise and grunge that's often audible. If one is listening to typical iPod fare – bright and not particularly dynamic – the sound is quite lively and enjoyable with plenty of kick to it. Alas, subtler stuff such as classical, jazz or anything vaguely 'arty' does show clear signs of degradation. **HFC**

Richard Black



One's automatic assumption is likely to be that a tiny, battery-powered, portable music player is not going to produce anything like real hi-fi sound no matter how one interfaces it. At least three of these docks suggest that may be unduly harsh though and both our listening and measurements suggest that a current iPod

through the Cambridge, NAD or Onkyo docks comes surprisingly close to a good budget CD player with no special pleading needed. We'd place the Cambridge ahead by a nose, but the others are also good and of course match their makers' systems well. The Roth is more special-purpose, but don't ignore the firm's other iPod-related products.



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WIN! Competition

Grado GS1000i headphones and a Musical Fidelity V-Can worth £1,200!

£1,100 is a major investment to make in a pair of headphones, but as we opined in *HFC* 288 (December 2006), the original GS1000 more than paid its way. Better still, is the improved GS1000i – the 'i' suffix denoting improvements to the drive units as well as a thicker cable with ultra high-purity, long-crystal copper conductors. In *HFC* 325, Richard Black declared: "There's no doubting the very high performance achieved by this model. One is aware, from the first few seconds of music, that the resolution is in a different league from most loudspeakers". Add superb tonal neutrality and a lively, dynamic presentation to the mix and the result is an outstanding pair of headphones.

To ensure the winner of this month's competition can start enjoying the Grados straight out of the box, we've included Musical Fidelity's excellent V-Can headphone amplifier. Designed with a low-output impedance to drive even demanding loads, this little black box is fitted with both full-size and mini-jack sockets to eliminate the need for adapters, plus it provides a smooth, full-bodied, but punchy sound.

For your chance to win this superb headphone and amp combo, please answer the following question:

QUESTION

What does the 'i' suffix in GS1000i stand for?

A: Intense B: Imperturbable C: Improved

HOW TO ENTER

For your chance to win the GS1000i and V-Can, text Grado A, B or C to 87474 or visit www.futurecomps.co.uk/grado and follow the instructions, leaving your selected answer and details where prompted.

Terms and conditions

To enter the Grado/Musical Fidelity competition, you can either (a) text your answer to 87474 at any time between 10 December, 2009 and 6 January, 2010, or (b) enter online at www.futurecomps.co.uk/grado with your entry being received between 10 December, 2009, and 6 January, 2010. 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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DEFINITIVE AUDIO



1.



2.



3.



4.



5.



6.



7.



1. CEC TLOX Belt Drive CD Transport
2. Living Voice OBX-RW Loudspeaker in Ebony
3. New Audio Frontiers B45 SE Integrated Amplifier
4. KSL Kondo Neiro Integrated Amplifier

5. SME 1212A Turntable with KSL Kondo iOJ Cartridge
6. New Audio Frontiers KT66 Legend Integrated Amplifier
7. Kore-Eda LLA-1 Control Amplifier & PLA-1 Power Amplifier



LIVINGVOICE

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New music reviewed and rated by our experts

Reviews by Alvin Gold, Jason Kennedy, Dave Oliver, Mark Prendergast, Phil Strongman and Nigel Williamson



RED
King Crimson
E. G. Records

“‘Morbid’, ‘bleak’ and ‘displeasurable’ were common descriptions, while *Time Out* stated that listening to *Red* would lead to ‘brain damage’.”

Words by Mark Prendergast

Classic Album

From negative critique to one of the ‘most important albums ever made’, King Crimson’s Red is steeped in controversy

After the walkout of violinist and keyboard ace David Cross in 1974, the band that created *In The Court Of The Crimson King* (see review in HFC 327) five years previously was reduced to a classic power trio of Robert Fripp (guitar), Bill Bruford (drums) and John Wetton (bass). Crimson entered Olympic Studios in Barnes with little or no material and a leader who seemed indifference itself. According to Bill Bruford: “It was a bad time, awful long silences, people staring at their feet. What made it particularly difficult was that Robert decided to withhold the passing of any opinion. When I asked a question the answer was ‘it’s entirely up to you Bill!’”

The resultant album was exactly 40 minutes long and featured just five tracks. Its musical character is a live-in-the-studio feel showcasing an extreme chromaticism especially on the guitar-heavy title track and *One More Red Nightmare*. Its standout track though is *Starless*, which, with its slow Mellotron opening and beautiful aquamarine guitar solo by Fripp harked back to 1969 and *In The Court’s... Epitaph*, from its balladic heart to its elevation into something more epic and resolutely OTT as it progressed.

Wetton has a different take on *Red* than Bruford: “Well, we wanted to capture what we were like live during the previous year’s touring because at that time we were a spectacularly good live band. Even though Robert had adopted a passive attitude in the studio I thought we were onto something really, really good. We had George Chkiantz, the engineer who had worked so successfully with Jimi Hendrix, The Stones and Zeppelin and who wasn’t afraid of distorted sounds and he managed to put the genie in the bottle.”

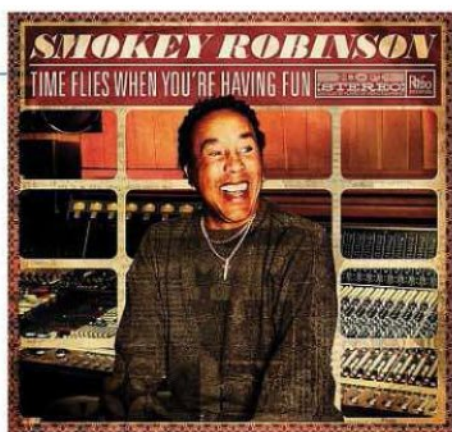
After a month of intense recording at Olympic, one which saw guest appearances from violinist David Cross, as well as an assortment of horn and reed players including Crimson original Ian McDonald, the album was

done and dusted. By September, Crimson had, in Fripp’s words, “ceased to exist” as the main Crim decided to leave the music industry “forever and ever” and devote himself to the philosophy of Gurdjieff.

When *Red* came out in October 1974, it was greeted with horror by the critics. “Morbid”, “bleak” and “displeasurable” were common descriptions, while *Time Out* stated, in no uncertain terms, that listening to *Red* would lead to “brain damage!” Thus the album sank in the UK and only on the back of the previous year’s touring did it manage to scrape the bottom of the American charts at 66.

As far as everyone was concerned that was that. Then grunge came along in the late 1980s and Kurt Cobain said it was one of his favourite albums of all time. In the US, its reputation soared. By 2001, it was regarded as one of the most important ‘heavy’ albums ever made and Crimson’s greatest effort next to its 1969 debut. Reissued in 1989 and 2001, it now comes remixed in a sumptuous new CD/DVD-A Deluxe edition stuffed with out-takes, a 5.1 mix and even a DVD performance.

John Wetton said, “When I do School of Rock in Philadelphia, 90 per cent of the kids will scream to play *One More Red Nightmare*. The album has a life of its own. Even Zeppelin played it safe, but Crimson was all danger, always playing live on very, very thin ice. And in the studio, if you gave the tracks on *Red* to another band, they would sound totally different. It couldn’t be played through a non-distorted clean bass, guitar and drum set-up. Bill was even using a kind of baking tray as a cymbal, which he found in a dustbin at Olympic. And what’s amazing is that nothing on that album owes anything to anybody before, but it paved the way for Nirvana and then Tool and Muse today.” **HFC**



SMOKEY ROBINSON

Time Flies When You're Having Fun

Robso Records

www.wrasserecords.com

Music: After clocking up 50 years in the music business, it seems that Smokey Robinson is still going strong. The honey-toned voice is a little richer now than in his classic Motown days, though not necessarily mellower, and he's still unafraid to soar high. While this isn't a reinvention album and sees Smokey sticking to his easygoing loverman RnB template, it does feature gorgeously crafted songs, brilliantly sung. Highlights include a mellifluous version of Norah Jones' *Don't Know Why*, while guests include nu-soul divas Joss Stone and India Arie, plus old schooler Carlos Santana.

Sound: Recorded live in the studio, there's a close-knit, intimate, late-night feel to the sound, which allows room for a bit of heart and soul beneath the virtuosic sheen. **DO**



PINK MARTINI

Splendor In The Grass

Wrasse

www.wrasserecords.com

Music: You might not recognise the name, but Pink Martini's music will surely be familiar, having featured in both *The Sopranos* and *The West Wing*. The fourth album from Oregon's global lounge-pop mavericks displays their retro charms to nostalgic perfection. Singer China Forbes – who, at times, sounds uncannily like Karen Carpenter – deadpans her vocals in various languages over Herb Alpert-style trumpets, Latin cocktail jazz, a smoochy cha-cha-cha, French chanson and 1920s' vaudeville on the unashamedly cute *Bitty Boppy Betty*.

Sound: More than just a novelty, underneath the old-fashioned gloss, there's serious craftsmanship at work, recorded with startlingly multi-layered clarity. **NW**



BOB DYLAN

Christmas In The Heart

Columbia

www.columbiarecords.com

Music: If Dylan has grown tired of being everyone's favourite, ageing rock uncle, then he couldn't have hit upon a better way of becoming 'controversial' again. Making a 'seasonal' album is up there with going electric and getting 'born again' as a way of antagonising his core fans. Hearing him sing *The Little Drummer Boy* and *Winter Wonderland* in that familiar croak might have been a subversive commentary on festive fakery – yet they're delivered with apparent sincerity. Perplexing, to say the least.

Sound: From the jingling sleigh bells to Dylan singing in Latin, you'd like to believe he's having a huge 'yo-ho-ho' at our expense. Only *Christmas Blues* hints at a grittier authenticity. **NW**



HARMONIA & ENO '76

Tracks & Traces (The Reissue)

Groenland

www.groenland.com

Music: This 'krautrock' hybrid was created with Brian Eno in 1976. It pitted together Moebius & Roedelius from Berlin's Cluster, and Michael Rother from Dusseldorf's NEU! in the Weser Valley in a farmhouse full of machines and cables. It was a pivotal point in the evolution of rock electronica and Eno's voice sounds as if he's singing on Mars. From these inscrutable loops and whirrs came the pop records of Bowie's Berlin trilogy and more.

Sound: Originally released in 1993 by Sony Germany, the new issue updates that CD with a solid remaster and three bonus cuts. The sound is so vivid it's as if all these oscillating machines had a life of their own! **MP**





PALOMA FAITH

Do You Want The Truth...

Epic

www.epicrecords.com

Music: To give it its full title: *Do You Want The Truth Or Something Beautiful?* is this 25-year-old singer/songwriter's debut album and beautiful, it certainly is. It's a glossy, glitzy mix of Billie Holiday-esque vocals, Kylie-style pop production and grand pop sermonising. Occupying a similar 'modern soul' corner akin to Amy Winehouse and Duffy, she marks her space with an OTT theatricality, but some strong songs too, including collaborations with Ed Harcourt and Mika.

Sound: It's a big sound with prominent strings, a barrel-load of effects and even a gospel choir, but it suffers from too much radio-friendly compression when it could have benefited from a more open, acoustic sound. **DO**



VERDI

Messa Da Requiem

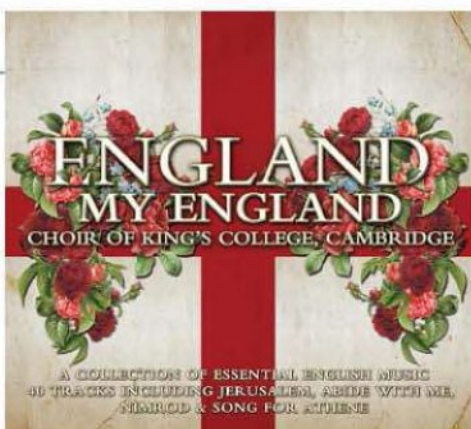
Orchestra Dell'Accademia Nazionale di Santa Cecilia

EMI (2-disc set)

www.emi.com

Music: The most operatic of all Requiem Masses, the four soloists don't spark off against each other in an obviously operatic manner, but the bold orchestral architecture and prominent choral parts certainly do. To these ears, at least, this is one of the most satisfying masses musically, perhaps not as immediately beautiful as the extraordinary rapt opening of Brahms *Ein deutsches Requiem*, but immensely satisfying.

Sound: This is beyond question a stunning version. Perhaps, the fact that the musicians are Italian helps them cope with the libretto, better than non-Italians and the sound is stunning too. **AG**



ENGLAND, MY ENGLAND

Choir of King's College, Cambridge

EMI (2 disc) set

www.emi.com

Music: The programme material is primarily of popular hymns and motets dating from the Baroque to the present day. The music hails mainly from the likes of Elgar, Tallis, Britten, Ireland, Vaughan Williams, Purcell, Handel and Stanford. It consists, in some cases, of voices only, while others are accompanied by organ or orchestra. Some are bleeding chunks from more substantial works, others short complete pieces, including more familiar fare like *Jerusalem*.

Music: It goes without saying that the singing is superbly polished, but the recordings, though serviceable, are rather woolly and over-reverberant. The set is barely documented at all, but it makes for attractive background listening. **AG**



PORTICO QUARTET

Isla

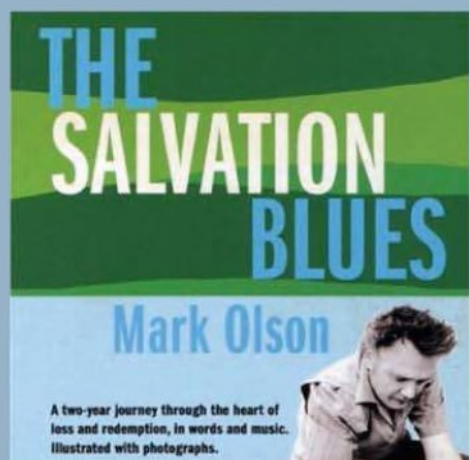
Real World

www.realworldrecords.com

Music: The 20-something Londoners' second album may not be as immediate as their Mercury Prize-nominated first, but it's a considerable step forward. Nick Mulvey's distinctive 'hang' (a sort of battered wok that sounds like a cross between a steel drum and a glockenspiel) still forms the defining hook of their sound, but Jack Wyllie's soprano sax offers continuously developing melodic interest. The pair are ably supported by Milo Fitzpatrick's double bass and Duncan Bellamy's sensitive drumming.

Sound: Recorded by pop indie producer John Leckie, the sound is dense, layered, but always clear, with the throbbing double bass tones given almost equal prominence with the hang and sax. **DO**





MARK OLSON

Salvation Blues

Diverse Records 180g

www.diverserecords.com

Music: This 2007 album is one of several solo works by Jayhawks singer/songwriter Olson and is a fine slice of country rock from a distinctive voice and first-class players. It reflects his break-up with long-term partner Victoria Williams and thus has a bitter-sweet quality for which the lap steel and acoustic guitar are perfectly balanced.

Sound: Made in Oslo, this recording is both precise and lush, but avoids being too slick. It has the right amount of edge in the mix and this serves the songs extremely well. **JK**

Music
Sound



BOZ SCAGGS

Silk Degrees

Columbia/Pure Pleasure 180g

www.purepleasurerecords.com

Music: Some time back, Simply Vinyl pressed the king of blue-eyed soul's most successful album, but PP shows how it should be done with a gatefold sleeve and the original US label. Made in 1976, its highlights are *What Can I Say*, *Lido Shuffle*, *What Do You Want The Girl To Do* and the standout *Lowdown*.

Sound: Next to the SV print this has a remarkable depth of tone – it's relaxed yet more detailed – and there's a stack of extra detail, including newly revealed instruments. One suspects a different master altogether. **JK**

Music
Sound



HIGH-QUALITY AUDIO

STRAVINSKY

Apollon Musagète, Pulcinella Suite

Chamber Orchestra of Europe

Linn

SACD (stereo/multichannel hybrid disc)

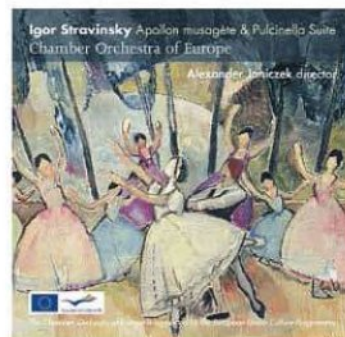
www.linnrecords.com

Music: This recording by the young and highly talented Chamber Orchestra of Europe features two important neo-classical works: the rich, but spiky *Pulcinella Suite*, derived from a ballet score modified from 18th century

Italian composer Giovanni Battista Pergolesi and *Apollon Musagète*, a wholly original score, which the composer described as 'ballet blanc', a work of great purity and unity, which is stripped down to the equivalent of using just the white notes on a piano.

Sound: A first-rate recording, the performances are bright, clean and vivid. The action noises of some of the instruments comes through clearly, though never to the point of being disturbing. It also gives the sound an extra touch of authenticity. **AG**

Music
Sound



RAMEAU

Pieces De Clavecin En Concerts

Ensemble Baroque Nouveau

Reference Recordings

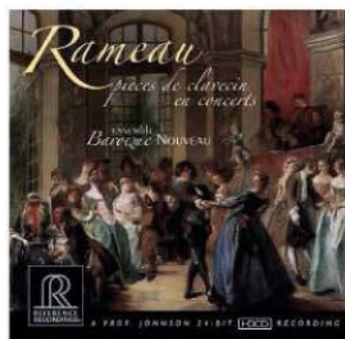
24-bit HDCD

www.referencerecordings.com

Music: This series of five 'Concerts' features 16 chamber pieces by French Baroque composer Jean-Philippe Rameau scored for harpsichord, violin, baroque flute and viola da gamba. It's more akin to the ethos of a modern jazz band than a standard classical concert presentation and indeed they were designed to be played in an intimate domestic setting rather than any concert hall.

Sound: It's a deliciously endearing sound that opens a window on another era and Reference's lush 24-bit HDCD recording is precise enough to transport the listener to a smoky Paris salon, nearly 300 years ago. **DO**

Music
Sound



KEITH JARRETT

PARIS/LONDON Testament

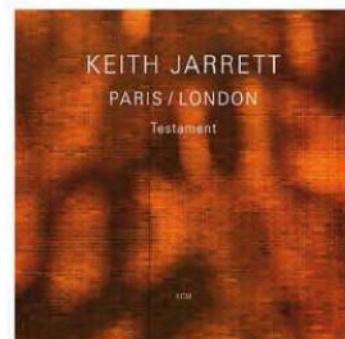
High-quality CD

www.ecmrecords.com

Music: This three-disc set contains Jarrett's solo Paris and London concerts in late 2008 and both events were clearly remarkable even by this pianist's high standards. The sheer variety of improvised material is unusual, but the fact that he manages to produce such moving and dynamic pieces under these circumstances is extraordinary. There's everything from the challenging to the rocking with plenty of solid left-hand drive for propulsion. Dark in places, joyful in others, this is indeed a testament to the skill of one of the greatest musicians of our era.

Sound: If you want to hear the dynamic and tonal range of any instrument, ECM has no equal. The result is powerful, solid and very, very real. **JK**

Music
Sound



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Philips 42PL9664 LCD TV

This new model features built-in Wi-Fi web access, full HD, 200Hz motion smoothing and with a cutting edge 1ms response time. Native contrast is 80,000:1, although the new Ambilight Spectra 2 rear-projecting coloured LEDs are claimed to give a further 'perceived' improvement in contrast. And at only 49mm thick, the '9664 is easily wall-mountable.



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Samsung 6000 • 7000 • 8000 Series

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ALSO AVAILABLE TX-P42G10 Plasma TV

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Sim2 Domino D60

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Optoma HD20 • HD82

These new full HD DLP projectors from Optoma combine great performance with outstanding value for money.

BLU-RAY DISC PLAYERS

Panasonic DMP-BD60 & 80

These new players from Panasonic blend comprehensive features with top-drawer picture and sound quality.



Sony BDP-S360 • S560 • S760 • S5000ES

Outstanding range of players from Sony.



Denon DVD-2500BT BLU-RAY TRANSPORT

For faithful transmission of Full HD video and HD audio signals bringing out the full quality of film.



Pioneer BDP-320 • BDP-LX52

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HOME CINEMA RECEIVERS

Denon AVR-1910

Denon's new AVR-1910 A/V receiver delivers a hugely entertaining sound and represents outstanding value.



Yamaha

Yamaha's new 2009 range includes five new A/V receivers, a home cinema soundbar, and two TV stands with built-in surround sound.



Sony STR-DA5400ES • STR-DH800

These two award-winning A/V receivers from Sony deliver exceptional performance. Pictured STR-DA5400ES.



Onkyo

Onkyo raises the bar once again in the competitive world of home cinema with its TX-SR607 which features Dolby ProLogic IIz support.



Denon AVR-2310

This award-winning A/V receiver combines fine specification, solid build with breathtaking low-level dynamics and detail.



Pioneer SC-LX82

Bringing studio quality sound to your living room. Pioneer's goal is for you to experience film and music just as the creators intended.

HI-FI SEPARATES

Pro-Ject Genie MKII

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Marantz CD/PM6003

This new CD and amplifier pairing continues Marantz's tradition of building superb budget products.



Arcam FMJ Series

Combining sleek design, flexible connectivity and a level of reproduction far beyond that of budget separates.

Leema Antila II CD Player & Tucana II Amplifier

With stunning sound quality and captivating good looks the new Antila II CD player features unique MD2 active differential multi-DAC converter technology.

The dual mono designed Tucana II uses three heavy-duty toroidal power transformers, has a refined bi-polar output stage and is capable of swinging over forty five amps of current for precise control of the speakers.

Cyrus

Following the remarkable 'Servo Evolution' CD players, Cyrus has introduced a range of amplifiers featuring circuitry developed for its DAC XP. The 8 XP d and Pre XP d include digital inputs - ideal for playing music stored on your computer - while the entry model 6 XP, is based on the 8 XP but without the digital option. All also include two-zone multiroom capability.



The award-winning 'Servo Evolution' CD players - CD6 SE, CD8 SE & CDX t SE/DAC X



Roksan Kandy K2

Roksan replaces its hugely successful Kandy series with the Kandy K2 amplifier and matching CD player.

HI-FI & HOME CINEMA SPEAKERS

Monitor Audio Silver RX6 AV12

Using techniques and materials from the Platinum and Gold ranges, the Silver RX series of slimline hi-fi and home cinema speakers are available in a choice of real wood veneers and high-gloss piano finishes to complement any room. Also Available: Radius R90HD10



Spendor A5 and A6

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Power without strings

Does anyone else long for the day when we don't have to rely on cables to feed power to components? Surely modern technology can come up with some way to 'beam' power from transmitters in the wall or in table tops to nearby equipment? I'm fed up of seeing a rack with wires dangling down the back, or having to choose between different mains cables as part of optimising my system.

Pasghetti via email

HFC The idea of wireless power transmission is hardly new. Back in the 1890s, Nikola Tesla, envisaged a time when electricity would be delivered to every home in the world, over long distances, without the need for cabling. This noble idea was to have been put to the test at Wardencliffe Tower on Long Island, which he rather ambitiously hoped would be able to transmit power to the entire planet using coupled electromagnetic resonators.

Construction ceased in 1905, not because of any foreseen problems with safety or practicality, but because the financier and banker JP Morgan was worried there was no reliable way to bill users.

A century later, Marin Soljačić (on left with colleagues in right-hand picture), a physicist

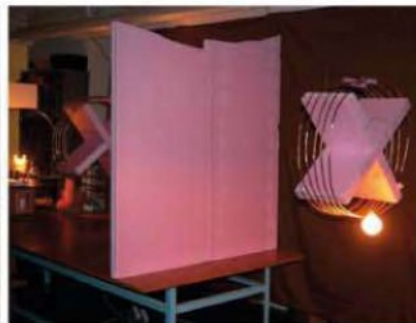
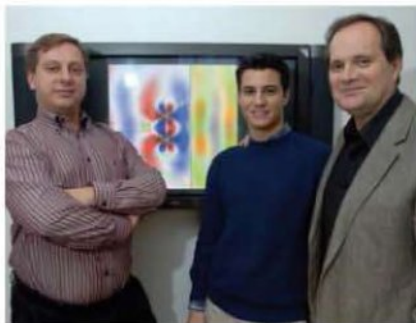
"Surely modern technology can come up with some way to 'beam' power from transmitters in the wall to nearby equipment?"

at the Massachusetts Institute of Technology (MIT) and his team decided to take another look at wireless transmission of power, this time on a slightly less grand scale.

The sorts of omni-directional antennas used to transmit TV, radio and wi-fi signals are one way to approach this challenge, but they're very inefficient as they radiate power in all directions, rather than focusing it precisely on the device which needs it. More directional alternatives require a clear line of sight, which would limit their usefulness around the home and the amount of power

they could send for safety reasons. Instead, Soljačić and his colleagues opted for a pair of tuned coils, 60cms in diameter, designed to oscillate very effectively at a frequency in the low megahertz. With the coils hanging from the ceiling at a distance of two metres from each other, they managed to light a 60-watt bulb, at a claimed efficiency of 45 per cent.

This sort of research might offer hope to the 'spaghettically challenged', but it's probably a case of not holding your breath. It goes without saying that the coils would



LETTER OF THE MONTH

Tempted by sticky roll

OK, this is probably a real blast from the past, but can I still get hold of one of those sticky little rollers for cleaning LPs and are they any good? Would it work on a CD?

roundthehorn via email

HFC The short answer is yes, you can still find them if you shop around. On the other hand, they're not wildly effective – they don't reach down into the groove the way a good carbon-fibre brush does. That said, when you lift it off, a brush often leaves a line of dust on the record which could be removed with a roller.

As CDs have a smooth surface, using a sticky roller would probably leave a smattering of adhesive behind – not a wise move. A weak (say 30 per cent) solution of isopropyl alcohol and distilled or purified water would be a good place to start.



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have to be made dramatically smaller, and insensitive to positioning (if they're not hanging in free space, they can become de-tuned, which would be ruinous for efficiency). The safety of the system would have to be investigated too, if large amounts of power are to be transmitted continuously. Beyond that, who knows what affect they might have on our beloved hi-fis. Maybe a whole new market for shielding will spring up to replace the one for mains leads and we'll all end up sitting in the sweet spot with foil on our heads like Mel Gibson in the film *Signs*.

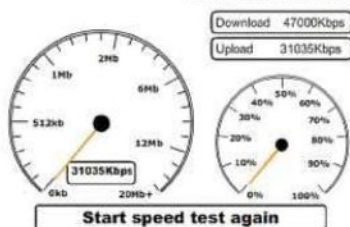
Noise on line slows BT

In the Awards issue (*HFC* 326), several correspondents trot out what has become the computer industry's standard line: CD players and other physical media are things of the past and we can all download or stream whatever musical content we like.

Errrrr, wrong! Where I live in south-east Northumberland, all of 25 miles from Newcastle, landline broadband, as recently checked with BT, is no better than 516 kb/s as our village is too far from the exchange and there is a lot of noise on the line. The mobile broadband I sometimes use, when the wind is in the right direction, gets up to the heady speeds of 1.5 Mb/s occasionally. This is useless for anything other than low bit-rate MP3 or some other awful sounding, lossily compressed format and certainly unusable for anything approaching SACD levels (yes, I have an SACD player). This has been the case for years and BT shows no sign of wanting to improve our landline so we can get the sort of broadband speeds taken for granted in the major urban centres.

Digital divide? It's alive and well in semi-rural England!

Dave Dallard via email



HFC We can but agree, David. Mobile broadband coverage is centred on highly populated urban areas; outside those, coverage is very patchy indeed. Even in city centres, reception can be hit and miss. We recently tried to get a signal in an office in Richmond with two different dongles and both failed to get beyond dial-up speed,

“Many speakers may possess two pairs of binding posts, but that doesn’t necessarily mean they’ll sound best if they’re bi-wired”

despite standard mobile-phone signal strength being good. The same often goes for landline broadband access, as you’ve found, particularly as engineering work out in the sticks can be very expensive for telecom companies. Like you, we’ll keep on buying CDs and SACDs for the foreseeable future.

Dip your toe in

Last week I had a bit of time to kill and decided to realign my speakers, as they’d recently been moved and not put back properly. Whilst doing this I decided to give them quite a lot more toe-in than usual. The axis of the speakers firing line now cross in front of me rather than behind.

As far as I can tell, after a week of listening this way, the sound is much better than it was before. It’s more dynamic, with better bass and stereo imaging. But while there’s a general tightening up all round, the overall soundstage seems to have diminished. I used to get a stage that seemed to extend well past the speakers on either side, but now it seems quite a lot narrower and is mainly contained well within the width of the speakers.

Is this something others have experienced? Or am I imagining it?

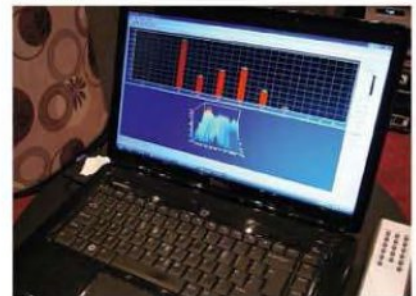
samandnaar via email

HFC Speaker positioning is one of those areas where the variables of room size, acoustics, and speaker response (on and off-axis) all come into play. Trial and error (and sometimes a bit of room treatment and response measurement) is the best way to find a compromise which works for you. For example, with speakers whose high-frequency output is very directional you’re pretty much forced to listen with the speakers pointing right at you to get decent treble extension. Lowthers with their twin-cone, full-range units and some electrostatics spring to mind here.

The opposite is true for drivers which maintain a strong off-axis output and some are designed specifically to be angled, so their axes cross either in front or behind the listener’s head. If this isn’t done, the end result can be too much energy bouncing off side walls in its first reflection. This can give the impression of a wider soundstage, but it almost always comes at the expense of

image precision and a less even frequency response, as you’ve found.

One way to arrive at a good set up is to use a relatively inexpensive measuring system like that featured in the report on the National Audio Show in last month’s issue (*HFC* 327), where Advanced Acoustics were selling XTZ’s Room Analyser software, complete with calibrated USB microphone, for £155.



Will bi-wiring double the fun?

I want to upgrade my speaker cables, but am not sure which is the best way to go. Should I shell out on something like Chord Rumour 4 and use bi-wire runs to each loudspeaker, or try Chord Odyssey 2 and use better quality links to connect the speaker terminals?

Boxedin via email

HFC There are plenty of acronyms on the internet and the one which applies to your situation is YMMV – Your Mileage May Vary. Many speakers may possess two pairs of binding posts, but that doesn’t necessarily mean they’ll sound best if they’re bi-wired.

Personally, we’d be tempted to go for single runs of more expensive cable and try a little inexpensive experimentation with whatever alternative links you fancy between the speakers’ binding posts. That extra pair of connections is usually much better put to use bi-amping than bi-wiring, if funds permit.



Ask Us

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PAUL MESSENGER

Former Hi-Fi Choice editor Paul is widely regarded as the UK's foremost loudspeaker expert and is on hand to answer your speaker questions.



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With more than 40 years as an enthusiast under his belt, Jimmy is one of the country's best-known hi-fi experts. He's also HFC's 'Mr. Tweaker'.



RICHARD BLACK

Richard is a professional musician and recording engineer, and a highly knowledgeable hi-fi analyst to boot. If your question is technical, he's your man.



MALCOLM STEWARD

Former editor of Hi-Fi Review magazine, Malcolm was one of the best-known and most outspoken reviewers of the 1980s and 1990s. Still going strong, he only writes for Hi-Fi Choice.



ALVIN GOLD

Alvin has been writing about his obsession for more than 25 years. He has expertise across all product types and despite the photo is 'happy to be of service'.



JASON KENNEDY

Jason Kennedy was a former editor of Hi-Fi Choice and spent an incredible 17 years on the title. Now he's back on the magazine as a freelance writer and hi-fi expert.

Help me with my CD life

I need some advice about upgrading my CD player and I was wondering what you would recommend. I'm using as the heart of my system, a Yamaha CR-1020 receiver from the very early Eighties that produces a big, rich sound, which is very pleasant and easy on the ears. The speakers are Mission 774s, which I've bi-wired with Sonic Link cables and my CD player is an Arcam Alpha 7.

I listen to jazz, vocal and ambient music and want to spend around £750. At this price there are plenty of components to choose from, so I need to whittle these down to a shortlist of maybe two or three players.

Darren Lines via email

HFC One of our favourites at this price point is Marantz's SA8003. With it you gain not only the benefit of SACD playback, but you also get a player that's capable of a musical, punchy, rhythmic sound, along with a tonal balance, which should gel well with the warmth of your Yamaha. Just as capable, is Roksan's Kandy K2 player, though it's red-book only. As ever, whichever decision you make is best based on a demo in your own system.

On a different note, given the age of your receiver, it may be worthwhile having it re-capped by an experienced engineer, as the electrolytics will almost certainly be past their best, even if the receiver apparently works perfectly and hasn't had much use over the years.



Naim that preamp

I have a Linn Wakonda preamplifier and a pair of LK100 power amps driving Bowers and Wilkins 602 Series 3 loudspeakers. My CD player is a Linn Karik. I am thinking about getting a better preamp, but I'm not sure which route to take: do I go for a Linn Kairn, or a Naim with power supply?

I W Kelsey via email

HFC As you don't mention specific budget limitations, we're assuming you have around £500 to spend on used equipment: the Kairn is now only available second-hand, with prices averaging £400-£500, depending on age, condition and whether or not the phono stage has been fitted by the previous owner.

A Kairn would represent a clear improvement in all aspects of sound quality compared to the Wakonda and would fit synergetically with your other Linn equipment. Although Linn and Naim are traditionally considered partners when it comes to system-building, the results can occasionally be unpredictable, so exercise a little care here. For an outlay similar to what the Kairn is likely to cost, you should be able to track down something like an NAC 72 and Hi-Cap power supply, although on a good day in a classified section or online, you might be able to go higher up the ranks of Naim's preamps.

Wired for sound

I need to ask you a favour. I am looking into some cables for my system and am hoping some of your gurus could help me out on deciding which cables to buy.

My system is a Vincent TAC 34 tube amp driving Monitor Audio RS8 speakers, with a Chordette Gem and Marantz CD 6002 as sources. The cabling is a bit of a mix: van den Hul CS122 to the speakers, Ecosse Conductor CA1 and Transparent The Link 200 to the sources, and Nordost Magus to the mains.

I find the vdH sounds quite bright, so I was thinking of replacing it with the Atlas Hyper 2.0 or 3.0 or the Hyper bi-wire, with Atlas Equator Mk2 interconnects.

Kerem Zorlu Turkey

HFC As far as the choice of speaker cable goes, we'd suggest you try the Hyper 2.0 first, as you might find the 3.0 has a less neutral overall balance, thanks to a slightly subdued top-end. The Hyper bi-wire's balance is tilted more towards the treble, and you might find it too close to the vdH in terms of brightness. The Equator, however, is a revealing, neutral interconnect, which can sound very good indeed. If it doesn't hit the spot, you might want to consider something rather more unusual in the form of the DNM Reson TBB100. This has a very smooth, natural, sophisticated presentation when used in the right system.



Spatially challenged

After a house move, my listening room has been forcibly downsized so that it's now only 12 feet long by eight feet wide, although it only has to host an Arcam Solo Mini rather than a rack full of larger components. My problem now is which speakers I should get as I'm keen to avoid boomy bass or other room-related problems in such a small space. What would your advice be?

S Pearson Hull

HFC The size of your room does undeniably make it tough to get good bass from a pair of speakers, either with or without a sub. You might find Bower and Wilkins's CM1 on a pair of tallish stands work well, though they have a low sensitivity of only 84dB and ideally require fair reserves of power to drive to decent levels. As the Arcam has a mere 25 watts on tap, this could be an issue if you like your music on the loud side. At 87dB, AVI's Neutron Fives would probably

be a better bet and should certainly be on your audition list.

Make sure you position your new speakers carefully. Despite the fact that space is at a premium, try to avoid pushing the speakers right back into the corners as this is the most effective way to drive room modes and get loose, overwhelming bass. You might find that a strong toe-in is also needed so that the tweeters' axes cross in front of your head, thereby reducing the level of first reflections coming from directly behind you. A rug, or something similar, hanging behind your head, might help slightly too.



with vinyl. The Funk Firm's V2 has a more beguiling, but still substantial way with records and would come in below £1,400 without arm. If your budget's elastic, it might stretch to the same company's Saffire, whose three-dimensionality, transparency, low-noise floor and spot-on tunefulness are a true winning combination.

Don't rule out Linn's Majik LP12, the latest version of the perennial Scottish turntable, although its ability to follow a tune is balanced against dynamics and treble that would benefit from more extension and impact. For looks, and soundstaging, the Michell Gyro SE is another strong contender, but not the most musical of decks.

Let me rock!

I am about to replace my decade-old hi-fi, offering my Linn CD and amp with KEF Q35 speakers to my daughter. (There's a good advert for separates – passing them on after 10 years rather than taking them to the tip after five!)

I have up to £1,500 to spend on each component excluding turntable – I'll be hanging on to my Pro-Ject deck for the time being. If I bought the Cyrus 8 CD and pre/power combo, what floorstanders would you match them with? Would spending the money on an integrated at £3,000 be a better idea sound-wise?

Whatever the system, it will need to cope with loudish Rock in a biggish room.

tgraham via email

allowed to shell out £1,500-£2,000 on it! As you can imagine, I'm a happy anorak, but I need some advice on where best to invest.

liquoricepizza22 via email

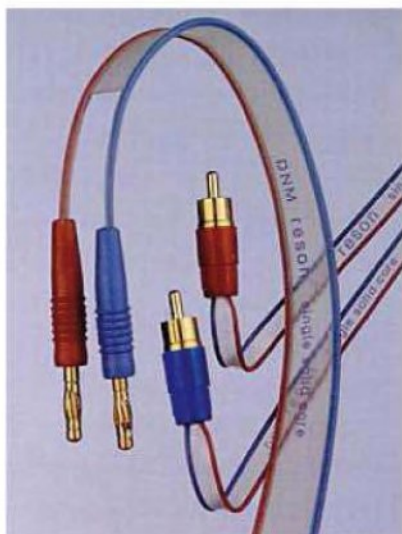
HFC For starters, many happy returns! You don't mention if you're considering upgrading your arm and cartridge as well, but the RB300 is a fine starting point from which to upgrade at a later date, as long as you steer clear of unusually heavy or low-compliance cartridges. It has the additional bonus of being highly tweakable in its own right with counterweight and structural mods from a range of companies.

In HFC 324, we lined up six of the best turntables from £1,400-£1,750 and found some very impressive performers. In our opinion, the all-round winner and most expensive deck in the test was the Townsend Rock 7, which produced very solid, detailed results from vinyl. That said, it lacks the sort of warmth which many listeners associate

HFC As well as the potential benefits of the separation of power supplies, pre and power amps offer an upgrade route that is not usually available on integrated versions. Bi-wireable speakers can be bi-amped too. This offers a major improvement in sound quality for the added cost of the second power amp, usually in greater slam, dynamics, clarity and overall control. On the other hand, there are a lot of very impressive integrated amps being made nowadays and an integrated is but a single box, which will save you the cost of an interconnect and one shelf's worth of space in a rack.

If you were to choose a full Cyrus complement of electronics, you'd have a couple of options for the amps. The X Power stereo costs around £1,000, while a PSX-R would add another £500. Alternatively, a pair of 8 Powers would enable the aforementioned bi-amping and the extra grunt it provides, for not that much more cash. On top of this, they could be upgraded at a later date with PSX-Rs, if you wanted to stay with Cyrus gear. The Pre XP d would top off the system.

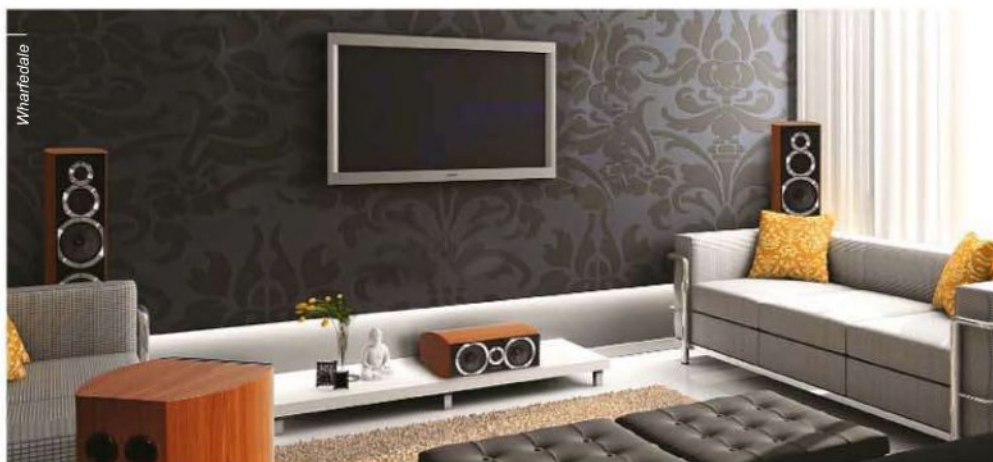
On your shortlist of integrated amps should be designs like the ATC SIA 2-150, the Plinius 9100 and the more expensive



Happy birthday

Lucky me – my wife has decided I can upgrade my old Rega P3 for my 40th birthday. Not only that, but I am apparently





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▣ Leema Tucana II, all of which have sufficient power to fill a larger than average room, not suffer under the strain, and become rough around the edges in the process.

The Plinius would probably benefit from floorstanders with a marginally leaner bottom-end, as its bass can be a touch dominant just every now and again. Amphion's Helium 520 is commendably neutral and coherent, has real imaging precision and a measured sensitivity of 90dB, which lightens the load on the amp. For the ATC and Tucana, the Amphion would still be fine, if on the dry side. Otherwise, for excellent imaging and soundstaging, there are the Aurosal VS with its amp-friendly 90dB sensitivity and Bower and Wilkins's CM9 (89dB), although both would stretch your budget.

Cans really can

I've never been a huge fan of headphones in the past, but the arrival of children means that I can't spend an evening listening at the sort of levels I used to. The fact that those little fingers seem to have been unable to resist the painfully expensive temptation to push in the tweeter domes and dust caps on all of my friends' loudspeakers is an additional incentive to consider making the switch from playing music through loudspeakers to listening through a pair of headphones.

Given my reluctance in the past (based on the fact that I've found it quite difficult to adjust to the way music is presented through headphones), I want to see how I get on with them without splashing out yet on a really high-end pair of electrostatics, for example. I have a budget of about £300, though I could go as high as £500 for something which really is exceptional.

quadever via email

HFC Looking for some new headphones is a nice position to be in as there's a lot of competition between manufacturers these days. This means that you're spoilt for choice.

The first decision to make would be whether to go for in-ear types, or supra- or circumaural models. If you're not planning to use your cans with an MP3 or some other form of mobile music player, you can probably cross in-ear off the list, as they're rarely as comfortable for long listening sessions as circumaural, and they won't warm your lugs up either.

Sennheiser's HD600 (reviewed in *HFC* 300) and HD650 (*HFC* 312) are both low-distortion devices, with unassuming clarity and precision which won't immediately leap out as impressive, but rewards long-term listening. Bass is full, but

neither loose nor overpowering. If you're after a leaner presentation with flatter frequency response, Denon's AH-D2000 (*HFC* 309) is a great all-rounder. It manages a rare feat with the clarity of its imaging and soundstaging too, with convincing depth as well as width. For this reason, it might be the one to audition first as you make the transition from loudspeakers to headphones. That's because it bears more of a resemblance to a loudspeaker in the way it portrays the space of a venue than many others at its price.

If you are going to be using cans while you're out and about, Sennheiser's circumaural PXC450 noise-cancelling headphones (*HFC* 302) work very well in both passive and active mode. In active mode, it's surprisingly effective and natural when it's switched on with a single AA battery lasting for about 25 hours.

Otherwise, Audio-Technica's ATH-CK10 and Sennheiser's IE8 (both *HFC* 319) in-ear headphones are both very good, with plenty of detail but an unfatiguing character, which contrasts strongly with the boom and tizz of cheaper alternatives.

For a more revealing and analytical presentation, Etymotic's ER-4P is well worth sampling, but is very fussy about positioning and takes some practice to get right; until you get it bang on, there's midrange but precious little else.



Spit and polish

It's a rainy Sunday afternoon; you've already alphabetised your entire LP and CD collection and even made sure the discs are in the right sleeves and cases. So what else can you do to tweak your system to get the best out of it? Well, contacts become dirty over time, especially in a smoking household, so there's a few forms of fiddling to which the inveterate tweeker can resort, in order to while away the hours without having to crack open their wallet and spend some cash.

You can go beyond polishing signal connections, as the three pins in IEC sockets on the rear of most hi-fi components can become oxidised, which increases their resistance. The same goes for the surfaces of the connectors inside the IEC plug at the end of the mains lead itself. All it takes to remedy this situation is a quick, light squirt of switch cleaner and plugging the IEC connector into its socket and removing it again five or six times. Servisol is a popular brand of cleaner, and there are plenty of others to choose from, like Caig. It goes without saying that you should always switch off and unplug any components and mains leads you intend to clean and be fully aware of what safety measures are required when it comes to working around mains electricity without harming yourself. In other words, unless you know what you're doing, don't do it!

Pins on wall plugs can get surprisingly grubby, especially if the wall socket is decades old. Turn the socket off, pull the plug from the socket and go through the same procedure as with the IEC connector. In fact, while the mains cable is disconnected at both ends, take the top cover off the plug and make sure the live, neutral and earth are all screwed securely into their respective pins. If the conductors are broken or tarnished, trim a centimetre or so off the end, cut back the insulation carefully (you don't want to cut into the copper itself), and refit to the pin. This can be wise not only for the sake of sound quality but also for avoiding potential short circuits within the plug. The persistent may wish to solder the end of the cable into a ring for a really solid fastening to those pins, which have round studs at their tops.

Conductors deform over time under pressure from a screw and will almost invariably become loose. Again, if you're fully aware of how to work safely around mains electricity and have switched the mains off at your fusebox, you might want to consider removing the wall sockets to tighten the cable ends there too, or trim them back to reveal fresh metal. If the plug pins or wall sockets have really dirty surfaces, think about replacement rather than cleaning. If you feel sufficiently confident of your safety, try tightening the screws which hold the wiring in place in the fuse box as a final touch.

Made in Japan – Pioneer Spirit

Jon Marks sings the praises of the Pioneer CD player dynasty

When an expectant public first greeted CD, there prevailed the unswerving belief that this radically new format would transform the audio landscape – the white heat of technology was making its presence felt again, this time in the land of the listener. Where before, sound had been preserved for posterity as minuscule signals magnetised into an oxide layer on fragile tape, or cut into the surface of a plastic disc, the aluminium foil carrying CD's precious cargo wasn't prone to noise, degradation, speed variation or any of the other bugbears which plagued analogue systems. On the other hand, as the manufacturers of players soon began to discover, attempting to recover the musical signal was a rather more involved process than had first been thought.

As generations of players came and went, the natural selection of experimentation, measurement and listening began to hone the DNA of CD-replay equipment. To paraphrase a marketing slogan coined by a well-known Scottish hi-fi manufacturer, 'rubbish bits in equal rubbish bits out'. In other words, the recording on the silver disc might have had 16-bit accuracy, but that didn't mean the signal reaching the DAC would, or that the analogue output signal would achieve the potential maximum signal-to-noise ratio or dynamic range. Pioneer, like other manufacturers, realised

that there were a number of key criteria which had to be addressed in the design and construction of a CD player: a low-error RF signal with good S/N ratio from the laser and its associated processing electronics; low-distortion, low-noise digital-to-analogue conversion; and quiet, linear analogue circuitry. In 1987, the fruits of Pioneer's research appeared in Japan as the PD-3000 and elsewhere around the world as the PD-91.

With its Urushi veneer side cheeks, understated gold trim, 14kg mass and acres of copper plating, the PD-91 was frankly not

construction of its laser disc players, where the reading of the heavy discs had posed problems beyond those associated with CD. The base was a copper/resin laminate and the motor a high-quality brushless DC-type, mated with an oversize magnetic clamp to reduce flexing and vibration within the CD itself. The linear-rail pickup sled was superbly built, moving almost perfectly smoothly on a magnetic slide bearing. Not only was this system virtually wear-free, it was near-silent and fast in operation – it was capable of reading the TOC (Table Of Contents) of a disc and moving between tracks very quickly.

“The look and build of this machine are a world apart from the biscuit boxes full of air which constitute the bulk of CD players”

messing around when it came to playing CDs. Pioneer created a bespoke mechanism to implement its ideas on maximising the fidelity of the signal emerging from the transport section. Although the company's renowned Stable Platter technology wouldn't appear until 1992's PD-95 flagship model, it clearly recognised the importance of ensuring the disc spun smoothly so the laser could track it easily.

The mechanism was designed with experience Pioneer had gained in the

The four photo detectors in the non-resonant, cast-resin pickup block and the way their output was processed, formed Pioneer's Accu-Focus system. Having passed through redesigned optics, the signal from the pair of detectors on the leading edge of the block (which were first to receive the reflected light from the laser) was delayed so it could be averaged with the signal from the second detector pair, thereby improving the S/N ratio and read-accuracy. One of the reasons Tom





Precious little inside the PD-91 escapes copper plating, including the RF shielding and transport



Copper plating is taken to an extreme inside the PD-95, the first player with a Stable Platter mech

Evans chose the Pioneer PD-904 as the basis for his Eikos Precision player was the quality of the signal from the transport section and these days, companies spend considerable time and effort optimising the mechanical and electronic characteristics of mechanisms to extract the cleanest possible output.

Noise and accuracy are just as much the enemies of DACs. As the 16-bit signal moves through a player's digital section, it is subject to noise on power supplies and processing errors. In the late eighties, what started out as a signal with 16-bit accuracy could easily end up as one with 14-bit accuracy by the time it was heading for the analogue stages. In the PD-91, Pioneer fitted the latest 18-bit converters. On top of this, a single 16.9344MHz master clock was used to drive the fluorescent display as well as the ICs in the digital section, to eliminate the 'beating' caused by multiple clocks operating at different frequencies.

Once the music had entered the analogue domain, in critical signal areas it was treated to carbon composite resistors, chosen for their sound quality, rather than metal film types. There were audiophile film and electrolytic capacitors as well, and the digital output circuitry could be turned off (as could the display) to minimise the noise their operation



The retail PD-95 looks great, but the prototypes had solid, not pressed aluminium body panels

imposed on supply rails. Although the Japanese PD-3000 variant sported a number of push-pull regulators with low output impedance on its completely different audio board in place of the PD-91's more prosaic 78xx and 79xx three-pin regs, in all there were no fewer than 16 power supplies and 11 regulators spread across the PD-91's circuit boards. The mains transformer was even mounted externally on its own platform on the rear panel to exclude its vibration and stray magnetic fields.

One clear visual indicator of the PD-91's pedigree was all of that copper plating, which Pioneer claimed was applied in order to reduce magnetic distortion in the chassis and its fasteners. The bottom plate was 1.2mm-thick steel, pressed with Pioneer's signature hexagonal indentations to improve its rigidity.



The international PD-91 has a single mains transformer, the Japanese PD-3000 two

Inside, parts of the transport and all the RF shielding were copper-plated, as were the heatsinks on regulators.

As an erstwhile owner of a PD-91, the two lasting impressions I was left with were of an engaging, musical sound and real pride of ownership. The look and build of this machine are a world apart from the biscuit boxes full of air which constitute the bulk of CD players, then and now. It's also very tweakable for those with an interest in hi-fi DIY – swapping passive components is relatively easy and regulators and op-amps can be upgraded as well. All of this, along with improving the decoupling around the master clock and DAC, can produce some very worthwhile improvements to the sound.

In stock form, the PD-91 has a smooth, solid, enjoyable sound, with the sort of lively, rhythmic presentation which even now some 20 years on, is often missing in many CD players. There are no rough edges to cut short listening sessions, but it doesn't gain smoothness at the expense of drive or

CAVEAT EMPTOR

One of audiophilia's little ironies is that it's actually easier to keep an old turntable running for years than it is an old CD player, as replacement lasers, at least for many models, are difficult to obtain. To be fair to manufacturers, keeping a full inventory of spares for all players which are 20 years old or more would be wildly impractical, but stocks of parts for high-end equipment would be nice.

In the case of the PD-91, one unusual problem is that of the laser focusing lens falling off. It appears that the adhesive holding the lens in place might weaken over time; my lens fell off while the player was being transported (even though I'd locked the transport as required during transit), and I've heard the same from some other owners. It is possible to glue the lens carefully back in place, but that, and the subsequent readjustment, is best left to a qualified technician.

If you're thinking of buying a PD-91 (or any 'vintage' CD player for that matter), try to see it in the flesh and take along some CDs to test it with. A full-length (80 minutes or so) shop-bought album, a scratched disc and a CD-R (recorded either on a CD recorder, or recorded at low speed on a PC), should tell you how healthy the mechanism is. If the 80-minute disc is a struggle, the player either needs a new laser or readjustment; if it reads the lot, and moves quickly between tracks, it should be fine. If you have a lot of CD-RWs in your collection, you'd be better off with a more modern machine.



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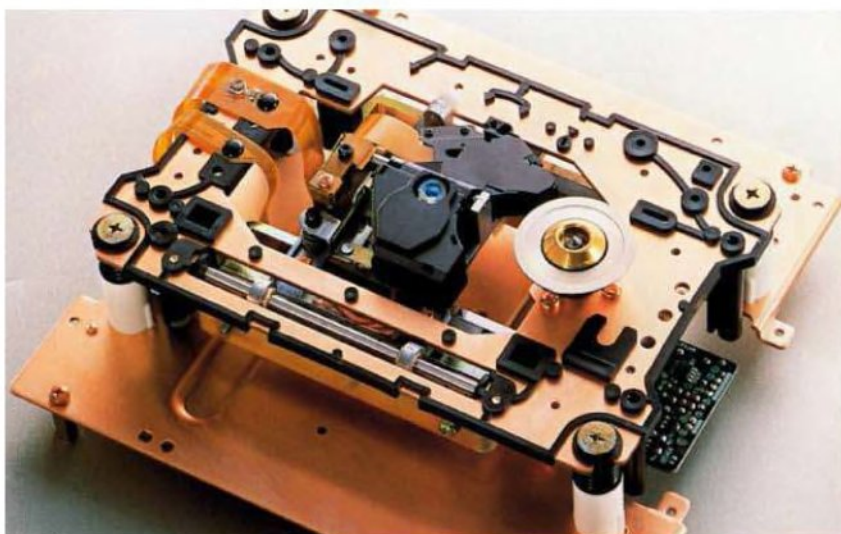
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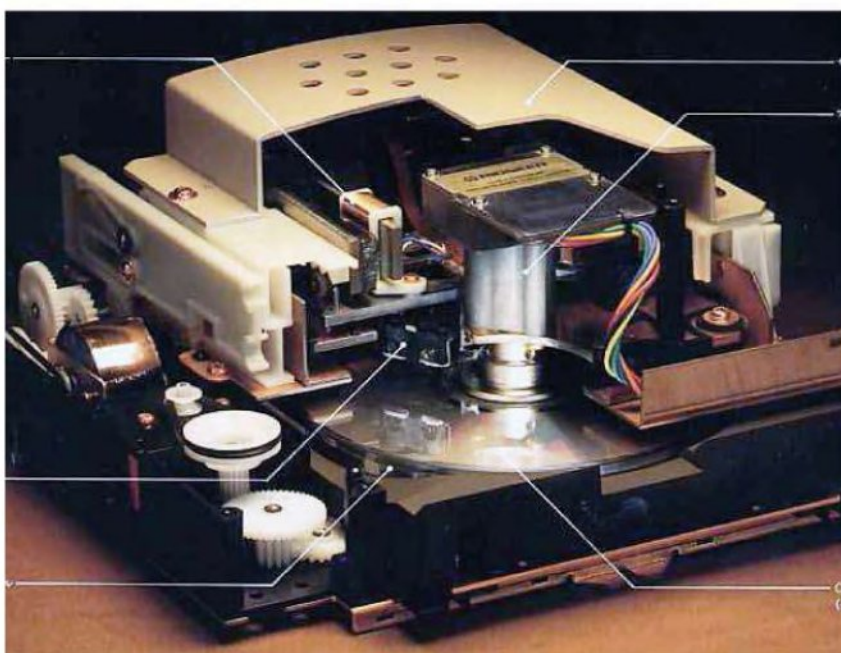
(Below) The PD-91's transport was specially built for the player rather than being an off-the-shelf item



(Below) The PD-91's veneered side cheeks were a deliberate attempt to damp vibration in the chassis



(Below) The PD-95's Stable Platter mechanism was considerably more complex than standard mechs



STABLE PLATTERS

The PD-91 is a lovely machine, but Pioneer really pulled out all the stops five years later with 1992's PD-95 (or PD-T09 as it was known in its home market). This 20kg behemoth was the first of the company's players to feature the Stable Platter mechanism.

As a CD spins on the end of the motor spindle, it will often vibrate. This vibration makes reading the surface of the disc more of a challenge for the laser, forcing the focusing circuits to work harder. In a Stable Platter mechanism, the CD is placed face-up on a small turntable and clamped in place with an overhead puck. Like TEAC's VRDS mechanisms (which work the other way up), this approach holds the entire surface of the disc flat against a turntable, preventing it vibrating (although it obviously fails to deal with the lesser problem of eccentrically pressed CDs).

In the rest of its construction, the PD-95 was even more lavish than the PD-91 and the PD-93 which followed it. As you can see in the pictures taken by mayro on the Swedish Sweet Spot Forum, copper has been used not only throughout the main structural areas of the chassis beneath the aluminium panels and the transport, but also in the foil wrapped around all the power supply electrolytic capacitors. Three transformers, mounted inside the case this time and under a perforated, copper-plated screen, power the player's various sections. There are balanced as well as single-ended outputs, both implemented as discrete class A FET circuits. The 18-bit DAC has been replaced too, with Pioneer employing its own 1-bit DAC and Legato Link Conversion, which has divided opinion amongst audiophiles ever since it was first introduced.

involvement – this machine's just as capable of handling Marley as it is Mahler. Separation and precision still hold up well despite the intervening decades, and full-scale orchestral music is easy to follow and benefits from natural tonal colour, even if those 18-bit DACs can't match modern counterparts when it comes to transparency and three-dimensionality. At the end of the day, low-level linearity has come a long way since 1987, though turning off both the display and the digital output does help. As a transport, particularly after it has been clocked, the PD-91 makes a fine second-hand buy, as a good, current DAC addresses the original's weaknesses

The PD-91 is a classy, intelligent link in the chain of the evolution of the CD player. As Trio Kenwood had done in the design of its L-07D direct-drive turntable, Pioneer directed its research towards identifying and solving the problems of CD replay in a high-end machine featuring leading-edge converters and exemplary build. **HFC**



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HFC BUYER'S GUIDE



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HI-FI HIGHLIGHT**

Competing for the top spot in our *Ultimate Group Test* (HFC 323), this Harman Kardon HD990 CD player will also make a wonderful Christmas present. It offers superb value for money (£550) and boasts a light, rhythmic and subtly differentiated performance (see page 104)



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CD PLAYERS

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UP TO £1,000													
	Arcam CD17	700	Civilised sound, with a positively deluxe treble. Bass is clear, if not the weightiest ever			●	●	●	●				315
	Caim Tornado	950	The Tornado is a full-on experience that delivers intensely real sound for its price			●	●					●	305
	Cambridge Audio Azur 840C	700	Superbly capable with a resolution and tonal evenness that's well worth hearing (silver finish)			●	●	●		●			315
	Cyrus CD6 SE	900	A combination of detail and sheer musical energy with a hint of high end to the performance				●	●					318
	Harman/Kardon HD990	550	Highly detailed with excellent extension at both extremes and impressive resolution	/594818		●	●	●	●	●			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	/456022	●	●	●	●					315
	Moon CD.5	999	Admirably energetic music-making from this very well-built player			●	●	●					323
	NAD C545BEE	350	Apart from slight lack of bass control, sound is very fine indeed – treble is beautifully detailed			●		●					322
	Naim CD5i	895	Its competent musical performance comfortably 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	/636734	●	●	●	●	●				326
	Roksan Kandy K2	895	State-of-the-art technology and precision-engineering produces a fine CD performance	/483697	●	●	●	●		●			315
	Rotel RCD-1520	695	Lacks optical digital output, but feature-count is fine and sound quality is expressive and open	/608305	●			●		●			323
	Yamaha CD-S2000	979	Sophisticated, this is a beautifully controlled, high-resolution player, although SACD is stereo-only	/488867	●	●	●	●	●	●			309
ABOVE £1,000													
	Arcam CD37	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution	/395096	●	●	●	●					318
	Audio Research CD5	5,055	Audibly better than most CD players on the market – assertive and very dynamic	/455309		●	●			●			312
	Bryston BCD-1	2,500	Not as open as some but more timely than most. It also sounds a lot more gripping than it looks			●	●			●			300
	Caim Fog 3	2,200	Ergonomically challenged, high-energy player with Gallic charm and digital preamp on board			●	●			●		●	302
	Classé CDP-102	2,950	Its sound is rich and dynamic with a full bottom end and impressive power for such a smooth player			●	●	●	●	●		●	286
	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
	Cyrus Audio CD 8 SE	1,200	A highly civilised player which can, nevertheless, deal convincingly with raw music	/399370		●	●	●					323
	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	/478365	●	●	●	●		●			314
	Leema Stream	1,170	The most timely disc player at its price point has tactile imaging and good dynamics			●		●					306
	Leema Antila II	2,735	Great build and multiple DACs give this a fast, revealing and totally engaging sound	/612396		●	●			●			323
	Linn Akurate CD	4,750	This multi-format non-video player doesn't have huge transparency, but is musically addictive		●	●	●	●		●			299
	Marantz SA-11S2	3,300	Superb value, this well-balanced player features various filter settings to customise performance		●	●	●	●		●			304
	Meridian G08	2,400	Advanced digital processing with special apodising filter that gives a very clean sound	/455040		●	●			●	●		312
	Moon CD3.3	2,200	Another revealing and refined player which warrants inclusion on anyone's must-hear shortlist	/594609		●				●	●		321
	Naim HDX	4,500	The HDX hard disk player represents an entirely new paradigm for high-fidelity replay			●	●	●					311
	Roksan Caspian M Series-1	1,450	An exceptionally fine CD player that provides a high-end and musically rewarding performance			●	●						307
	Shanling CD-T1000SE	1,700	Commendably committed player which gets right to the heart of a wide variety of musical styles			●		●			●	●	306
	Sony SCD-XA5400ES	1,199	Elegant, refined control system and very strong CD/SACD performance	/465933	●	●	●	●	●	●	●		313
	Unison Research CDE	2,495	Valve CD player with interchangeable DACs that doubles as a standalone DAC that oozes musicality	/483759		●		●		●		●	318

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The best record players you can buy

BADGE	PRODUCT	£	COMMENTS
	Clearaudio Emotion	1,185	Beautifully built with open and clean sound emphasising mid and top, but delivering nice timely bass
	Clearaudio Performance	2,300	Ceramic-magnetic bearing spells a surprisingly uncoloured performance
	Continuum Caliburn	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand
	EAR Disc Master	8,800	Combines new 'no contact' drive technology and high-quality materials to bring state-of-the-art resolution
	The Funk Firm Funk V2	1,390	Not only as beguiling as those that preceded it, this turntable is also more substantial to boot
	The Funk Firm Saffire	2,450	Individual design and a sound that's refined and neutral with strong timing and dynamics
	Lumley Heliosphere	2,495	A distinctive-looking turntable with a unique sound and a performance that reflects your vinyl
	Michell Tecnodoc	579	Needs careful partnering but can deliver a very sophisticated result for the money
	Michell Gyro SE/RB250	1,565	A marriage of shot-putter-strength, build quality and robust audio (including arm substitute)
	Pro-Ject RPM 5	550	Great looks plus engaging sound puts it in the serious league, but needs good isolation for best results
	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
	Pro-Ject X-Pack	1,000	Combines some very strong elements (Ortofon Rondo Red) into a killer package with top sound and value
	Rega P3-24	390	Very competent, uncoloured and musical, much improved by £148 outboard electronic power supply
	Roksan Radius 5/Nima	1,375	Sophisticated design with accomplished sound quality, excellent imagery and good isolation
	SRM Arezzo	699	The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay
	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
	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

SPECIFICATIONS					ISSUE NUMBER
WWW.TECHRADAR.COM	SPEEDS	SUSP SUBCHASSIS	SWITCHABLE SPEED CHANGE	SUPPLIED WITH ARM	
	33/45			●	309
	33/45			●	295
/587169	33/45/78		●	●	320
	33/45/78	●	●	opt	276
	33/45		●	●	324
	33/45		●	opt	309
/560765	33/45			opt	319
	33/45			opt	309
	33/45			●	324
	33/45		●	●	279
	33/45/78		●	●	294
	33/45		●	●	309
	33/45		opt	●	298
	33/45	●	●		248
/625025	33/45	●			325
	33/45		●	●	324
	33/45	●		●	307

PHONO CARTRIDGES

MM and MC recommendations

BADGE	PRODUCT	£	COMMENTS
	Denon DL-103R	290	Adds refinement to the basic DL-103. One of the best rock'n'roll cartridges around
	Dynavector DV-10X5	295	A high-output MC with superb dynamics and fine timing that's difficult to mount, but well worth the effort
	Grado Prestige Gold	149	Produces rich, open and expansive music with the minimum of fuss
	Ortofon Salsa	280	Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean sound
	Ortofon Rondo Red	375	Delivers detail, power and resolution and makes a good case for its price
	Sumiko Blue Point Spec Evo III	239	High-output MC with refinement at high frequencies and a nimble, articulate and revealing sound
	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
	van den Hul Condor XCM	2,400	A stunning cartridge with stereo imaging, dynamics and resolution to die for

SPECIFICATIONS					ISSUE NUMBER
WWW.TECHRADAR.COM	MM	MC	REPLACEABLE STYLUS		
		●			285
		●			307
	●		●		235
		●			290
		●			307
		●			270
		●			235
		●			265

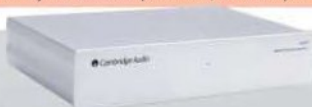
PHONO STAGES

Get the best performance from your turntable

BADGE	PRODUCT	£	COMMENTS
	Cambridge Audio 640P	100	An outrageously good bargain that suits budget systems, but can confidently survive upgrades
	Creek OBH15	240	Practical and highly compatible unit offering fine detail and a pleasing, mellow balance
	Soundsmith Strain Gauge	6,100	Revolutionary kit assembly that rewrites the rules about vinyl playback
	Tom Evans Microgroove	480	For dynamics and real bass extension with good tonal colour this is the one to beat
	Trichord Dino/Dino+	563	Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility

SPECIFICATIONS					ISSUE NUMBER
WWW.TECHRADAR.COM	MM PHONO INPUTS	MC PHONO INPUTS	AOL GAIN	AOL IMPEDANCE	
	●	●			305
	●	●			305
/618387					324
		●			234
	●	●	●	●	234

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.



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



Dynavector DV-10X5 £295

Fiddly to set up, but dynamics are superb from this high-output MC cartridge, making it a firm HFC favourite



Townshend Rock 7 £1,720

A great turntable for those upgrading from an entry-level deck. Sound engineering at a bargain price

No compromise sound from *any* system

60 Day
Cable Home Trial

'One of the best value for money mains leads we've heard.'

What Hi-Fi? Sound & Vision

With eight hyper-pure copper conductors separately insulated with Teflon®, Kimber's unique cable weave which is proven to reduce RFI and the NEW cryogenically treated Russ Andrews 13A fuse and WATTGATE 320i IEC connector, The Classic PowerKord™ is a low impedance, interference-cancelling mains cable that's in a class of its own.

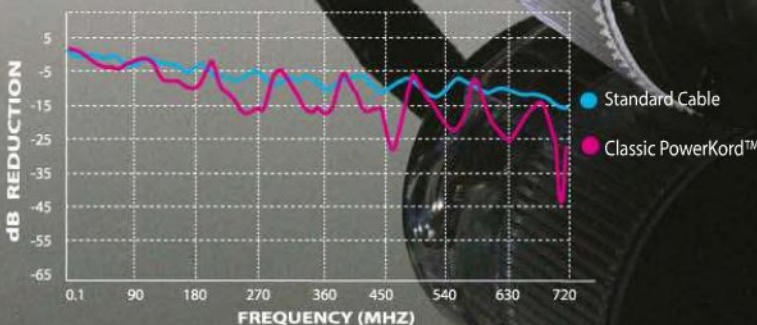
Use it to boost the performance of your CD player or amplifier and help your music sound more dynamic, detailed and musical.

Russ Andrews Classic PowerKord™

1m with Wattgate 320i IEC

£110

With standard IEC £85



Measurements showing reduction in RFI (due to TV and radio broadcasts) with our Classic PowerKord™ compared with a standard 3 core mains cable.



May '04



BEST MAINS LEAD
UNDER £100
Russ Andrews Classic
PowerKord



Sept '01



Hi-Fi World
Aug '02

'Impressively detailed and crisp, improving imaging and reducing high-frequency hash. Rhythmic portrayal was excellent, and so too was clarity.'

HiFi Choice magazine

'I've just attached a Classic PowerKord™ to my Marantz CD6000 and rather than bore you with superlatives about the improvements, I would simply like to say that I won't be upgrading to a newer CD player for some time. Well done nice product.'

Mr C Donnelly, London

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



Issue 288



SEPT 08

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Exclusive UK distributor



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Russ Andrews®
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 BEST BUY  EDITOR'S CHOICE

RADIO TUNERS













Surf the waves with these carefully selected tuners

BADGE	PRODUCT	£	COMMENTS	WWW.TECHRADAR.COM	WAVEBANDS	PRESETS	RDS	REMOTE CONTROL	SIG. STRENGTH METER	ROT. TUNING KNOB	ISSUE NUMBER
FM TUNERS											
	Creek Audio Evolution	350	Sound is detailed, cohesive and extended both tonally and spatially – very classy		FM,M	80	●	●		●	308
	Rega Radio 3	390	Strong bass, clear treble and a high enjoyment factor makes this an appealing FM performer		FM,M	20		●			283
	T+A T1210R	1,200	High-end looks are matched by the sound, which is detailed and sophisticated		FM	100	●	●			283
DAB/FM TUNERS											
	Arcam FMJ T32	600	A highly cost-effective way of optimising the airwaves. iPod functionality is definitely a bonus	/559242	DAB,FM	100	●	●	●	●	319
	Onkyo T-4555DAB	400	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard		DAB	40	●	●	●	●	298
DAB/FM PORTABLES											
	Monitor Audio Airstream 10	225	The range of features on this DAB/FM/Internet radio is certainly impressive	/636713	DAB,FM,Web	4	●			●	326
	Pure Move	80	A feature-packed, beautifully built DAB/FM radio that is a pleasure to use	/608367	DAB,FM	20	●				323
	Pure Evoke Flow	150	It makes internet radio integrate beautifully with conventional radio	/465944	DAB,FM,Web	40	●			●	313
	Pure Evoke-2S (portable)	170	Attractive and well thought-out. Many useful features and very enjoyable with classical music	/516285	DAB,FM	100	●				318
	Pure Avanti Flow	280	One of the best standalone solutions for internet radio with a tonality that's good for voices		DAB,FM,Web	40	●	●			322
	Vita Audio R2i	300	Very smartly built with a sound that's full-bodied, neutral and detailed	/611865	DAB,FM	30	●	●		●	323

SPECS KEY **WAVEBANDS** Which bands are supported: FM, M – medium wave, L – long wave, DAB – digital audio broadcasting. **PRESETS** How many stations can be stored in memory. **RDS** Radio Data System – station names and program titles can be displayed among other facilities (FM only, DAB has more comprehensive display potential). **REMOTE CONTROL** For the couch potato. **SIGNAL STRENGTH METER** Useful for setting up an aerial. **ROTARY TUNING KNOB** An ergonomic alternative to buttons.

HEADPHONES

Audiophile solutions for home and travel use

BADGE	PRODUCT	£	COMMENTS	WWW.TECHRADAR.COM	SPECIFICATIONS						ISSUE NUMBER
					ELECTROSTATIC	SUPRA-AURAL	CIRCUM-AURAL	OPEN BACK	CLOSED BACK	WEIGHT (g)	
	ACS T2	500	Ear-canal earphones display an impressive midband intelligibility and a knack for digging out the detail	/479584						28	315
	Audio Technica ATH-CK10	279	In-ear headphones offer unforced detail, natural dynamics and excellent clarity							15	319
	Beyerdynamic DT880	230	Combines musical involvement with a high degree of analytical virtues. Also very comfortable			●	●	●		205	312
	Denon AH-D2000	300	Among the best closed-back headphones we've heard and very fine by any standards				●	●	●	350	309
	Denon AH-D5000	600	Sound is comparable with good open-back models, while isolation both inward and outward is useful				●	●	●	320	312
	Denon AH-D7000	900	One of the best closed-back designs, bearing comparison with the finest open-back models	/478417			●	●	●	295	314
	Etymotic ER-4P	195	Fiddle with in-ear earpieces and angles of approach and you'll be repaid with super-detailed sound							20	319
	Grado SR60i	100	A strong contender with out-of-class sound in most areas: a brilliant budget all-rounder	/603478		●		●		210	322
	Grado GS1000i	1,100	A superb transducer, capable of astonishingly high performance standards	/624782				●			325
	Sennheiser IE8	260	With its combination of neutral midrange and treble, this is arguably the best for in-ear, all-round sound							20	319
	Sennheiser HD380	140	Clear and detailed, with very natural tonality through bass and midrange with just a little coloration				●	●	●		327
	Sennheiser HD800	1,000	These headphones will convert loudspeaker listeners to the delights of personal stereo performance	/619269			●	●	●	350	324

SPECS KEY **ELECTROSTATIC** Uses electrostatic film instead of more common cone or dome dynamics. **SUPRA-AURAL** Earpads sit on ear rather than around it. **CIRCUM-AURAL** Earpads rest on the head around the ears. **OPEN BACK** Vented capsules let sound in and out. **CLOSED BACK** Sealed capsules. **WEIGHT** In grams. **3.5MM JACK ADAPTOR** Allows connection to personal stereos, computers etc.



T+A T1210R £1,200

There aren't many similarly priced rivals to the Magnum Dynalab MD 90T for FM fans, but Germany's T+A has really hit the spot with the T1210R



Sennheiser HD380 £140

An easy recommendation – Sennheiser's HD380 should really cost more than this – it's simply fabulous and is a genuine bargain in the world of hi-fi



ACS T2 £500

For regular travellers, the ACS T2 with its custom-moulded earpieces is an obvious choice, thanks to natural noise-cancelling, all-day comfort and great sound

BEST BUY EDITOR'S CHOICE

INTEGRATED AMPLIFIERS

Our pick of the best one-box amps

BADGE	PRODUCT	£	COMMENTS	WWW.TECHRADAR.COM	LINE INPUTS	PHONO INPUT	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
UP TO £1,000										
	Cambridge Audio Azur 740A	550	Ticks all the boxes for bass, clarity, imaging etc and invites the listener into the music with uncommon grace		6	●	●	●	100	294
	Cambridge Audio 840A v2	700	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)		8	●	●	●	120	327
	Marantz PM8003	750	Detail isn't the utmost, but great vitality makes this amplifier quite thrilling		5	MM	●	●	70	327
	Moon 1.5	999	A likeable amp in many ways, with admirable bass, treble and imaging		5	●	●	●	60	321
	NAD C322BEE	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed	/603281	7	●	●	●	50	322
	Naim Audio NAIT 5i	765	More versatile than previous Nait's, the 5i is a superb amplifier that offers vivid insights into all manner of music		4	●	●	●	50	305
	Roksan Kandy K2	895	Superior design and high-performance credentials makes this amplifier a must-have bargain	/483722	5	MM	●	●	125	315
ABOVE £1,000										
	ATC SIA 2-150	2,376	Revealing, dynamic and powerful amplifier that works with a wide range of speakers, has superb build quality	/478483	4	●	●	●	150	314
	Arcam A38	1,450	A winning combination of sonic virtues including highly developed detail and musicality		7	opt	●	●	100	321
	Astin Trew AT2000	1,349	If you prefer the timbral and timing qualities of music to its bone-crunching potential, then this is a serious contender	/498574	4	●	●	●	65	317
	Audio Analogue Puccini Setanta	1,450	Detailed and lively, particularly in the upper octaves, but lacks a little bass extension		5	MC	●	●	160	320
	Copland CTA405	2,998	A musical and involving amplifier, which also has incredible insight and is user-friendly by valve amp standards		5	●	●	●	50	305
	Cyrus 8 XP d	1,500	High on features with a revealing upbeat sound and impressive five input onboard DAC	/608669	6	●	●	●	70	323
	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	/618304	5	●	●	●	70	324
	Harman/Kardon HK 990	1,000	Very clever, with built-in DSP room correction and more – but most importantly a powerful and revealing amplifier	/594820	7	MC	●	●	160	321
	Leema Pulse	1,270	Admirable bass which combines extension, tautness and clarity. Higher frequencies are highly detailed and revealing		5	MMC	●	●	70	327
	Leema Tucana II	3,425	Highly featured, well-built and not short of power, this is a highly resolute and organic amp	/612396	7	●	●	●	148	323
	Lyngdorf Millennium Mk IV	10,995	State-of-the-art digital amplifier successfully transcends virtually all the problems that afflicts others of its type	/603231	5	●	●	●	150	322
	MSB Platinum M200	13,656	This amplifier's devastatingly good all-round sound quality sets a benchmark that few will approach	/603452	●	●	●	●	322	
	Myryad MX12080	1,200	Sound is more assured at the top of the frequency range than the bottom, though bass is melodious and detailed		8	●	●	●	80	327
	Mystère ia11	1,450	Small, deceptively powerful integrated valve amp with a crisp, pacy sound		4	●	●	●	40	302
	NAD 375BEE	1,000	A good, solid amplifier that is fundamentally musical and gives a great bang for your buck	/625323	7	●	●	●	150	325
	Naim Audio NAIT XS	1,250	Its spellbinding, refined musical performance is a challenge to all integrated amplifiers	/498536	6	●	●	●	60	317
	Sugden A21aL Series 2	1,399	Lovely solid-state Class A amplifier, sweet as a nut and more powerful than its predecessor		5	opt	●	●	21	296
	Unison Res. Unico Primo	1,395	Line input can be converted to phono (at extra cost), plus an excellent mix of valve and solid-state virtues	/499279	5	●	●	●	85	317
	Unison Research P70	4,995	Delightful valve amplifier with fine neutrality, sweet midband, impressive bandwidth and ample power		4	●	●	●	70	302

PRE/POWER AMPS

Separate boxes can bring clear advantages

BADGE	PRODUCT	£	COMMENTS	WWW.TECHRADAR.COM	PREAMP/POWER	LINE INPUTS	PHONO INPUT	REMOTE CONTROL	POWER OUTPUT (W)	ISSUE NUMBER
UP TO £2,000										
	Cambridge Audio Azur 840E/840W	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled		●	●	8	opt	200	309
ABOVE £2,000										
	Arcam C31/P38	2,450	Very civilised sound in the best possible way. Well featured and smartly built		●	●	7	opt	100	308
	Border Patrol Control Unit	3,995	Bluff-looking valve preamp, with one of the most neutral yet dynamic sounds around		●	●	5	opt	277	
	Bryston BP16/ 2B SST ²	5,700	Preamp and power amp combo offers superb sound quality	/608649	●	●	6	opt	100	323
	Bryston BP26	3,670	Cracking preamp brings detailed results		●	●	8	opt	308	
	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	opt	400	293
	Cyrus DAC XP (preamp/DAC)	2,275	A DAC/pre with naturalness and resolution to die for and six digital inputs for signals up to 96kHz		●	●	2	●	266	
	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	opt	125	250
	Naim NAC 152 XS/NAP 155 XS	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
	Trilogy 909/990	10,390	Extremely musical valve-based pairing with hybrid power and beautiful finish	/625226	●	●	6	●	100	325

SPECS KEY **LINE INPUTS** Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. **PHONO INPUT** Input sockets and on-board phono stage for a cartridge. Either MM (moving magnet) or MC (moving coil), occasionally both. **REMOTE CONTROL** A remote control is supplied with the amplifier. **HEADPHONE SOCKET** To drive your cans with. **POWER OUTPUT** Manufacturer's rated output in watts per channel.

BEST BUY EDITOR'S CHOICE

CABLES

Cables really can make a difference, especially our top recommendations

BADGE	PRODUCT	£	COMMENTS	COM	STRANDED	SOLID CORE	COPPER	SILVER	TYPE	ISSUE NUMBER
ANALOGUE INTERCONNECTS										
	Audioquest Sidewinder	45	A detailed cable, with fine tonality and excellent rhythm – slight upper-bass warmth does little to detract			●		●		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 generally sweet with occasional slight constriction			●		●		299
	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 with no trace of dryness			●		●		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, but tougher than it looks, Piccolo has some qualities of a solid-core type – notably 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 Wyewizard 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 S	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice			●		●		321
	Supra EFF-IX	77	Lively sounding cable which maintains a high level of detail and neutrality, musically, a great all-rounder			●		●		306
	Townshend Isolda DCT100	99	Sound has a particularly enjoyable cohesion and naturalness that makes for great listener involvement				●	●		312
	van den Hul The Wave	125	Generally neutral, with a hint of upper-bass richness: images seem to reside slightly further away than most			●		●		312
DIGITAL INTERCONNECTS										
	Kimber DV-30	98	A superb performer that lacks very little, even when compared to Kimber's high-end models			●		●		E 317
	Merlin Scorpion Digital	130	Reduces distortion, making sound clear with unusually revealing low frequencies			●				E 317
	Supra AnCo	30	This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context			●		●		E 304
SPEAKER CABLES (PRICE PER METRE)										
	Atlas Hyper 1.5	12.5	Don't look to this cable to beef up the bass, but its performance at higher frequencies is revelatory at the price			●		●		299
	Atlas Ascent 2.0	60	A highly analytical cable, with more bass extension than at first appears 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, this speaker cable has a similarly fast, fluid and subtle sound (price reflects 3 metre pair)				●		●	302
	Kimber 8PR	21	A cable that really enjoys the music, also admirable for the levels of analytical detail it allows through			●		●		299
	Monster MCX-1s	5	Notable for its bass, which is 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 plenty of room for experimentation and the conductor quantity keeps resistance low				●	●		318
	Wireworld Solstice 5°	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.

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ARCAM

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"The M520 impressed me with its handsome appearance, great build quality, low noise, wonderful neutrality and engaging musicality."

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MiniMax Pre Amp

This pre amp represents one of the best values in hi-fi today. Tweaked to the ultimate performance with added functionality, we believe it's on a new plateau all by itself.

"That rarest of products: an entry-level unit that looks and sounds like it costs so much more."

Hartmut Quaschik TNT Audio



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I recommend it to all enthusiasts who want the benefits of tubes without their drawbacks. The Minimax is not only a Best Buy due to its price tag, but also excellent in absolute terms."

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MiniMax BBA

The BBA is designed to provide an optimal electrical match between any combination of audio components, perfect for those wanting to "mix & match" in an everlasting quest to achieve a combination of units that is "just right" in their own system.



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"I don't think I've EVER heard vinyl sound so good."

Carl Man Audio Circle



BEST BUY EDITOR'S CHOICE



STEREO SPEAKERS

Perhaps the most influential link in the chain

BADGE	PRODUCT	£	COMMENTS	COM	COM	DRIVE	DRIVE	DRIVE	DRIVE	DRIVE	DRIVE
UP TO £1,000											
	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 and a sweet treble, but less happy bass alignment in test room		162,326,26.5		A	40	●		310
	ATC SCM11	867	A very fine little speaker that's at its best with natural recordings where it adds little and reveals much		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, with 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, this floorstander 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, but rewards you with impressively transparent and obsessively detailed sound		19,100,33	●	A	37	●		271
	Dynaudio DM 2/10	880	Unfashionably bulky standmount 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, overall balance with 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 marks it out from the crowd and 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 a high-quality stereo design which is easy to drive		20,36,27		A-	40	●		284
	PMC DB11	895	Could be more neutral, but a very effective musical communicator with fine warmth and sweet treble		15.5,29,23.4		A+	30	●	●	310
	ProAc Tablette Ref Eight	704	Stunning standmount with electrostatic-like imagery. Its brother costs £200 more and is even better!		15,27,23		A+	40	●		267
	Q Acoustics 1010	110	Neatly styled miniature has limited bass and power handling, but fine midband voicing for the price		15,21.5,19.5		A	48	●	●	286
	Q Acoustics 1020i	140	Outstanding value, the smooth, well-balanced and lively sound makes for 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, most importantly, great fun		192,31.5,24.8		A+	65	●	●	309
	Spendor S3/5R	750	Lacks dynamic muscle and loudness potential, but lovely smooth neutrality and good bass extension		16.5,30.5,190			25	●	●	310
	Tannoy Revolution DC4T	599	Ultra-compact floorstander that lacks bass weight and dynamic tension, but sounds open and coherent	/488857	15,85,16	●		40	●	●	316
	Tannoy Revolution DC6	900	Pretty compact standmount likes wall loading, delivering a lively bass and smooth, coherent midband		23,36.5,23		A	40	●	●	307
	Wharfedale Diamond 9.1	150	Superior shape and finish at an exceptionally sharp price. Sound is laid back, but free from boxiness		19.5,30,28		A-	45	●	●	307
	Wharfedale Diamond 10.5	480	Despite the low price, the 10.5 ticks many of the boxes, with superior voice band coherence	/636778	22,88,30	●	A-	50	●	●	326
ABOVE £1,000											
	AE Energy Radiance 3	1,500	This speaker's very effective enclosure ensures a wide dynamic range and a very clean sound	/587236	23,92,29.7	●	A	27	●	●	320
	Amphion Argon2 Anniversary	1,200	Notably superior coherence and focus, fine neutrality and dynamic range with low coloration		19,38,31		A-	24	●	●	317
	Amphion Helium 520	1,000	Sharp styling and fine value for money with excellent voice-band coherence		16,104,22	●		28	●	●	314
	Amphion Argon 3L	2,300	Very solid build ensures an impressively clean sound with loads of bass and fine neutrality		19,92.5,30.5	●		26	●	●	322
	ALR Jordan Classic 5	1,550	Slim, laid-back floorstander has sweet sound with fine coherence, imaging and dynamic range		17,99,26	●	A	28	●	●	275
	ALR Jordan Note 3	1,950	Adjustable ABR gives much of the weight of a floorstander with the agility of a standmount		24.5,37,31.5		A	26	●	●	288
	ATC SCM19	1,534	Super-linear motor system and heavy-weight construction makes the ATC a pro favourite		22,44,31.5		A-	54	●	●	285
	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
	Auroral VS	1,650	The fine coherence and imaging of a single driver system, plus 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 805S	1,950	Classy standmount with excellent coherence and imaging. Can sound laid back, but a real delight		24,39,33		A	25	●	●	271
	Cabasse MC40 Java	1,360	This large and handsome speaker has a notably smooth and evenhanded neutrality		25,110,35	●	A	20	●	●	325
	Cabasse Bora	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354	33,27,50		A	52	●	●	324
	Dynaudio Focus 220	2,630	Cleverly tapered floorstander has a brilliantly smooth, neutral balance and very sweet treble		20.5,98,29.5	●	A-	20	●	●	281
	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 of the qualities associated with Focal's high-end models more competitive		99.8,28.2,37.5	●	A+	39	●	●	308
	Focal Chorus 836V	1,699	Bulky, sharply priced three-way could be prettier, but has good bass with genuine grip		28,115,38	●	A	28	●	●	290
	Focal Electra 1027 Be	4,399	Outstanding mid and top with fine delicacy and low coloration, but lacks some bass grip and drive		26.5,111,35	●	A-	25	●	●	276
	Free FS1	3,500	An elegant design for anyone after the minimum of wiring. Wireless with Sonos or Airport Express		16,87,27	●	ACT	35	●	●	301
	Gamut Phi5	3,040	Lovely and discreet floorstander has excellent sound and several very clever engineering touches		17,100,24	●		20	●	●	305

BEST BUY EDITOR'S CHOICE

STEREO SPEAKERS *continued*

BADGE	PRODUCT	£	COMMENTS	FLOOR	W,H,D (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	NUMBER
ABOVE £1,000											
	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, it offers a powerful bass and open midrange	/498515	44,118,9,7	●	A	30	●		317
	Kudos Cardea C1	1,450	A very pretty compact standmount with a delightfully subtle and delicate sound quality		20,35,27		A	40			304
	Kudos Cardea C2	1,950	This floorstander is a fine all-round performer with fine voicing and neutrality		20,92,5,27	●		23	●		322
	Kudos Cardea C30	5,250	An absolute honey that fully justifies its hefty pricetag, lacking only a little dynamic tension	/394973	20,112,27	●		22	●		310
	Magico V2	18,000	High pricing derives from this speaker's superb, painstaking engineering and impressive performance	/624700	25,5,115,30	●	A	32	●		325
	Mission 796	1,300	Clean, open and detailed, this 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
	Monopulse 82	2,495	Could be more neutral, but excellent coherence, lively dynamics and fine imaging		27,110,25	●	A-	20	●		281
	Monitor Audio PL300	6,000	New level of sophistication from a manufacturer best known for mainstream, cost-effective designs		41,111,47	●	A-	28	●		301
	Mordaunt-Short Perf 6 LE	4,799	Striking moulded enclosure minimises coloration, while overall balance is smooth, neutral and open		24,115,43	●	A	22	●		308
	Neat Momentum 3i	1,790	Sounds a lot bigger than it looks, with good coherence and an impressively wide dynamic range		22,38,27		A-	23	●		302
	Opera Callas	3,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	/429144	23,37,5,34			32	●		311
	Opera Seconda	1,995	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth		24,102,5,31,5	●	A	20	●		314
	Pioneer S-2EX-W	5,200	This speaker offers superb midband neutrality and exceptional clarity	/587272	29,156,5,42,5	●	A	37	●		320
	PMC FB1i	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	/429594	20,100,30	●		20	●		322
	PMC OB1i	3,600	This floorstander delivers a smooth overall balance with wide bandwidth and dynamic range	/429697	20,102,5,32,5	●	A	20	●		311
	PMC fact. 8	4,600	Beautiful styling, alongside a superb all-round sound quality with a notable 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	33,74,46,5	●	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 M22	1,800	A remarkably clean and revealing speaker with superb tonal and microdynamic capabilities		22,37,30		A-	48	●	●	274
	Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound		22,105,39	●	A	20	●		256
	Roksan Caspian FR-5	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25	●	A	22	●		290
	Ruark Talisman III	1,499	No bass demon, but a sophisticated and agile speaker epitomising Ruark's design ideals		22,84,31	●	A	22	●		259
	Sonus faber Luito Monitor	1,690	A subtly designed, elegant-sounding package that's hard to beat, especially with good recordings	/603221	18,5,35,33,5		A-	55	●		322
	Sonus faber Minima Vintage	2,490	Easy, graceful-sounding compact is 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 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
	Totem Model 1 Signature	1,975	Expensive, but very seductive miniature delivers a beautifully smooth and balanced midband		17,31,23		A	35	●		277
	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
	Usher Compass CP-6381	2,500	Lots of speaker for your money, with plenty of deep bass, unusual styling and massive build		35,127,65		A	20	●		270
	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 standmount with a beautiful balance that always sounds lively, open and involving		22,38,35		A	28	●		296
	Zu Essence	3,750	Sheer realism and fine communication skills are more than fair 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).



Amphion Ion L £900

A great-looking loudspeaker that also boasts a superb mid/treble coherence and a super-sweet treble, some experimentation with positioning will reap rewards



Mission 796 £1,300

Mission's 796 is a great choice for audiophiles looking for a clean, open and detailed sound with classic Mission aesthetics and great build quality



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



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CHORD Crimson Interconnect 0.5M



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SOUND AND VISION
★★★★★
February 2008

RRP £35.00
Our Price
£31.50

Chord Epic Twin Speaker Cable



RRP £39.00/M
Our Price
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Chord Chameleon Silver Interconnect 0.5M



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TACIMA CS929 Mains Cleaner



WHAT HI-FI?
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 **BEST BUY**  **EDITOR'S CHOICE**

EQUIPMENT SUPPORTS






Hi-fi equipment supports come in all shapes and sizes

BADGE	PRODUCT	£	COMMENTS
	Atacama Equinox	409	Stable, modular design with style and excellent bass transients
	Audiophile Base Std Supp't	1,200	Expensive and quite bulky, but sound is unusually detailed and resonance-free
	Aurios Classic Bearing feet	230	A widely versatile set of three isolation feet for most hi-fi kit, except suspended turntables
	Custom Design Inert Matt	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal
	Custom Design Milan	509	Good-looking stand with nothing more to complain of than slight muddying of detail
	Hi-Fi Racks Podium	500	A keenly priced piece of high-class furniture that also happens to sound great
	Isonoe Isolation feet	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables
	Partington Minim	470	Adds its own character to rock, but to the detriment of acoustic sounds
	Quadraspire QX25 Support	25	Beautifully simple design, cheap and easy to use. Excellent with CD players
	Russ Andrews Torlyte Platform	146	This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice
	Townshend VSSS	1,380	This attractive Seismic Sink retains the same excellent vibration-killing sound quality

SPECIFICATIONS					
HEIGHT (CM)	TOP PLATE SIZE (CM)	WELDED	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER
81	50,50	●	4	Glass	217
57	46,35	●	3	MDF	302
				Metal	302
	40x25			Metal	311
	60,42		4	Glass	293
57	48,39		4	Glass	302
	59,5			Wood	320
				Alloy	327
78	45,37	●	5	Glass	302
				Acrylic	327
8	48,36		1	Torlyte	302
68	54,49		4	Torlyte	240
76	35,50		4	Glass	273

SPEAKER STANDS

Not all stands are made equal – try one of our top buys

BADGE	PRODUCT	£	COMMENTS
	Anvil Sound Display Stand	229	A variety of smart looks available – sound is clear and precise
	Custom Design SQ402	100	More of a range than a model. Capable of fine results, especially with Acoustic Steel top plates
	Custom Design RS300	110	An attractive stand whose lack of coloration suits it to high-resolution systems
	Custom Design SQ404	220	Robust four-pillar design gives very low coloration and maximises performance
	Partington Ansa 60	119	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent
	Partington Dreadnought BS	299	Sound is better defined in almost all areas than cheaper, slimmer stands can offer
	Partington Heavi II	499	Robust to the /nth degree, this stand helps produce very precise bass and upper frequencies

SPECIFICATIONS					
HEIGHT (CM)	TOP PLATE SIZE (CM)	FILLABLE	WELDED	NUMBER OF LEGS	ISSUE NUMBER
50	20,17	●		1	293
62	18,16,5	●		2	299
56	16,5,18	●		1	281
61	18,16,3	●		4	283
62	18,15	●		4	232
62	17,23	●		5	309
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.



Quadraspire QX25 Support £25
Fashioned from two identical pieces of acrylic sheet that slide together, these feet create a very impressive degree of isolation, particularly for CD players



Partington Dreadnought BS £300
Probably the best speaker stand you can buy for the money – heavily engineered and backed up with sound theory, this mass-fillable stand is a top recommendation



Townshend VSSS £1,380
Although not cheap, Max Townshend's skillfully engineered rack nears perfection in terms of equipment isolation, diminishing returns kicks in if spending more

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Analogue

Acos Lustre, excellent Japanese tonearm
ADC ALT1, excellent
Ariston RD80, ex condition
Art Audio Phono SE mm/mc special edition nr mint!
Basis 2200 Signature, Vector 4, Clamp c 58k new
Benz Micro Gilder, excellent low hours
Bill Beard Phono Stage, mm/mc switchable
Clearaudio Master Solution c/v Unity tonearm
Garrard 401 & SME3009, excellent
Graham 2.2 Tonearm, nr mint boxed
Graham Phantom, ex demo, excellent boxed
Icon Audio PS1.2 with valve upgrades
Kostus Urushi, mint
Linn LP12, Ekos, Lingo in Rosewood boxed superb
Linn Ekos 2, excellent boxed
Linn Ekos, excellent
Michell Electronic Reference (no arm, SME cut)
Michell Gyro SE, excellent boxed no arm
NAD 533 Turntable (Planar 2), RB250, Goldring Elektra
Naim Stageline S, excellent
Ortofon Kontrapunkt B, new
Pink Triangle PT Too, Linn cut armboard, excellent
Project Experience, excellent boxed, due in
Rege P3, in green
Rege RB3000 Upgraded wiring etc
Roksan Xerxes & Tabriz ZI, excellent
Roksan TMS1 & DSU superb boxed, recent TM service
Roksan Xerxes 20/PS7 as new, used
Systemdek II (biscuit tin), c/v Linn LVX arm, vgc
Technics SL1200 excellent
Technics SL1210mk2, various from
Tom Evans Microgroove plus (upgraded ISO), as new
Wilson Benesch Act 1 Tonearm, nr mint superb

Radio/Recorders

Arcam DT26, excellent boxed
Nakamichi CD2 recent importer service
Quad FM4, excellent
Quad FM3, excellent
Yamaha CT70

Digital

Arcam Alpha 9, remote, excellent condition
Arcam CD17, nr mint boxed
Audiolab 8000CD original version black
Audiolab 8000CD new version 6 months old black
Audiolab 8000CD/8000DAX, vgc with remote
Audio Research CD7, mint boxed in silver
AVI Lab Series CD player, as new boxed
Chord Chordette Gem, as new boxed
Chord DAC64, excellent boxed to clear
Creek Evo CD, excellent boxed, REDUCED
Cyrus DAX, excellent black boxed
Cyrus CDS, excellent black boxed
DPA Little Bit DAC, cool!
Esoteric UX1, nr mint boxed, absolutely stunning
Marantz SA1, boxed recent new laser
Marantz CD94/DAS4 combo excellent boxed
Musical Fidelity XDACv3, nr mint boxed
Musical Fidelity XRay, excellent, remote, box
Musical Fidelity Tubalog! Rare as...
Naim CD3, excellent
Naim CD32/CDPS, new laser this year
Naim CD2, excellent boxed
Naim CDX2, excellent boxed 2006/2007 MODEL
Naim CDS1, excellent boxed
Pathos Digi!, superb boxed
Shanling CDT100, excellent boxed original UK model
Shanling CDT200, excellent boxed newer model
Sony SACD33ES, excellent boxed
Stello CDT200/DP250 Transport and DAC Preamp mint
Tag McLaren CD20R, excellent boxed
TEAC P7000/7000 excellent boxed 1/2 size pair
Theta DS Pro Gen 3
Unison Research Unico CDP, excellent boxed

AV/Accessories/Cables

Cyrus PSXR, vgc
Musical Fidelity XPSUv3, X10v3 and XLPv3
NAD755 and TS15 AV Amp and DVD - BARGAIN
Naim XPS, Supercap, Hicap, Flatcap
PS Audio Quintessence ex demo

Amplifiers

Accuphase A30 Power amp, excellent
Air Tight ATM-1s, excellent boxed
Arcam A28, nr mint boxed in black
ATC SPA2150 Power, excellent boxed
Audiolab 8000P, black UK built version
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Audiolab 8000C&P grey versions excellent boxed
Audiolab 8000A, excellent
Audiolab 8000Q, excellent in black
Audio Research VS110, excellent boxed
Audio Research SP11mk2, 2009 AS service
Audio Synthesis Desire power amplifier
Bryston BP26, due in
Conrad Johnson PV15/MV60SE pre/power boxed
Creek Evolution Integrated, nr mint boxed
Croft Apparition Elite & Epoch Elite Pre/Power, lovely
Cyrus 2 & PSX, lovely order
Cyrus 6V52, excellent boxed
DPS200/DPA200S Pre and Power
EAR 834L, decant little valve line preamp
Gamut D150, superb boxed
Linn Wakonda, nr mint boxed,
Meridian 501/555, excellent with manuals & remote
Musical Fidelity XA100r, excellent boxed
Musical Fidelity F19, excellent boxed
Naim Supercap, excellent boxed
Naim Supercap, ex demo
Naim NAC82 boxed
Naim NAP250.2, excellent boxed
Naim NAC202 excellent boxed
Naim NAC252, as new boxed
Nakamichi CA7a Preamp, v good, flexible and rare
Pioneer A400X, excellent boxed
Puresound 2A3, ex demo boxed
Quad 44 Preamp, 405 Power amps NOW from
Quad 606, due in
Rege Brio 2000, excellent
Roksan Caspian M Series Monoblocks, as new
Rotel RC06 & RB08 Pre/power mint boxed
Sugden A21SE nr mint boxed
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Unison Research Preludio, ex demo nr mint boxed

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Loudspeakers

Avi Neutron IV, excellent ex demo units boxed
Castle Kendal in mahogany
Castle Harlech, vgc
Dynaudio Contour 1.3mk2 excellent boxed
Dynaudio Audience 62 Floorstanders nr mint bargain
Focal JMLab 1007Be, due in
Griffin, any products by this company wanted!
Kef Reference 4.2 nr mint boxed in extra cost finish
Kef Reference 103.3 due in
Linn Kan 2, excellent with stands
Linn Akurate 212, excellent boxed with matching stands
Martin Logan Purity, ex demo, for details
Martin Logan Vantage, superb
Monitor Audio GSW12 Gold series Subwoofer, excellent
Monitor Audio MA1800 Gold, large floorstander, bargain
Monitor Audio RS8, excellent boxed
Monitor Audio RS1, vgc boxed
Monitor Audio RS6, vgc boxed
Monitor Audio RSFX and RSLCR, ex demo
Naim Intro, Black ash boxed vgc
Pensado Rebel 2 and Chars subs in cherry
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PSB Alpha Tower, brand new sealed box bargain!
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Rege R55 in Cherry, mint boxed ex demo
Rege R3 excellent in maple
Revel Performa F32, excellent boxed, serious value
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Second-hand guide

Headphone amps can enhance your listening pleasure and they needn't cost a fortune...

If you're a headphone fan, who doesn't have a phone socket on your amp, or who requires something a little more revealing, then a separate headphone amp makes sense. Headphone amplifiers generally have straightforward circuitry and few moving parts. Here are four that we reckon are well worth a look.

One of the most long-running here is the Musical Fidelity X-CAN. Although the X-CAN V8P is still available new, it's the earlier V1, V2 and V3 versions we're looking at here.

Launched in the mid-nineties, the first three X-CANs are similar in that they all offer Class-A amplification via twin ECC88 valves. The first and second versions were housed in Musical Fidelity's characteristic tube casing, while the V3 came in a more conventional case. All are still serviceable by MF and can even be upgraded for around £170. You can pay a lot less than this from other companies, but expect nothing more than a bag of capacitors and diodes for your £40 or so.

If you're buying a modified example, then check it has a certificate of modification from Musical Fidelity or, if it's a DIY job, that the soldering has been done properly. While you're checking the board, also ensure sure it isn't cracked; the tube-shaped casing has been known to slip out of peoples' hands!

When replacing valves it's always worth buying a matched pair. Basic valves start from around £10 with some top-notch NOS valves costing around £25 a pair. An early X-CAN V1 for around £70 is the best bargain, with the V2 edging into three figures and the V3 costing up to £200. Sonic differences between the three aren't massive, however.



(Top) The budget-priced Creek OBH-21 SE and (below) the latest SRG-spec Solo from Graham Slee

Another headphone amp that's been through quite a few transformations is the Graham Slee Solo. Launched in 2000, the Slee Solo has always been a popular choice with those driving inefficient headphones. It's also a more dynamic performer than the X-CANs, if not quite so smooth. The first update came in 2004 and swapped the original black casing for a silver, metal-fronted one that's still used today. The next mainstream upgrade came with the Solo 2007 and featured improved ground tracking and superior components.

Between these models came the Solo 'Green'. This 100 edition special used an energy-efficient power supply and was the early pilot for the current SRG model, launched in late 2008. The Solo SRG can also be called the MkIII in case you were wondering.

As all the Solos since 2004 look very similar, it's worth seeing an original invoice or contacting Graham Slee with the original invoice if you're at all unsure. The original two-year guarantee is non-transferable, but GSP

“You won't be surprised that the Grado is at its best with Grado headphones. The Slee Solo really sings with Sennheisers.”

told us they get less than one per cent back and even then it's usually a case of a modification gone wrong.

As with the others, bodged upgrades are the major source of concern. If you fancy the latest SRG II spec, any post-2004 model can be upgraded for around £250. Solo's hold their value exceptionally well and, as such, even original models can sell for up to £200. Later models cost a little extra.

The Grado RA-1 has two unique features in this company. First off, rather than using a traditional metal casing, the RA-1 is formed of a piece of hollowed-out mahogany. Secondly, it takes its power from a pair of rechargeable nine-volt batteries. These give around 40-50 hours use before needing a recharge. Battery power may seem odd but it has several advantages. Obviously it makes the amp portable for serious listening on the move. Battery power is also free from the many compromises imposed by mains power supplies.

As you'd expect, the RA-1 is designed to work at its optimum with Grado headphones.



The distinctive-looking Grado RA-1 has a chassis that is formed from a piece of hollowed-out mahogany

These are all low impedance, so if you're planning on using any with an impedance of over 100 ohms you'll need to look for the RA-1 HC (High Gain) model or, perhaps, at one of the other three. A simple circuit and no mains transformer make this a very reliable product with no major issues to look for. With the RA-1 being a little more specialised than the others, it offers better value second-hand. We saw a perfect, three-year-old model sell for just over £200.

At £280 new, the Creek OBH-21 SE is cheaper than the others here, yet is closer in performance than you might think. The reason

is that the SE version features a number of high-quality components to rival the others. Op-amps, DC coupling and an ALPS Blue Velvet volume potentiometer make this an extremely competitive design. Unlike the others it has two headphone outputs. They are set to different impedances, allowing a better match for different headphones.

In terms of sound quality, the OBH-21 SE is very smooth, if not as punchy or dynamic as the Slee Solo. Like the others, the OBH-21 SE should prove to be very reliable. We saw ex-demo units for just under £200 and a one-year-old model for £160.

You won't be surprised to hear that the Grado is at its best with Grado headphones. The Slee Solo really sings with Sennheisers. If, on the other hand, you've a rather bright pair of headphones, the X-CANs or OBH-21 SEs could be better. One thing that is for sure, they'll all bring about huge improvements on an amplifier standard output. **HFC**

Dominic Todd

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FOR SALE

PMC IB1 speakers with stands, £1,500. Conrad Johnson Premier 17LS preamp, with new valves, £1,695. Arcam DT91 tuner, £400. All immaculate condition. 01582 460512 (Herts).

UNISON RESEARCH Unico R, FM/RDS/AM valve tuner, absolute bargain (£1,275) £450. Mint and boxed. Spare remote controls for Quad 99 and Primare CD110 systems. Offers? 023 8073 8935 (Southampton).

ATACAMA Equinox three-shelf hi-fi rack, boxed and unused, black, £195. Buyer collects. 01986 894424 (East Anglia).

NAIM 150X, excellent condition, £475. Croft Micro 25 preamp, one month old (£800) £400. 07716 139026 (N. Ireland).

PS AUDIO Power Plant Premier. Award-winning AC mains regenerator that converts poor incoming AC to pure 230V AC. New, boxed, upgraded model. This is not a passive filter, but a mains waveform re-builder. (£2,000) £1,300 ono. 07859388167 (London).

MUSICAL FIDELITY NuVista 3D CD player, mint condition with all accessories, box and packaging. One careful owner, very low serial number. (£3,000) £1,350 ono. 01303 863 424 (Kent).

SME 4 tonearm cable, inc SME Din. LFD Spirolink 2 & 3 interconnects, three LFD mains cables. VDH 501 MCD Interconnect. Michell Hera power supply. All Mint Condition. 07870 912 963 or stuardarshan67@googlemail.com (Bedfordshire).

THIEL CS2.4 loudspeakers, eight months old, immaculate condition. Natural cherrywood finish, incredibly neutral and dynamic. New (£3,899) £2,000. Tel: 01296 437314 (Bucks).

MODWRIGHT SWL 9.0SE (Sig) valve preamplifier with remote control, one-year old, immaculate, with box, etc. Stunning sound quality. New, (£2,500) £1,500. 01296 437314 (Bucks).

LINN Ekos Mk1 tonearm on Linn armboard, excellent condition, £650 inc postage. Linn armboard for Rega RB300 arm, £25 inc postage. 01925 470619 (Cheshire).

ROTEL RCD820B £90.00 no P&P. 01606 784767 (Cheshire).

YAMAHA AX 592 amplifier and Mission 751 loudspeakers/Atacama SE 24 stands, all good condition. Will exchange for a Musical Fidelity XDACv3 (must be in good working order, no marks). 01924314383 (West Yorkshire).

GOLDRING Lenco GL75: Classic turntable in original box, mint condition. Goldring Lenco arm and teak plinth. Cartridge included. £75. 01442 384346 (Herts).

RUSS ANDREWS Yellow Power mains leads, original model, 3x 1.5 metres £30. Yellow Power four-way mains extension, two metre £20. 01483 891925 (Surrey).

KEF XQ1 in silver. Matching stands. Excellent condition, as new. Genuine reason for sale. £500 ono. 07766 078281 (London).

DNM Reson speaker cable, original solid core cut to your



Above: Arcam A90

required length £5 per metre. 0131 346 1833 (Edinburgh).

NAIM CDX2 CD player (later VAM1202 model), mint condition, boxed (£3,250) £1,700. Totem Mani-2 Signature incl. stands. Maple, mint, boxed. (£4,800) £2,400. 07768 811275 or email frank@kinnie.freesevice.co.uk (Reading).

KEF Reference 105.3 loudspeakers in black ash. Very good condition, £700. 2x4m original Hitachi LC-OFC speaker cable (bi-wire), £50. 01949 876957 (Notts).

MISSION 774 pick-up arm, black £65, on Linn LP12 arm board if required, £15. Mordaunt-Short MS20i Pearl standmount speakers (black) £50. Partington speaker stands (silver) £50. 020 8464 9055 (Bromley, SE London).

TECHNICS SL-1500 TT, £90. Pro-Ject Debut 2, Phono, Speedbox, 78 adapter, £120. Goodmans Maxim speakers,

£30. Hi-Fi Answers 1975, complete, £25. Technics SL-P770 CD player £65. 01708 457691 (Essex).

MARANTZ CD6002 CD player and Marantz PM6002 amp. As new, in silver, £250 both or £135 each. Cambridge Audio 740A Azur amp, as new, £350 ono. 07970 115378 (South Glos).

TEAC Reference 300 system with DAB tuner, £320. Sony Scala system receiver, CD player and tape deck, £170. Excellent condition, boxed. 07900 866232 (Yorkshire).

ARCAM Alpha 10 power amp, manual and original box, £400. Alpha 10 DAB tuner, remote and manual, £350. Alpha 8 FM tuner, remote, manual and original box, £60. All in excellent condition. Can demo. 01685 878824 (Aberdare). ▣

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!

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PIONEER RT707 reel-to-reel tape recorder. Carefully stored, recently checked and all working. Comes with 20x seven-inch reeled tapes, little used. Buyer collects from North Hampshire, GU14. £250 or swap for a Audiolab power amp. Further details 01252 513048 (Farnborough).

THE CHORD COMPANY

Chameleon silver plus interconnect, one metre (£125) £60. Chord Co. Cobra 3, one metre (£60) £30. All boxed, as new. 01384 412234 or email leet2009@hotmail.co.uk (West Midlands).

PLINIUS Koru phono preamp. Silver, six months old, mint condition. RCA/XLR balanced outputs. Fully adjustable loading via external dip switches £1,100. 020 8898 3383 (S London).

ARCAM CD73T CD player (silver), original box with manual, remote, immaculate. (£450) £180 posted. 01384 412234 or email leet2009@hotmail.co.uk (West Midlands).

ARCAM FMJ A32 amplifier (£1,200) £700. Arcam CD93T CD player (£900) £375. Both mint and boxed with all original accessories. 07966 057648, (Dorset).

NAIM CD5x CD player, 122x preamp, 150x power amp, Stageline MM phono stage, A5 2.7m speaker cable, Rega P3 turntable, Neat Motive 2 speakers (Rosenut). As new, mint. £2,100 the lot. 07725 199 071 (Cheshire).

ELAC fs207.2 speakers, cherry finish, mint condition (£995) £425. Boxes and manuals. Could deliver, within reason. 02920 419226, or email frank8ush@ntlworld.com (South Glamorgan).

ARCAM AVR 250 receiver, (silver), Monitor Audio BR2 speakers (cherry), Monitor Audio (bronze), Atacama Nexus 5 speaker stands (graphite). All in excellent condition £300. 01924 365942 (West Yorks).

MICHELL Hera power supply for Iso/Agro amplifiers. Gyrodec platter upgrades and rare Gyro Blue base, LFD Spirolink 2 interconnects and LFD power cables. 07870 912 963, or email stuartdarshan67@googlemail.com (Bedfordshire).

MARANTZ PM7200, Marantz CD7300 (gold), Marantz PM 7001 (silver), Arcam CD72 (black), all boxed with manuals. Reasonable offers considered 01933 626185 (Northants).

MORDAUNT-SHORT Performance 860 floorstanding speakers (piano black). These received excellent reviews, (can email reviews and photos). (£1,900) £550. Excellent condition. 01424 446282. (Sussex).

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CDM 1NT, standmount speakers in Cherrywood finish. In good condition with original packing and manual. £300. 07775 540362 (Cambridgeshire).

ONIX BWD-1, very rare FM tuner with Onix SOAP power supply. Collector's classic, first-class condition, working perfectly, great performer. £350. 01707 657801 (Hertfordshire).

LINN Komponent 110 floorstanders in silver, two years old. Also Komponent 120 subwoofer. (£1,600) £400. 01777 711386. (Notts).

MUSICAL FIDELITY E100 amplifier. E600 CD player E500, FM tuner. Owned from new. All in perfect working order and excellent condition (one small nick on CD). Gloss black, well reviewed. Plus vdH leads, system and individual remotes. Boxed. (£1,800) £599. 07961 023253 (North Kent).

MARANTZ SA11-S2 CD/SACD player with warranty, box and manual, £2,300. Shunyata Hydra 2 mains conditioner £275. Shunyata Diamondback mains cable £100. 07810 434589 (Surrey).

ROKSAN Caspian M-Series 1 CD player. Little used, excellent condition £499. Chord Co chameleon silver plus cables, 2x one metre pair £45 each. 07729 600847 (Sussex).

CLEARAUDIO Emotion, in pristine condition, with original box. Includes Satisfy tonearm and Aurum Alpha cartridge

in need of retipping. £400. 07905 307131 (London).

ISOTEK NeoPlug mains cleaner, new, £15. Cambridge Audio Pacific, one metre interconnect in packaging, £10. Sony STS3il FM/AM, boxed, £20. 01766 781211 (Gwynedd).

NAD cassette player 6240, immaculate condition, hardly used, £50, plus postage. 01269 595271 (Carmarthenshire).

REGA R5 loudspeaker (piano black) good condition: £440. 2x Cambridge P500 power amps, 50 watts: £150. Ixos bi-wire speaker cable 2x three metres £25. 0161902 0719 (Manchester).

STAX SR-202 Lambda basic headphones, including SRM-252 driver unit, mint and boxed, £200. Creek OBH-21SE headphone amplifier, hardly used, some warranty: £100. 07818 658722 (Warks).

QUAD ESL-2805 electrostatic loudspeakers, brand new, factory-sealed boxes, £3,250. 07745 995179 (Milton Keynes).

CAMBRIDGE AUDIO 640C CD player, 3.5-year guarantee (£230) £120. Monitor Audio Bronze 2 loudspeaker (£200) £90. Pro-Ject Debut turntable, £40. Buyer collects. Email richardjsugg@yahoo.co.uk. (Cardiff).

OPERA Seconda loudspeaker, cherry/black leather £875. Unison Research FM/AM Unico R valve tuner £575. Mint and boxed. 02380 738935 (Hants).

PIONEER PD 6700 CD player, black, £50. Nakamichi 680 ZX 3 Head twin-speed cassette deck, £150. SME 3009 Mk2 ten-inch detachable headshell tonearm, £20. SME armboard for Linn Sondek LP 12 turntable, £5. 01228 544376 (Cumbria).

NYTECH CTA252XD Mk 2 receiver, mint and boxed, £85. Acoustic Energy Aegis One loudspeaker, immaculate, £50. 01922 453931 (Walsall).

ROKSAN Artemiz tonearm cable upgrades, Linn/SME, £110. New Sound Dead steel turntable mat, £59. Benz Micro MC20SL, £90. Rega Elys MM, £45. 01243 863371 (West Sussex).

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