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#### lon L

September 2008
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December 2008
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lively and essentially neutral,
with superior musical
communication skills"



#### Argon<sup>2</sup> Anniversary

March 2009 "Does precisely what a good standmount should."



#### Argon3L

August 2009 "Smooth, clean, neutral and very well controlled, with a wide dynamic range"

# WELCOME...

#### HI-FICHOICE DECEMBER 2009 ISSUE 32

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



The future of audio isn't looking too bad from where we sit in *Hi-Fi Choice* towers. In the past month, as we slowly built the issue, we've seen a number of encouraging products from all corners of the audio sector. Innovative products. Futuristic products. And those that will no doubt switch a new generation on to high-quality audio. Our National Audio show report starting on

page 14, gives an insight into what will be available as we move into 2010, our page 9 news story reveals more on Pure's revolutionary touchsreen DAB/FM/Internet radio and our cover star, PMC's fact 8 speaker, gives us a glimpse of what all speakers could be packing in the future to combat the problem of room acoustics. If the ultimate in audio perfection is your goal, then HFC is here to help.

# 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 curently 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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web:

www.jordanacoustics.co.uk

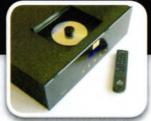


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Lastly and just as important, you have a choice of the finest handmade cables to lock your system together in complete harmony









#### **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-ineverything 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."

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, nigh on perfect, while well-recorded bass drum kicks were reproduced with a vividly detailed sensation of pedal, hammer and skin in motion."



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Ken Kessler, Hi-Fi News Sept 09





#### 30-day money back on the NEW Aquarius\*

IsoTek's legendary, multi-award-winning Mini Sub has set the standard for power conditioning components since the original was launched in 2002. Now, in 2009, a new benchmark conditioner has arrived: the IsoTek® Aquarius.

**Aquarius** succeeds the **GII Mini Sub** in **IsoTek's® range**, incorporating the very latest innovations to deliver an exceptional performance, with

an exceptionally attractive price tag. It improves upon the GII Mini Sub's current delivery, with a full 16 amps to its two high-current outlets, allowing for unlimited transients thanks to its thermo-magnetic fusing and 16A IEC C20 connector. The four medium-current outlets are now fused using a high-quality, user-replaceable bayonet fuse holder Aquarius also delivers greater instantaneous protection (67,500 amps), and greatly improved independent filter stages throughout.

Aquarius will auto-sense the load of each component connected to it, thus tailoring the filtering process to suit the component. It all adds up to a power conditioner with a performance that is unprecedented at its price point. Call Jordan Acoustics to order yours today.



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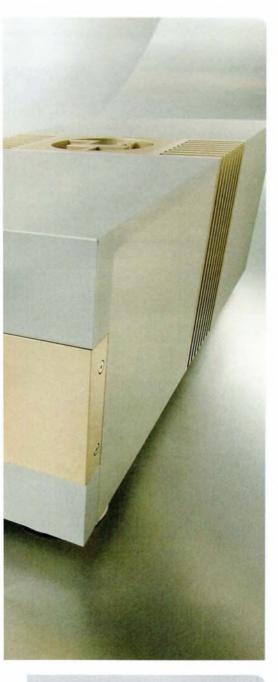


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### **PURE SENSIA** .::

#### New touchscreen device will revolutionise radio

British firm PURE believes the future of audio lies in the hands of the Facebook generation and has pursued the theme of increasing integration in its Sensia 'visual radio'. Contained within the eye-catching chassis is a DAB/DAB+ and FM tuner, an internet radio, a media streamer and a large full-colour touchscreen. This 5.7-inch interface has a resolution of 640 by 480 pixels which responds to tapping and swiping to change views (full-screen or multi-panel), select items, move sliding controls and scroll or spin lists. Going beyond the purely audio, PURE has included a range of 'apps', which allow users to access sites such as Picasa, Facebook and Twitter, alongside info on weather and news (although there is as yet no fully featured browser built into the Sensia).

Through its wi-fi connection, the Sensia is able to display lists of internet radio stations, or information on the music it's streaming from a PC or networked storage device. As with the award-winning Flow range, the

Sensia connects to The PURE Lounge, the company's own radio and media portal, which acts as an index to internet audio content and provides a place where users can register their radio as well as save and organise favourites.

Whether it's connected to the mains or running from the optional ChargePAK rechargeable power unit, the Sensia provides 30 watts RMS of output power, an input for an iPod/MP3 player, a headphone socket and an alarm/timer. An RF remote control permits operation without line-of-sight signalling and is coloured to match the four colours of the Sensia: red, yellow, black and white. The final touch is a moulded stand, which allows the user to angle the radio to achieve the optimal display viewing angle.

Check out a bespoke microsite for the radio at www.touchmyradio.com, which includes a 3D interactive overview and a virtual guide.

**Price:** £250 **Due:** December **2** 0845 1489001 **3** www.pure.com







#### NAD M2

The result of collaborative research and development between NAD and British semi-conductor company Diodes Zetex, the M2 takes an unusual technical approach to digital amplification.

After being disappointed by the sound of typical well-engineered class D amplifiers, NAD's quest for true high-fidelity, high-efficiency circuitry led it instead to a prototype produced by Zetex, which employs their Direct Digital Feedback system. Initial tests proved promising, but further modification and refinement, particularly in the area of feedback, led to a design which combines a true digital input stage with a 35-bit DSP to handle filtering and volume control. 35 bits provide sufficient headroom, that a 24-bit input signal can be handled by the volume control at -66dB without any loss of resolution. After noise-shaping, the signal passes to the critical modulator, which turns the PCM signal into a PWM one to create the switching output (for more info on PWM, see this month's *Big In Japan* feature).

NAD and Diodes Zetex claim their implementation of the M2's feedback represents a step forward in optimising the amp's performance for ultra-low noise and high-resolution. In the M2, a PWM error signal is generated by comparing the output of the PWM switching power stage to a reference PWM signal. This error signal is then digitised at 108MHz for processing to compensate subsequent modulation cycles.

The end result is an amplifier rated at 250 watts per channel into both eight and four ohms, with a 124dB signal-to-noise ratio. It's capable of accepting digital input signals with sampling rates from 32kHz up to 192kHz through AES/EBU, coaxial and optical connections. The M2's ADC means it can also accept analogue signals in both single-ended and balanced formats.

Price: £5,000 Due: now 2 01279 501111 # www.nadelectronics.com

#### **BLADELIUS YMER** ···

Based on lessons learned from the construction of the Beowulf monoblocs, Bladelius' new Ymer stereo power amp (pictured) has been built by the Swedish company to drive even the toughest of loudspeaker loads. With its twin 2,000VA toroidal transformers, the fully balanced amp delivers 300 watts per channel into eight ohms.

Another new arrival is the line-level £4,900 Saga preamp, with two pairs each of single-ended and fully balanced outputs to match either the Beowulf or the Ymer. PCB routing has been carefully optimised to produce short signal paths, all critical components are hand-selected and matched, while the circuitry is powered by a 300VA transformer. Internal software allows all the inputs to be matched to the same level and they can even be named individually.

A third addition to Bladelius' roster is the Embla music server. Rather than being a redesigned and reboxed computer system, the company claims the Embla has been built from the ground up as a high-performance audio playback system with a proprietary audio DSP. With a DAC based on that in the firm's reference Gondul M player and an analogue preamp built in, this server can store a CD to its internal flash memory (64GB minimum, expandable to 2TB), play it directly from its TEAC drive, play music from a memory stick or external USB hard drive, or take a signal from a wired network source.

**Price:** from £3,725 to £7,350 **Due:** now **②** 01435 867438 **⊕** www.bladelius.com



#### **DEVORE FIDELITY 3XL**

Making the transatlantic crossing to the UK is Brooklyn-based loudspeaker manufacturer DeVore Fidelity. Its new £2,995 Gibbon 3XL is part of a family of products which has in common relatively high sensitivity and easy amplifier load as two primary goals. The 3XL features a five-inch paper cone mid/bass and the same three-quarter-inch silk-dome tweeter as the company's Silverback reference floorstander, housed in an environmentally friendly bamboo enclosure

Joining the 3XL in Britain is the aforementioned Silverback, its two eight-inch woofers mounted opposite each other in cabinet walls which flare towards the rear to avoid standing waves. The midrange is handled by a six-and-a-half-inch polycone driver. Completing the range are the £5,495 Gibbon Nines and £3,995 Gibbon Super 8 floorstanders.

**Price:** from £2,995 to £11,995 **Due:** now **②** 01727 893 928 ⊕ www.tomtomaudio.co.uk





#### SENNHEISER HD400 SERIES

It's a sad fact of life that the headphones bundled with most portable music players players tend to limit the sound quality of music files, whether MP3 or lossless. Sennheiser's new HD-400 headphone, with their high-power neodymium magnets and low-mass diaphragms, are aimed at those who want more clarity from their mobile listening without hitting battery life hard.

The first three models, the HD 408, HD 418 and HD 428, have a presentation tailored towards those who like plenty of bass with their tunes. While the £40 HD 408 is an open-backed supra-aural model, the other two are closed-back, circumaural types for those who don't want to have to crank the volume up in noisy environments to the point where it might damage their hearing. The more even sound of the HD 438 (£75) and HD 448 (£85) predisposes them towards audiophiles, while the supplied extension cables make for convenient home listening.

The HD 400s are amongst 50 new products Sennheiser has introduced this year, ranging from the flagship £1,000 HD 800 to the £30 CX 200 in-ear.

Price: from £40 to £85 Due: now № 01494 551 551 ⊕ www.sennheiser.co.uk

#### PINNACLE FOLIO .::

Combining generous storage capacity of lossless recordings with wireless operation and internet access is Pinnacle's Folio music server.

Aimed at listeners who have a wireless internet connection, but want a system to work straight out of the box without the need for a PC,

the Folio will start to rip a CD to the dual RAID hard drives immediately, in WAV, FLAC, MP3 or Ogg. Track details and cover art are downloaded from the internet, as are updates

which are automatically loaded into the server overnight.

Controlled by a hand-held colour touchscreen web tablet, the Folio can be connected to a hi-fi system, either via its single-ended RCA outputs, or to a DAC via the TOSLink and S/PDIF digital outputs. Storage capacity starts at 500GB, with a pair of 250GB drives and rises to 1.5TB.

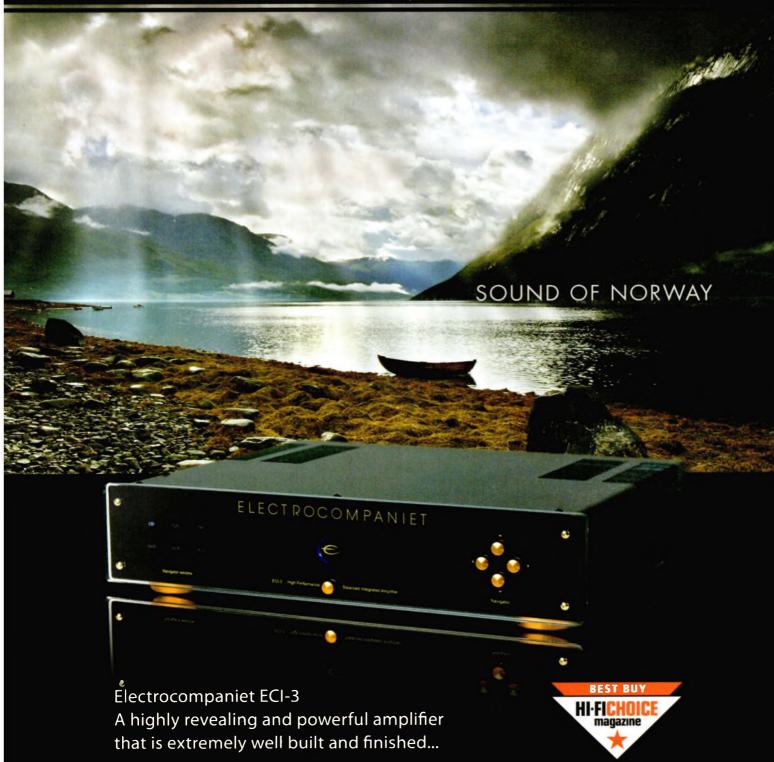
**Price:** from 2,039 to £2,379 **Due:** now **2** 0845 868 6588

www.pinnacleaudio.co.uk





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Jason Kennedy, Hi-Fi Choice, October 2009

#### **O ACOUSTICS 2000 RANGE ···**

Not content to rest on the laurels of the 1000 series (the 1020i won Best Buy status in HFC 318), Q Acoustics has released its 2000 series.

All of the new models, from the 2010 with its single 100mm mid/bass to the 2050 with its twin 165mm units, have the same 25mm woven-polyester tweeter. Ferro-fluid cooled, the tweeter is ventilated both in the surround and the dome itself, helping maintain its mechanical integrity by reducing the range of temperatures it endures.

After applying FEA to the mid/bass cone. Q Acoustics settled on a mix of paper and mica. claiming its mix of rigidity and self-damping allowed the production of a driver with a smooth roll-off. Laser spectrometry guided the use of multi-thickness panels, internal bracing and damping materials, while Reflex ports are located to the rear and the supplied bungs can be inserted for near-wall placement.

In addition to the standard black and walnut finishes, are piano-gloss black and piano-gloss white at a small premium. Tidy cabling is catered for by the recessed plate for the binding posts, which also enables wallmounting in conjunction with a matching tilt-and-swivel bracket.

Price: £110-£370 Due: now 2 01279 501111

⊕ www.qacoustics.co.uk





#### TEUFEL ULTIMA 800 🗻

A relatively new name in the UK, direct-seller Tuefel, the German speaker specialist has launched a new high-end model. The Ultima 800 stands at over one metre tall and weighs in at 31 kg. The choice of drivers is somewhat unusual, in that there are no fewer than four passive radiators to reinforce the output of the dual woofers. Teufel has opted for these devices, with their Rohacell carbon sandwich diaphragms, in an attempt to keep bass deep and fast, without it suffering from the noise and resonances which can afflict ported designs. Covering the midrange is a titanium-coned unit crossing over to a large, cloth-domed tweeter. Like the woofers, these are designed to handle high power levels with low distortion and compression.

Price: 1,500 Euros Due: now

#### **PIONEER SERIES 3** ..:

Housed in slim, curved enclosures. Pioneer's new Series 3 loudspeakers are available in three flavours - S-31 floorstander, S-31B standmount and

S-31C centre. Fitted to all models is the same 25mm soft-dome tweeter, allied in the S-31 to a pair of 100mm mid/bass units with glass fibre cones, which are loaded by a downward-firing reflex port. The S-31B has a single 100mm driver, but shares the cabinet profile created by French designer Steve Senescat, its curved edges minimising standing waves and increasing cabinet rigidity. The final decorative touches are the flushmount removable grilles and a choice of finishes, black or light wood.

**Price:** £tba **Due:** now **2** 01753 789789

www.pioneer.co.uk





WATERFALL has just released its tiny new Serio satellite, which measures just 12.5cms on a side. The glass front baffle can be matched with black, white or silver body colours to blend in with the speaker's surroundings, whether it's mounted on a stand or wall, or sitting atop a stand. Waterfall claims the tiny driver is able to handle up to 80 watts thanks to the voice

coil's close coupling to the aluminium basket, which helps remove heat. Price is £179 per single speaker.

**2** 01359 270280

ROBERTS' Sound 80 is the company's latest DAB/FM radio. Fitted inside the high-gloss black cabinet is a three-way speaker system bolstered by an extra woofer, as well as a socket for the signal from an iPod or MP3 player, and

POFERY

a line level output. Included for the £100 asking price are 10 station presets, FM RDS station name display and a clock with two alarms.

**2** 01709 571722

PMC'S tour bus is currently travelling across the UK showcasing the company's new fact.8 floorstander. The bus will making stops at Nottingham, Norwich and Guildford amongst other locations, before arriving at Audio T in Brighton on December 1st. All attendees will receive a limited edition gift and the opportunity to win a pair of DB1i loudspeakers. **O** 01582 405694

DYNAUDIO'S DM range of compact speakers introduces the new £535 2/6. Matched to the reflex-loaded 5.5-in mid-bass driver is a soft-dome tweeter, the two linked by a first-oder crossover to provide a relaxed, high-impedance load on amplifiers

**2** 07970 074717

ARCAM'S latest replacement for the rDock for iPods and iPhones now comes with a remote control as well as a claim of better sound quality thanks to improved RF suppression. For £150, it will also charge the new generation of iPods and iPhones and offers Apple video authentication. **2** 01223 203200







# audiofile .:.

SHOW REPORT

# National audio show 2009

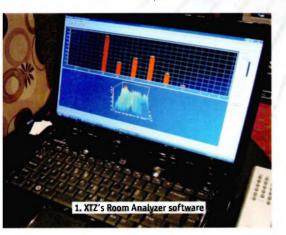
The National Audio Show has departed from Heathrow and arrived in Northamptonshire. Jon Marks investigates its new home...

et in the heart of scenic
Northamptonshire, Whittlebury
Hall lies just a stone's throw from
Silverstone. It is so close, in fact, that the
arrival of our shuttle bus was greeted with
the not so distant buzz of the World
Superbike Championships.

Not that the exhibitors seemed bothered by their noisy neighbours. Having arrived the previous day, they had spent long hours setting up their demos in rooms that not only muffled the distant hum of high-octane two-wheelers, but were far more amenable to high-fidelity reproduction than those on offer at Heathrow.

It was also gratifying to see how busy the show was and even more encouraging that the usual five-hour tailbacks for the various hi-fi demos were almost non-existent.

Catching our eye straight away was Advanced Acoustic's stand, fronted by a laptop and a microphone running XTZ's Room Analyzer software. For a total of £152, this offered a very affordable means of measuring a room's acoustics and came with a small microphone whose response was flat from below 60Hz up to around 16kHz.



Sound Hi-Fi's stand was attracting a lot of attention with a demo of its all-FET class A headphone amps running from a reel-to-reel tape deck as well as a modified Technics SL-1200, which included a £300 outboard power supply and a Jelco arm on a custom armboard.



After some happy browsing across the smorgasbord of stands in the lobby, we headed in the direction of Absolute Sounds' first room and a chat with Herve Deletraz of **DarTZeel**, who explained the minimalist design and implementation behind his CTH-8550 integrated amplifier. This was doing a superb job of producing a crisp, clean, genuinely room-filling sound through **Magico's** V2 loudspeakers. In the same room were DarTZeel's preamp and **Metronome's** C2A Signature Digital Up-sampler.

Digital manufacturer **dCS**provided another highlight in
sound quality with a dCS Paganini
transport and DAC feeding the Spectral
Reference pre- and Megahertz power amplifiers.



Through a pair of Focal Maestro Utopia floorstanders, this system yielded a beguilingly transparent, musical, and neutral presentation.



Having heard the buzz about the new **Quad** II Classic integrated with its KT66 push-pull output stage, we dropped by Audio Emotion. Sitting between the new Luxman D-06 SACD and a pair of 989 electrostatics, the amp was very promising indeed, with a sweet, open and detailed sound, which was very even-handed despite the relatively small 'live' room. Expect the price to be in the region of £4,500.

Having been greeted by full-size replicas of the **Cabasse** Sphere loudspeakers in the lobby, we couldn't pass by Coherent Audio's room without having a listen to the real thing. Although the speakers didn't seem completely happy in such a large room, their potential was clear, with a very broad, deep soundstage, precise imaging and extended, controlled bass.

In Coherent's other room were a couple of new **Cabasse** floorstanders, the Iroise 3 and Egea 3, which feature the company's MC-13 co-axial midrange/tweeter. Giving a great account of itself was the Riga, its slim stand supporting a small, spherical enclosure fitted again with a co-axial driver.

Ikon Audio's room featured Audioplan Kontrast speakers with Jadis electronics. There was also a display of **Trafomatic's** gorgeous The Experience Line One and The Experience Elegance 40-watt pre- and power amplifiers with their polished wood and metal chassis. Below them in the rack were the Tsakiridis Alexander preamp and tiny Sutra Amplification 1.3 transistor integrated, rated for 15 watts RMS and costing £600.







'It's hard to fault these gorgeous cabinets...
the XQ Series are outstanding
all-round performers.'

Home Cinema Choice, November 2009



Best Product 2008-2009

European HT Loudspeaker
KEF XQ Series

## Exquisite

With KEF's latest Uni-Q® 'point source' driver array, featuring a new "tangerine" waveguide for even cleaner HF response and superior off-axis dispersion, the new XQ Series produces a breathtaking, three dimensional soundstage. The range also features technology normally reserved for the Reference Series: independently loaded, ultra-low distortion LF drivers provide tuneful, articulate bass, while the cross-over features discrete bass/midrange and HF circuits to eliminate coupling effects.

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 XO Series to blend into the finest environments.

Simply stated, the stunning exterior is a promise of the sound that emanates from within.

And that's exquisite.



Q10 XQ20 XQ30 XQ40 XQ5







Flying the flag for transmission lines was the tiny Adut in **Audio Epilog's** room. For a £550 speaker working at a fairly high SPL, it sounded impressively accomplished, though it was backed up by the stylish Cayen Electronics SC-10 preamp and 9088 monoblocs built around 854 power triodes operating in class A. Once Cayen finds a UK distributor, price for the amplification is likely to be set at a very reasonable £10,000 all-in.

It's a shame that most of Symmetry Systems' new items were only on static display, as equipment like **Esoteric's** A-03 power amplifier at £7,495 showcased the brand's superb construction. The matching C-03 preamp and E-03 phono stage were present too, as were the G-03X Master Clock Generator (£2,295) and SA-50 SACD player (£3,995).

Also in Symmetry Systems' room was Goldmund's new Telos 1000 monobloc, the Mimesis 20.6 DAC and a range of **Stax** headphones, among them the limited edition combination of the SR-404 Limited and SRM-600 (£1,890).





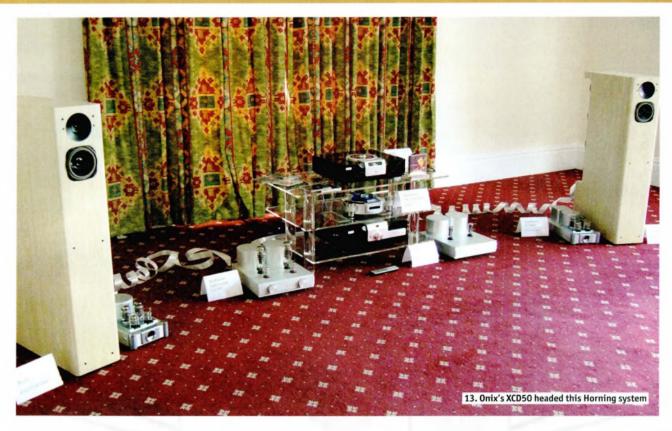
**Denon AVR-1910 High Definition AV Receiver** // What Hi-Fi? Sound and Vision selects the new Denon AVR-1910 as its Multichannel Receivers Group Test Winner, describing it as a 'frighteningly good all-rounder'. In its September 2009 edition, the UK's largest home cinema and hi-fi magazine, also says 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.

AVR-1610 AVR-2310



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

PRO LOGIC IIZ



In Symmetry Systems' demo, **Trilogy's** 909 pre- and 968 valve power amp were accompanied by the Ayre Evolution CD player. On their first UK showing, Japanese firm Kiso Acoustic's hand-crafted HB-1 mini-monitors made an excellent partner for the electronics at a cost of £11,895.

It was nice to see the return of a British brand, **Onix**, absent from the hi-fi scene for a decade. Its new flagship XCD50 CD player was performing in a system which included Horning's Sati 520B valve monoblocs (£10,000) and Eufrodite speaker. The result being a very listenable, transparent and musical presentation.

A pair of Magneplanar speakers, which were supplied by Decent Audio of Stockton-on-Tees, were ably making their mark in Stamford Audio's room, where they were driven by **Melody** valve amplifiers and a Garrard 401/SME V and Linn LP12 with a Hercules power supply and a tonearm from Audio Origami PU7.

Uprooting a national hi-fi show from its traditional location in Heathrow and moving it out to the Northamptonshire countryside was a potentially risky move, but the strategy seems to have paid off. All the exhibitors we spoke with were happy that the first day had been consistently busy without there being perpetual gridlock in the corridors, while

visitors commented that many of the rooms sounded better than those in previous years.

There was a broad spread of products on offer as well, with cables, power conditioners (including IscTek's new Aquarius) and even DIY Garrard strobes alongside amps, sources and speakers. There was still a healthy presence of more affordable gear despite hi-fi gravitating towards the high-end as AV systems, PC audio and MP3 players have all eaten into the market, which used to be solely two-channel. Regardless of how deep their pockets were, audiophiles of all types were well catered for at the National Audio Show 2009. HFC



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RX6

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What Hi-Fi? Sound and Vision November 2009







# audiofile



### 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

Is your turntable running at the correct speed?



Clocking the speed of your turntable will pay dividends thanks to the Keystrobe strobe light

"If a turntable runs too fast, the music will play back too fast, but what's far more apparent is that pitch will also be too high." n innocuous little product caught my eye at the recent National Audio Show (nice show, by the way – congratulations to all involved!). It was the 'KeyStrobe' strobe light for LP turntables, a product which, with its matching stroboscope disc, helps vinyl-lovers set the speed of their deck accurately. If your speed isn't adjustable it can at least let you know whether it's right or not, and if it's not then you probably need to send the deck in for a service.

If a turntable runs too fast, the music will obviously play back too fast, but what's far more apparent to any ear is that the pitch will also be too high. It's not hard to see why: suppose a tuning fork 'A' at 440Hz is recorded on a disc. At the right speed, 440 'wiggles' in the groove will run past the stylus each second. At a speed one per cent higher, 444 of them will go past and the pitch will come out one per cent sharp.

One per cent change in speed is not particularly noticeable. Musicians often use a metronome for speed reference and the standard metronome scale has steps of about four to five per cent across its range — differences in speed that would be worth worrying about.

A one per cent change in pitch can be surprisingly striking, though, even to the non-musically trained ear. Five per cent is generally blindingly obvious. It does depend to some extent on the instrument, but a familiar human voice becomes almost unrecognisable five per cent sharp or flat and will be clearly altered in character by a change of two per cent or less. The overall sound of a piece of music becomes more strident a percent or two too high, or slack and sluggish the same amount too low.

In an analogue system, like LP, speed and pitch are inseparably related. The same is true with digital systems if one simply varies the speed of the reference: I used to have an old Marantz CD player where I had replaced the crystal by a variable oscillator and I could turn its speed and pitch up and down just like a variable-speed turntable. It is possible to vary just speed, or just pitch in digital systems, but it requires some quite fancy number-crunching to do so.

The typical accuracy of a decent turntable is well under one per cent and most discs will be at least as good, so the overall result should be within one per cent total error. Older discs may be less accurate. Digital recordings and replay machines, on the other hand, easily beat 0.1 per cent. 0.005 per cent, or 50 parts per million (ppm) is a typical figure for a decent CD player. Accuracies of well under 1 ppm are available from dedicated digital clocks like those from dCS and Esoteric.

Absolute speed/pitch errors of less than 0.1 per cent are of no practical significance in any realistic situation I can think of. Short-term speed variation, however, is quite another matter. Low-rate variation or 'wow', medium-rate ('flutter') and high-rate ('jitter') are recognised and feared ills of analogue and digital replay systems.

There's no direct link between absolute speed accuracy and short-term stability, but poor performance in one can often imply poor performance in the other. If the KeyStrobe shows your deck to be unexpectedly inaccurate, it may well be that the causes of this will also cause wow. Sometimes what you don't know can still hurt you! HFC





We all remember rushing out to buy our first CD, making

Player combined with the A-5VL Stereo Amplifier.

Even better than the first time.

















## EdSelley

**Ed Selley** worked in retail before joining some of the biggest names in the hi-fi industry. He is highly experienced in creating and supporting all manner of audio products

# Is this the death of CD?

The future for the iPod generation is a very exciting one...

"An iPod using AAC lossless files can be made to perform to exactly the same standards as a CD transport."

e currently find ourselves in the situation where a majority of electronics manufacturers make a product either designed to work specifically with the iPod, or that incorporates functionality that is only of use when an iPod is connected. This is an unprecedented level of integration. No other product has been so well supported by so many different companies. Neither are these companies aiming purely for the mass market - when a manufacturer like Jadis is producing an amplifier with an integrated iPod dock, you realise that this is a phenomenon that affects all levels of the market. Although this level of iPod compatibility seems high, you might be surprised to know that there is a whole extra level of integration that is only just starting to make it's presence felt.

Until comparatively recently, any iPod dock took an analogue audio feed from the dock connector. The dock would then output the signal via a 3.5mm jack, phono or XLR connections. One of the reasons that the iPod has been as successful as it has is that Apple has left the physical design of the dock connector well alone. With the exception of the Shuffle, pretty much any iPod from the third generation onwards will still work when dropped into a dock. In this arrangement, the iPod is doing most of the legwork. It does digital to analogue conversion and much of the output stage is still in the audio pathway. As such, the gains the dock can make in sound quality are limited to solid execution of the output stage.

In summer 2006, an unobtrusive sentence in the Apple developer release notes indicated that henceforth, USB digital audio would be available from the dock connection. At a stroke, the iPod could become a transport rather than a complete audio component. Actually turning this feature from a potential benefit to a workable solution

was not an overnight job, however, and it wasn't until the CES 2008 show that the Wadia 170i Transport was unveiled (MSB had released its iLink dock which, although similar in concept, uses a modified iPod). Now Onkyo has released a dock and a wander around a trade show will put you into contact with a number of developers who have a solution available to manufacturers for the right price.

The potential this unlocks within the iPod is extremely exciting. An iPod using AAC lossless files can be made to perform to exactly the same standards as a CD transport – a CD transport you can connect a pair of earphones to for wandering around the supermarket. The performance available is limited essentially only by the quality of external DAC you choose to use with the dock. The docks themselves function much as they have ever done – you can control most of the iPod's features via remote control and listen either to albums like you do with a conventional CD player or stick it on random and let it fly.

The potential for how we sell hi-fi and increase its appeal to the younger generation is greater still. There is nothing esoteric about this functionality - it is present in every Nano, Classic, Touch and iPhone sold today. Dealers that are ready to embrace this and demonstrate systems that use the iPod as a source and not an ancillary, may be surprised by how receptive the audience turns out to be. The future possibilities are more exciting still. Currently the technology exits to send AAC lossless wirelessly to a dock and also to stream music in real time from Spotify. A dock that converges these separate features into a single unit will complete the iPod's transition from competent peripheral to essential source. HFC



With a simple £150 dock, the iPod can match almost any CD transport

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Check out the **reviews and brochure downloads** on our website product listings, like the Leema Tucana II. "Worth every penny," raved *What Hi-Fi?*, giving it its highest 5 star rating. And right now we're offering a FREE Nordost Vishu power cord, a £599.95 value, with every Tucana!





Give us a **free call on 0800 043 6710** if you need more info or prefer to order by phone. We'll tell you no one does budget gear better than us: for example, the Leema Pulse, the Tucana's junior sibling, at only £1270.00, a "stunner with an organic and revealing sound" (*Hi-Fi Choice*), now with a FREE Nordost Shiva power cord, a £299.95 value!

Free delivery on all orders over £100 like the Leema Antila II CD player, "a fast and resolute player that should hold its own against anything in its price range" (*Hi-Fi Choice*), which we're also offering with a FREE Nordost Vishu power cord!





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## PaulMessenger

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

# Timed Out

Solving the lip-sync problem in the digital age

"I'm really only interested in two-channel stereo. My first priority is to get the very best possible sound from my top-quality music sources..."

iming is one of the key ingredients – some would say *the* key ingredient – in music and its reproduction, yet it's also arguably the hardest element to pin down and get right.

Ironically, the one format in the history of recorded music that was guaranteed to give perfect timing was the early acoustic direct-to-disc recordings made before World War 2. As recording and replay techniques have become more sophisticated, so the opportunity to mess up the timing in one or more of a number of ways has steadily increased. Even feedback, which goes back to the 1930s, is eschewed by some purists, largely on the grounds of timesmear.

However, the biggest problem with time and timing has surely come about in the digital age, when the ability to manipulate the time domain, voluntarily or involuntarily, has dramatically increased through techniques like buffering and the use of digital signal processing (DSP).

With purely audio sources, it can be quite difficult to detect, but when digital techniques started being applied to video sources, sometime in the early 1990s, frequent lip-sync inaccuracies were a dead giveaway and continue to plague combined audio and video to this day. Which is a shame, as the amount of potentially good-quality music programming on the TV continues to increase.

This was forcibly brought home earlier this year, after I bought myself a Sky+ box. One of the few features on this rather clever device is an optical digital sound output, which fed via a DAC to the hi-fi sounded rather better than the analogue output from the regular Scart-fed Panasonic colour television that I was using at the time. Sadly, the much loved, but venerable Pana 36-incher lost its vertical clamp shortly thereafter, so I had to find myself one of those new fangled flat screen thingys.

The Pioneer plasma I bought as a replacement is acceptable enough, but I immediately discovered

that I couldn't get lip-sync between the screen and the Sky+ box, because the processing used by the plasma display was introducing a significant delay.

In order to maintain synchronisation (with violin bows and conductors' batons, as well as singers' lips), it was necessary to use the Scartfed Pioneer plasma's digital outputs, even though this route sounded significantly poorer than the Sky+ box's direct Toslink digital output. (Other digital TV tuners also seem to have Toslink optical digital audio outputs as far as I can establish.)

Video displays aren't the only components that involve digital signal processing (DSP) with its attendant buffering and time delays. AV surround sound processors, for example, often include an ability to add variable delay in order to achieve proper lip-sync, which is fine if you want to go the whole home cinema route.

But for me – and I think it's fair to assume many of the readers of a specialist hi-fi magazine like *HFC* – I'm really only interested in two-channel stereo. My first priority is to get the very best possible sound from my top-quality music sources – vinyl, CD and FM radio. I don't expect TV sound quality to match these, but I do want it to be as good as it possibly can be; to be in sync with the pictures and to avoid compromising the rest of the system.

I've figured out the component I would need to carry out these tasks, but don't think such a device actually exists. It's a DAC, with either a knob (or better still a remote control feature) that can be used to adjust the digital signal delay and a Toslink optical digital input. The advantage of using an optical Toslink, rather than an electrical S/PDIF link, is that it isolates the TV/video side of things from the hi-fi system, which is a sensible precaution.

If any reader or accessory maker can help me find such a device, please let us know! HFC



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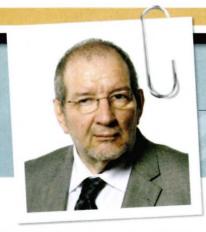
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### Alvin Gold

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

# For the record

The joy of archiving your precious vinyl collection

"I spent time loading hundreds of discs into the Naim HDX and am left with the contents copied to an external USB hard disc..."

y column this month is a taster for a project which will take some weeks or (more likely) months to complete. The idea was triggered by the recent loan from Naim Audio of its HDX server, which was intended to nail the old canard about servers not being suitable for those serious about sound quality.

The Naim HDX is not the first server I have played with. Not long ago I reviewed the excellent T+A E series Music Player (*HFC* 319) which I thoroughly liked. But the T+A and the Naim have one important thing against them, I can't afford either. But they also have some powerful attributes in their favour, which I have been finding out about in the last few months.

I have a substantial number of discs cluttering up my living quarters, with more arriving regularly (one of the pains and pleasures of reviewing classical discs) and I never seem to be able to lay my hands on the one I'm looking for. When one of my sons comes up with a concert programme he wants to drag me along to, my job is to find a recording so that he can learn something about what he is going to hear. Or I may want to lay my hands on all the versions of Beethoven's Symphony No 7, that I have accumulated over the years, which is the specific task I am facing right now.

Ispent time loading hundreds of discs into the Naim HDX and now that it has been returned to the manufacturer, I am left with the contents copied to an external USB hard disc that I can plug into my main computer, which I access via Windows Media Server. I can only say it has been a revelation. Although the database is a long way short of being comprehensive, within the limits of what I have ripped and fed onto disc, I have a valuable resource that I can search within fractions of a second.

There is something else interesting I have discovered about servers. As a hi-fi reviewer, I should and sometimes do know something about what makes the products I'm dealing with tick With servers, however, I have to admit my

knowledge is pitifully thin. I have also discovered that many hi-fi reviewers, even those who play with low-end systems like iTunes through their iPods on a regular basis, frequently know surprisingly little themselves. This kind of expertise is not in a traditional reviewer's DNA. The people who do know tend to be amateurs, non-audiophiles in the main, who happen to be passionate about computing

So as well as trying to build a functional server, which will be a tremendous asset when the task is complete, I am also learning about the technologies that make them tick. And following by experiences with the HDX, I've had a taster – no more – of what it is like to have my own.

I'm going to be writing about this again, so I won't go into unnecessary technical detail here, which also means I can shelter behind my ignorance until I actually learn something about the subject. What I can say, however, is that I see to no reason why it is necessary to accept second best.

I intend to construct a dedicated computer, something fairly simple, which will have a fast processor, a good sound card and multiple disc drives. But this computer will be limited to storing music files. It well be operated from a civilised LCD screen positioned near my listening hotseat, using all the graphic wonders that are built into the Windows operating system.

For sound quality-related reasons, I am tempted by the simplicity and solidity of Windows XP, but I admit to being even more attracted by the multi-touch abilities of Windows 7 as the basis of the user interface. Either way, however, I will be going for high-class Red Book CD standard as a baseline quality standard, but sooner or later I intend to extend my creation into the realms of ripping high-resolution files off the wibbly-wobbly web. Watch this space HFC



Naim's HDX hard disk player reviewed in HFC 311

# audiofile ...:

**EVENTS** 

# HI-FI CHOICE AWARDS

The Hi-Fi Choice Awards 2009 were held on a sunny October day at London's Jazz Club, Soho and it seemed as if the whole industry turned up to join us...







idely recognised as the most influential Awards magazine in serious audio circles, the *Hi-Fi Choice* Awards presentation was held in an equally influential venue for 2009, without a black tie in sight.

The annual Hi-Fi Choice Awards 2009 event took place in London's famous Jazz Club, Soho, with a guestlist that read like the who's who of the hi-fi industry. With presentations and formalities kept to a minimum, HFC's award winners had the chance to kick-back, enjoy the historic venue and catch up with old friends.

This year, the editorial team presented a total of 21 awards to the audio industry, some of whom had travelled right across the country to attend this prestigeous event.

With an excellent turnout, a short welcome speech from Hi-Fi Choice's new publisher, Pat Eggington and a short address from HFC's editor, Dan George, the event got underway. Together with Hi-Fi Choice's production editor, Richard Holliss, Dan presented the awards, announcing the finalists in each category and inviting the winners up on stage to collect their framed certificates.

In addition to Hi-Fi Choice's more familiar Awards categories, this year we also announced important new awards in innovation and high-end achievement, to reflect the extra special effort put in to some products.

Look out for more details of our Award winners online soon at: www.hifichoice.co.uk HFC



Above: Nigel Crump (Symmetry Systems) and Rob Follis (PR) with Sue Townshend (of Townshend Audio) Below: It's one drink between four as the tab runs dry...























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#### And the winners are...



The Funk Firm's Arthur Khoubesserian -**Best Accessory** 



Armour Home Electronics' Steve Reichart (for QED) - Best Loudspeaker Cable



Hi-Fi Rack's Bradley Walters - Best Support



Leading PR genius Rob Follis (on behalf of Sennheiser) - Best Headphone



Audio Partnership's Ben Beaumont (Cambridge Audio) - Best DAC



Arcam's Charlie Brennan - Best DAB/FM **Radio Tuner** 



Leema Acoustic's PR man David Denyer -Best CD player over £1,000



SRM Tech's Stuart Michell - Best Turntable under £1,000



Townshend Audio's Max Townshend -Best Turntable over £1,000



PMC's Pete Thomas - Best Loudspeaker over £1,000 AND Product of the Year 2009



Symmetry System's Nigel Crump (on behalf of Trilogy Audio) - Best Amplifier over £1,000



Henley Design's Adam Thompson (on behalf of Roksan) - Best Amplifier over £1,000



Artisan Audio's Ralph Bagge (for Soundsmith) - Best Innovation



ABC Audio's Paul Benge (for MSB)-Best High-End Amplifier



Tim Bowern PR (on behalf of Continuum and Absolute Sounds) - Best High-End Source

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# NEW A-Line

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

The Spendor 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 80hm loading ensures complete compatibility with a wide range of amplifiers and cables.

Engineering innovations include Spendor bass-mid drivers with ep cone technology, wide-surround tweeters and dynamic cabinet damping. 4th generation Spendor linear flow port technology gives the Spendor'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
- Spendor 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
- Spendor 15cm bass-mid driver
- Spendor 15cm bass driver
- 22mm wide-surround tweeter
- WBT terminals
- Designed and manufactured in UK
- Black ash, cherry, light oak, wenge





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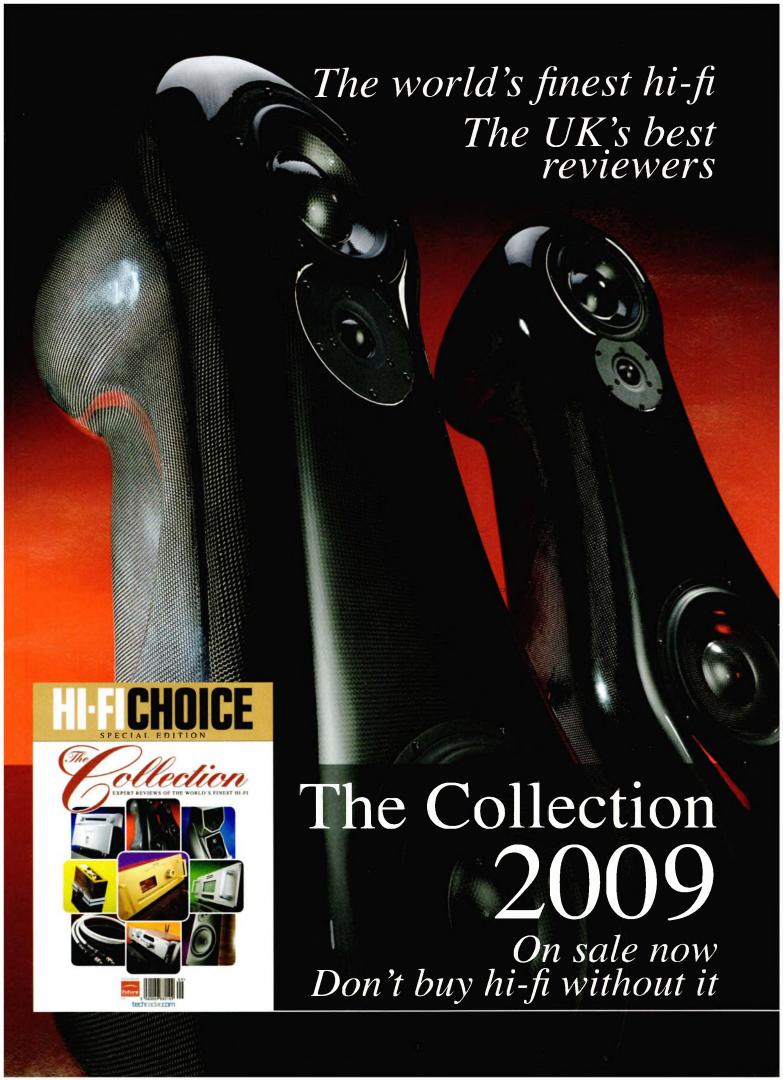
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# Tucana II



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LEEMA 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.

The Tucana II helps even the most complex music make complete sense.

### Leema Acoustics: Award winning hi-fi















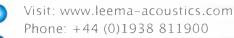








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# FEW E LINES MOS

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.

# ST RICOWOOD RICOWOOD

#### **EQUIPMENT REVIEWS**

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#### ROUND-UP

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#### **OUR RATINGS EXPLAINED**

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

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pare mis wron waramize #800 player, the 17 MkII M, which has excellent build and e a very good impression in HFC 243 At same price there's also the Cyrus 7, a ng all-rounder in a compact case. "Eer trying the Heart with the standard 5 we witched over to the Semens yade, a comparison somewhat muddied by e fact that it was a cold for hot swap - the laws as the same and days with the Our overall conclusion."

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Jason Kennedy

SOUND

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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

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



## Super sounds

EMM Labs' tremendous track record for CD/SACD players comes to the fore in the XDS1

PRODUCT EMM Labs XDS1

TYPE CD/SACD player (stereo only)

PRICE £18,995

KEY FEATURES Size (WxHxD): 48 5x14.5x40cm

③ Weight: 17kg ⑤ Digital outputs: 1x XLR (CD only)

④ Analogue outputs: 1x XLR (balanced), 1x RCA
(unbalanced) ⑥ CDs/stereo SACDs and standalone
D/A converter ⑤ Single Class A dual differential gain
stage ⑤ Aerospace grade composite laminate PC boards

anadian brand EMM Labs is best known for its high-end SACD players and professional D/A converters. The company's owner, Ed Meitner, pioneered the use of DSD conversion, which was subsequently developed by Philips and Sony into a world standard. He famously identified a key mechanism for sound quality degradation in digital systems, which he describes as phase jitter, for which he developed test instrumentation and which he documented in a key paper for the Journal of the Audio Engineering Society. He also holds a number of patents in this area.

The first and only previous occasion we looked at an EMM Labs CD/SACD player, it was the one-box CDSA, clearly one of the finest available players of its kind. In fact, it was only bettered in the EMM Labs range by the two-box TSD1 SACD transport and the DAC2 D/A converter. Anecdotally, this new model, also a single-box player, is a better performer than even the DAC2/TSD1, making it the range flagship.

The XDS1 is a two-channel only CD/SACD player which looks much like its predecessor,

but there are important changes under the skin. The most prominent is a switch from the Philips-derived mechanism to one sourced from the Esoteric division of Teac. The original player was controlled by a native state machine, which is, in effect, a lowest common

differential audio path. The XDS1 also employs hand-matched capacitors in its audio path.

Most digital players perform D/A conversion using a reconstruction filter with interpolation (oversampling) to smooth the analogue waveform, which works well in the analogue

### "The company's owner, Ed Meitner, pioneered the use of DSD conversion, which was subsequently developed by Philips and Sony."

denominator control system, rather than a dedicated control micro processor. This was done for sound quality reasons in accordance with Meitner's thinking that the best way to design a player is to 'simplify and minimise'

The state machine has been retained in the new player, which means that the control, system lacks certain niceties – there's only a rudimentary track time elapsed clock when playing, for example. The older player was also rather slow to read the disc TOC and to find tracks, but the functional superiority of the Esoteric mechanism, combined with state machine code means that start-up and track search times for the XDS1 are comparable to other more conventional players.

A great deal of attention has been paid to the analogue circuitry. For example, instead of the usual two or three stages of gain in the output section, the XDS1 has just one discrete Class A gain stage from the DAC through to the output. The new power supply has three levels of active filtering for each polarity of each channel and each stage of the dual-

domain, but less so in the time domain where the tradeoff is pre and/or post ringing, depending on the filter design. In the case of the XDS1, the proprietary MDAT processing is said to preserve phase, frequency and dynamic integrity, with no pre or post ringing. Another proprietary technology replaces the usual phase lock loop with MFAST – Meitner Frequency Acquisition System Technology – which is said to lock onto any digital data. Rather than attenuating jitter, EMM Labs claim is that MFAST completely strips jitter from the datastream.

Included in this player is a digital input which reclocks the incoming data locally to mitigate jitter imported from an external source. Digital inputs are available in Toslink and AES/EBU (balanced) form. Outputs are also available in single-ended and balanced flavours. Other socketry includes an external remote sensor input, a proprietary EMM Optilink digital output, an RS-232 control connector and a USB for updates. A quality remote control is also included.





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#### SOUND QUALITY

The player is physically well presented. You can dim the large clear display or turn it off and the control system is more responsive than the CDSA. The player is solidly built and heavy too. with a thick, anti-resonance internal base and a massive power supply section. This said, the main control matrix is slightly muddled with controls that probably shouldn't be where they are. We found ourselves making silly errors, such as selecting absolute phase instead of play at times. Despite its obvious functionality, the players presentation is not as sophisticated as some other high-end players, from Marantz or Esoteric, for example,

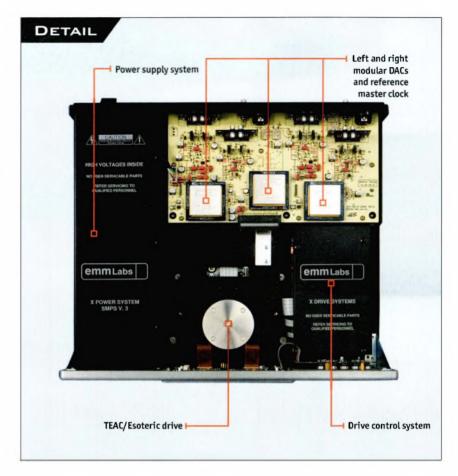
Make no mistake, the XDS1 was never intended to be the most polished player on the planet, but the engineering effort has gone into the bits that influence sound quality, and it does sound the part. In fact, it never put a foot wrong

This is by any standards a great CD player, one of the very best in our experience, but if you compare like with like, preferably (but not necessarily) using DSD recorded hybrid discs, SACD is simply better. It is smoother, sweeter and less mechanical, with superb instrumental separation and unusually explicit imagery. In fact, the XDS1 has an astonishingly clean, agile upper midband and treble, with no hint of the softness or the slight loss of focus you hear with many lesser players. It delivers musical weight and impact in a way that puts it in a very select class.

There is no obvious artificiality at issue here, it is a supremely naturalistic sounding player in the live recording on the RCO label (Haitink/ Concertgebouw) of Mahler's 4th Symphony and likewise the Telarc SACD sampler, as well as the wholly remarkable one from the Crystal

#### CIRCUITRY

The audio circuit is 100 per cent discrete rather than IC based, and backed with a 'super clean multi-stage ultra-low noise power supply' with three levels of active filtering for each polarity of each channel and for each stage of the dual differential audio signal chain. The clocking system is claimed to have 'infinitesimal' sub-picoseconds levels of jitter. The audio signal from CD and SACD alike are upsampled to 5.6MHz, which is twice the DSD operating frequency, prior to the gentle low pass filtering which this architecture allows. The home grown D/A converter, which is extensively revised in this model, is a dual differential native true DSD design. There is a single master clock to control everything from the display to the power supply, which is controlled by the so-called Meitner Digital Audio Translator, which features a larger DSP to drive the up-converter active filters.



Cables stable on the MAA label, which sounds nothing less than astonishingly life-like. But it is invidious to pick out individual recordings as the XDS1 is consistent in its abilities. It delivers every time

CD replay quality is worse, but it still outperforms most others. Redbook CD replay doesn't have the resolving power of SACD, but can still be remarkably good. An old favourite, a recording of the Haydn Piano Concertos with Leif Ove Andsnes and the Norwegian Chamber Orchestra (EMI), is a case in point. We were equally impressed by Scott Walker's remarkable Tilt album

Before investing in a player like this (we use the word invest advisedly) you need to be sure that SACD is for you. There is no longer an option to go DVD-Audio, which has essentially disappeared, but SACD is not exactly in the rudest of health. The nature of the format makes it difficult to record natively in DSD, which is not particularly friendly to engineers who may want to mix complex multiple microphone feeds and apply special effects as easily as with the PCM based Pro Tools, and who often end up recording on PCM, prior to upconversion to DSD at the production stage. SACD remains a force to be reckoned

with: EMM labs and a tiny handful of others demonstrate that it still has the qualitative answers, but the format is at its best with simple recordings of acoustic material straight to DSD, where not much signal manipulation is required. This tends to favour classical, jazz and simply accompanied vocal material, which is not everyone's poison. With these provisions we observe that this is one of the finest sounding SACD players we've ever used, perhaps the finest. And although we weren't able to fully explore the ability of the digital input, on paper at least, it should be something very special. HFC

Alvin Gold



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## Sound sense

New budget headphone has all those enviable Sennheiser trademarks

**PRODUCT** Sennheiser HD380

TYPE Headphone

PRICE £140

CONTACT № 01494 551551 # www.sennheiser.co.uk

n its continuing quest for world dominance, at least as regards headphones, Sennheiser still has the odd gap in its range, which it proceeds to fill bit by bit. Another piece fell into place with the recent announcement of the HD380, a folding, closed-back model aimed at professionals but equally applicable, as far as we can see, to the travelling audiophile. The basic idea is evidently that professionals - recording engineers and so on - need something that they can easily carry around and rely on for critical monitoring. This could be in noisy circumstances (such as in the same room as the music one is recording), which makes it particularly hard to hear what's coming from the microphones.

But does the same criteria apply if one wants to enjoy music in private, perhaps in noisy surroundings. In-ear monitors can offer better exclusion of outside sound but plenty of listeners can't get on with them at all and noise-cancelling phones have their own

magazine

problems. The HD380 should be just the thing for such folks. It's a near-full-size over-the-ear headphone which folds up either flat (for which a neat zipped case is supplied) or sort-of coiled, in which case it will fit into a large pocket. It comes with a full length curly cable and is well padded on both earpieces and headband, making for a comfortable fit despite the quite strong spring.

Sennheiser makes no particularly unusual claims for this model as regards specification: it has a fairly low impedance of 54 ohms which makes it compatible with portable devices, and uses neodymium iron magnets which also help

Principally, there is a little boosting of the upper midrange but it isn't offensive and one soon gets used to it. We would certainly counsel any prospective buyer to listen for longer than initial impressions, though, as this coloration can sound like effects in lesser transducers due more to distortion than to frequency response aberrations as such. The difference is not semantic. You get used to a slightly wavy response quickly, but distortion just gets more annoying the longer one listens.

On the contrary, in this case the sound is very clean and free of distortion and the result is that one can hear a great deal of detail in

### "Closed-back headphones practically never, in our experience, quite match open types for naturalness of timbre..."

boost sensitivity. Isolation from outside sound is quoted as 'up to 32dB', which may be optimistic as a broadband figure, but there is a very clear reduction of outside sound-level and also gratifyingly little leakage from the cans to the outside.

#### **SOUND QUALITY**

Z SENNHEISER

Closed-back headphones practically never, in our experience, quite match open types for naturalness of timbre and there is indeed some coloration inherent in this model. However, as its breed goes it is very good in that regard.

recordings of all kinds. As with a few other closed headphones we've tried there seems to be an optimum loudness for detail - too quiet and one can't hear, too loud and things get a little hard-sounding - and that optimum is gauged about right at a realistic level compared with live music.

Bass is excellent, another typical closed headphone result, with fantastic weight and at the same time no sense of vagueness or lack of control. High treble is clear and apart from the coloration mentioned above most of the midrange is pretty natural. On balance, we'd say the sound is better with musical styles like rock, upbeat jazz and lively pop than with classical, which shows up the frequency response irregularities rather more, but this is a revealing and enjoyable transducer with pretty much any music. HFC





## Zu quest

This fascinating US loudspeaker breaks most of the usual rules

**PRODUCT** Zu Essence

TYPE Floorstanding loudspeaker

PRICE £3,750 per pair

**KEY FEATURES** Size (WxHxD): 30.5x125x30.5cm

© Weight: 29.5kg © Drivers: 250mm full-range main driver, Ribbon tweeter © Separate plinth

**CONTACT №** 01273 700759 ∰ www.zuaudio.com

n a hi-fi world largely populated by loudspeakers that stick pretty close to the marketplace stereotype, it's always interesting and challenging to come across something that is very different and which quite deliberately flouts normal loudspeaker design conventions.

Founded in Utah around the beginning of the century, Zu Audio is a young company with a radical – one could even say iconoclastic – attitude to hi-fi sound reproduction. Its main activity is concerned with loudspeakers, but it also has a comprehensive collection of cables and a handful of other bits and pieces, including modified versions.

Zu's principals reckon things have gone wrong with hi-fi today; that it has become "clinical and dead" and "unmoored from its pioneering past and the music and physics that had set it off".

Zu is by no means alone in questioning whether hi-fi has lost its way as components have become more complex with the passage of time and in proselytising a return to simplicity. A whole subculture is devoted to revived and restored historic hi-fi, including idler-wheel drive turntables, single-ended and push-pull valve amplifiers and speakers with solitary 'full-range' drive units.

Zu's £3,750 Essence doesn't quite fit into the latter category, but it gets pretty close and the combination of an easy load with high(ish) sensitivity means it's well suited to driving valve amplifiers with limited power outputs.

The main driver in this case is that rare beast, a dual-cone 10-incher – 250mm in modern parlance, though few have been around since our masters instructed us to go decimal. The need to position such a large driver so that its centre is roughly at seated-ear height means that the Essence is both taller and wider than is currently fashionable.

Indeed, some might describe this speaker as a bit of a throwback stylistically speaking and the situation wasn't helped by the rather anonymous dull brown veneer that dressed our

samples. Happily, there are many much prettier options available, including (at a £500 premium) high gloss any-colour-you-like and even (to special order) any custom finish you care to specify.

The Essence is effectively the successor to Zu's Druid IV, but although the two models look somewhat similar, the measured differences between them are, in fact,

Electrical input is provided by a solitary flexible Cardas terminal clamp, which is good for spades and bare wires, but less than ideal (though still useable) with 4mm pluqs.

Unlike its Druid IV predecessor, the larger Essence is best positioned well clear of walls. And in order to get the most presence output, the speakers should be directed towards the most favoured listening seat.

## "Zu's principles reckon things have gone wrong with hi-fi today; that it has become 'clinical and dead'."

surprisingly large. The two enclosures look much the same from the front, though the Essence has a much deeper – roughly square in plan – enclosure and a different (and much more satisfactory) plinth treatment. The Essence also has a ribbon, rather than a horn tweeter and its 250mm main driver now has a large cylindrical central polepiece extension.

This is actually a 'one-and-a-half-way' design, as no attempt is made to roll off the upper end of the main driver. Its large 195mm paper cone, terminated in a double-5 doped fabric surround, will naturally have restricted and very directional high frequencies, but the smaller 95mm 'wizzer' cone should help extend things a little.

Ultimately, however, the relatively large diameter (50mm) voice coil will have a relatively high inductance and this will introduce its own natural first-order rolloff (while also conferring generous power handling). It's logical, therefore, to add a tweeter to extend the top end and Zu has gone for a powerful ribbon device, roughly 60x 5mm, transformer-coupled to its crossover and mounted little below seatedear level.

The bass is loaded by a 'slot' port created by spacers between two identical plinths, providing what the measurements suggest is some species of reflex-loading. However, Zu attributes the actual loading system to the motorcycle exhaust tuning technique of one Ron Griewe, based on 'alternating velocity theories'. That's as may be, but the plinth does marginally (and very necessarily) extend the stability footprint and ensure secure accommodation for the US-type spikes.









## worth waiting for...



Review: September 2009

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#### SOUND QUALITY

The Essence delivers an exceptionally well focused soundstage with unusual lateral image precision, which is probably due to a combination of factors. On the one hand its unusual phase accuracy helps remind one that the Greek root 'stereo' actually means 'solid'. At the same time focus will be enhanced because other elements of the design tend to favour the direct sound over the room-reflected sound - partly because its upper-mid off-axis output is likely to be somewhat restricted, but also because the tweeter is set low and essentially operates as a line source with limited vertical radiation.

The counterpoint is that the impression of air and space is rather restricted here. The Essence defines the soundstage rather impressively and precisely, but it doesn't involve the listening room as much as some other wide-dispersion designs. This isn't any sort of criticism; rather it's an observation of where the Essence sits on a spectrum between directional (eg panel dipoles) and omnidirectional.

The most obvious source of criticism here concerns the balance anomalies. These are not severe enough to undermine the Essence's very real strengths, but they do tend to define the overall character of the speaker and introduce a degree of associated coloration. The most serious is probably some lack of energy alongside significant unevenness in the presence and lower treble. This has the advantage of helping avoid the speaker sounding aggressive when the volume is turned up high, but it also tends to reduce the impression of openness, somewhat softens the

#### **EVOLUTION**

Nearly four years ago, we had the opportunity to try Zu's Druid IV, effectively the predecessor to the Essence. Comparing the measurements quite clearly reveals the improvements Zu has brought to the concept. The excessive midband output of the Druid IV has been reduced and flattened out in the Essence, while both the relative bass and treble outputs have been significantly increased, so the net result is a much wider bandwidth, which fits into a fairly respectable +/-5dB window (far field in-room) above 60Hz.

The larger enclosure and lower (39Hz) port tuning frequency helps give more than ample bass 25-60Hz, though there's a corresponding weakness 80-220Hz. Zu's claim for 97dB efficiency does seem optimistic - our broad averaged figure (referred to 2.83V) is a much lower (though still generous) 92dB. And since the impedance stays comfortably above eight ohms right up to 8kHz, this speaker is an obvious choice for use with lowpower (ie valve) amplification.



impact of transients such as hard-edged consonants, yet at the same time a touch of 'edginess' occasionally asserts itself.

The bass could have been smoother, too under our room conditions, at least. There's no lack thereof, which is itself creditable in such a high-efficiency design, but it does have a tendency to thump a bit and seems a little lacking in warmth and texture.

The Essence might fall somewhat short of perfection in balance terms, but the ace up its sleeve is that it simply sounds more 'real' than the overwhelming majority of alternatives. It has a solidity and believability, a vividness of expression and, above all, a splendid coherence and freedom from timesmear that some listeners will find quite irresistible. Some will certainly fall under its spell, though one suspects that others may find its limitations a little too obvious



In a very real sense it has some (admittedly rather tenuous) links to the unique sort of sound character that Rehdeko speakers demonstrate. The Essence's combination of a decent size diaphragm, good sensitivity and the freedom from timesmear brings considerable dynamic expressiveness to the proceedings.

Unlike the Rehdekos, however, the Essence does make some concessions to considerations of balance and bandwidth. The sound is not all that smooth - indeed the overall impression of the sound is that it is a little coarse and uneven - but it does, at least, cover the full audio band, and the tweeter sounds well-integrated. HFC

Paul Messenger





## **Shaping up**

New disc-spinner from Electrocompaniet is an accomplished performer

PRODUCT Electrocompaniet PC-1

TYPE CD player

**PRICE £1,150** 

KEY FEATURES Size (WxHxD): 44 2x8x27cm

Weight: 3kg

Outputs: Balanced analogue (XLR), unbalanced analogue (phono), electrical digital (phono)

Compatibility CD, CD-R, CD-RW, MP3, WMA

CONTACT 2 020 8893 5835

m www.electrocompaniet.com

f you turn to page 69, you'll find our Ultimate Group Test review for Electrocompaniet's new amplifier from its Prelude series, the PI-2. And here in this review we have the matching CD player, the PC-1 Actually, it's not really new, in the sense that big consumer electronics manufacturers use the term, having been around for a couple of years. But for one thing, it was new to us (partly because Electrocompaniet's UK distribution, which had had a slight hiatus, was newly established only last year) and for another this particular manufacturer likes to keep models around a for while rather than change them at whim. Given the status it has long enjoyed as aspirational audio devices (thanks, not least, to some of our own reviews down the years) this seems eminently sensible.

In fact, the whole Prelude range is a fairly recent addition to Electrocompaniet's portfolio. It stands as the nearest thing the company makes to budget kit – a concession, if you like, to the way the entry price to 'proper' hi-fi has dropped, even though classy kit like most of Electrocompaniet's still commands respect.

In terms of features, the PC-1 offers balanced outputs, while the controls echo a classic Electrocompaniet visual style in their arrangement on the front panel and the display is a simple and functional blue dot-matrix affair. A digital output is available for connection to a DAC or digital recorder.

This is a strikingly lightweight player, despite the decently made case (trimmed with solid brushed aluminium for the front panel) and internal inspection soon shows why. There's not much in there! No surprise really, with component miniaturisation and integration having long ago done away with any requirement for vast and complex circuit boards. The most conspicuous absentee, however, is the large mains transformer. In this model, power is derived from the mains by a small switched-mode supply, which is more

eyebrow-raising technical performance.

Electrocompaniet's claimed performance for the whole player is slightly more modest, but still very good and our brief experience with it in the lab confirmed the figures. Distortion is excellent: jitter is just measurable, but unlikely to be a significant hindrance.

We do have a slight quibble regarding ergonomics. Lack of any search ability from the front panel is common enough, but from there or the remote it seems impossible to select any track other than number one before starting to

### "As one would certainly hope and expect at this price, this player basically makes all the right noises from the outset."

compact and considerably lighter than a regular linear supply.

The disc transport is a DVD-capable one (the PC-1 will, in fact, play DVD-ROM discs loaded with MP3 or WMA files), which means that, like most of its breed, it reads CDs at high speed, multiple times. This may or may not improve data accuracy, but it does mean that a slight ticking escapes from the unit and also some whirring from the spinning disc, which you may just find audible if the player is near your listening position.

From the disc control logic, digital audio data are passed to the audio board, a small unit assembled almost exclusively with surface-mount components. It features a sampling-rate converter chip which performs the first, crucial stage of digital filtering and outputs a 24-bit/192kHz data stream for the Cirrus (Crystal) DAC chip. The balanced audio output is handled by a pair of specialised audio op-amps, designed to function in balanced mode at input and output and claiming an

play. Sure, it's easy enough to skip the instant the player is in play mode, but this seems quite a significant omission. Direct track access is not available, either, despite the presence of numberic keys on the remote.

#### SOUND QUALITY

As one would certainly hope and expect at this price – indeed at a good deal less – this player basically makes all the right noises from the outset. The bass is obviously well extended, treble likewise though not shrill and the midrange seems generally neutral. This all seems to apply via balanced or unbalanced outputs: indeed, one of the first things we did was to compare the two (using various amplifiers) and as far as we could tell there's precious little difference between them, hardly surprising when the phono sockets are hardwired to the XLR ones.

But, of course, with any fine audio component it's the minutiae of performance that serves to distinguish it from its peers. In this case, we







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felt that, perhaps, the most characteristic feature is the way the PC-1 handles the bass, particularly the upper bass. It is very clear and well-defined, but just a shade on the dry side. Really dry bass is certainly an unlovely thing, but we're only talking about a very subtle degree of it here and it's not by any means all bad. In fact, in some music it's welcome for the high degree of precision it brings in its wake.

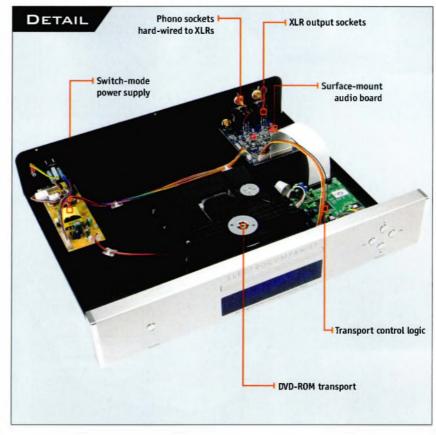
Precision is a good thing, and so is extension

#### CD SPECIFICATIONS

#### **Balanced** output

The main reason for the existence of balanced audio connections is to reject audio-frequency interference (not least mains hum) in long interconnects. In a balanced cable, two signal cores carry the same signal, but in opposite phase (polarity). Any interference picked up by one core will be picked up identically, in the same phase too, by the other. At the receiver, the difference between the signals in the cores is detected and since the interference in both of them is the same it is nulled out. It's sometimes argued that balanced operation is intrinsically superior to unbalanced. but there's really no truth in this. Often, balanced outputs and inputs require extra electronics compared to unbalanced, so they may actually lag behind sonically because of that. In this case the two 'flavours' of output are derived from the same electronic circuit so, at least, there should be minimal difference between them, as our listening confirmed.

Switch-mode power supply Switching power supplies have been blamed for many sonic ills, but between them and old-style supplies using a big transformer there are plenty of pros and cons. Among the pros are savings in space and particularly in weight, as well as a reduction in mains-frequency hum: transformers typically radiate quite a strong AC magnetic field which can easily induce hum in sensitive circuits. On the other hand, the switching circuits, operating at a few tens of kHz, have the potential to couple interference not only into the equipment they are supposed to supply but also, via the mains network, other kit on the same circuit. Electrocompaniet's switch-mode circuit is simple and shows no signs of special filtering, so we tested its effect on the mains. It turns out that its 'signature' is very similar, up to at least 100kHz, to that of conventional supplies. There is just a trace of its switching frequency (31 kHz) and its harmonics, but in general it seems to be a harmless piece of electronics.



in the very deep bass, which this player also seems to have in abundance and because both of those areas are well covered the dryness is certainly never objectionable and sometimes not even noticeable. But the point really is that it removes just a little 'bloom' from a variety of sounds, from plucked upright bass to percussion. If one listens to quick-fire comparisons between this player and another devoid of that particular effect, it's clear enough what is happening. Heard in isolation, though, the precision is likely to be the dominant impression, the more so because far too many loudspeaker/room combinations are, at least, a touch on the over-generous side in the upper bass and a little throttling-back may be no bad thing.

So we shouldn't harp on about it, especially when, as mentioned above, the deepest bass is rather fine, well controlled and extended. Up in the treble there's plenty of reach too, not quite on a par with the best high-end players around, but highly commendable nonetheless. If you listen really carefully to subtle treble, for instance; the decay into ambience of consonants in naturally recorded vocals, you may find the smallest degree of truncation, but that's about all there is to it.

Midrange is very nearly faultlessly neutral. Once again, comparitive listening may identify a slight preference for female voices over male and for violins over violas — there's a little subjective lift to the upper mid. But you would have to make direct comparisons to spot it and only with the most 'present' of loudspeakers could we imagine it becoming irksome.

We've often remarked on the good correlation between detail and imaging performance and that's largely true here, but if anything the imaging is even more impressive than the detail. Both are good, but imaging has unusual consistency in the depth direction, making the most of those precious few recordings that can make a similar claim.

Which brings us to the suitability of this player for both good and indifferent recordings. On the whole, it's at its best with the former. It is quite good, but not amazing, at making the best of poorly recorded music. How you regard the importance of that observation will depend as much on your tastes as on anything directly related to the equipment! **HFC** 

Richard Black























MA02/09

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### Electrocompaniet

## The long view

Bowers and Wilkins' first soundbar delivers on style and sound

PRODUCT Bowers and Wilkins Panorama

TYPE Soundhar

**PRICE** £1.500

CONTACT № 01903 221500 @ www.bowers-wilkins.co.uk

est known for its solid-quality stereo speaker systems, Bowers and Wilkins has been making increasing inroads into more populist markets, notably with the Zeppelin series of iPod systems and now with the Panorama soundbar.

The soundbar, which aims to provide 'virtual surround' sound from a single, elongated speaker package is actually designed to enhance TV and movie sound quality, but with Bowers and Wilkins' hi-fi pedigree, the twochannel audiofile may well find this device of interest, especially if the TV is separate from the hi-fi system. Build quality is outstanding and the design is sublime.

Simply put, there's no other soundbar on the market like the Panorama. Weighing in at a back-breaking 14.1kg (it comes with a wallmount bracket, if you choose not to rest it on its four rubber feet, but you'll need a very solid wall) it's hewn from a solid lump of stylishly rendered stainless steel and is designed with big screens in mind, stretching out to 110cm - if you have a screen that's anything less than 42in, we really wouldn't bother.

In the middle is a control panel with a red LED display which includes buttons for setting the volume, sound mode (there's a choice of three), input source (you can have up to five) and volume level. There's also a tiny black oval remote which offers the same control options.

There are seven speaker units in total behind the fixed black steel grille: two 9cm bass drivers with a bass port each at the back and handling 50 watts between them; two 75mm

midrange drivers (25 watts each); another two pairs of 75mm drivers (25 watts a pair) for the surround channels at the sides and a central 25mm dome tweeter. It's all powered by six Class D amplifiers which can output a total of 175 watts between them

Connection-wise there's no HDMI socket, which nixes any possibility of processing any of the latest HD audio codecs but you can

suspicion of hiss or distortion

Bass is impressively detailed and controlled but, surprisingly, not especially deep, and we were just a little disappointed that there wasn't more low-end muscle on offer. If throatier depths are essential, however, there's a dedicated subwoofer output allowing you to connect up something with a bit more oomph, such as Bowers and Wilkins's own PV1, whose

### "The Panorama reflects sound from the walls to create its illusion of surround sound and it works within certain limitations."

get Dolby Digital or DTS sound via one of the three digital connections (two Toslink optical or a single digital coax input). There are also two RCA analogue inputs and a subwoofer pre out.

#### **SOUND QUALITY**

The Panorama reflects sound from the walls to create its illusion of surround sound and as with other systems of this type, it works, but only within certain limitations. Of the three audio settings, surround was the only one which managed any sort of room-wide breadth (stereo and wide both sounded cramped by comparison), but while it was able to fake sounds coming from wide of the TV, there was never any suggestion that they genuinely came from the sides of the listener, let alone behind.

But if those kind of sound effects are really what you're after, you'd be much better off investing in a genuine 5.1 system. The Panorama on the other hand, does manage to deliver an impressively full and detailed sound from its seven dinky drivers. Dialogue is delivered precisely and clearly and high frequencies too are crisp and detailed, with no spherical good looks would make a good match for the Panorama.

As a soundbar, the Panorama is clearly a cut or two above average, both in style and in sound quality. It's not a serious replacement for a genuine 5.1 home cinema system and shouldn't be seen as such. But as a best-inclass, neat audio solution that offers very good film soundtrack reproduction and does a pretty decent job with stereo too - the only real problem is the price, but as the old saying goes, you get what you pay for HFC

Dave Oliver







## In with the old

A funky design and a thrilling performance level makes this power amp an all-round winner

PRODUCT Digital Do Main B-1a

TYPE Stereo power amplifier

KEY FEATURES Size (WxHxD): 17.6x21.8x55cm Weight: 35kg Inputs: 2x XLR, 2x RCA phono Rated power: 150 watts (4 ohms) stereo, 300 watts (4 ohms) bridged O V-FET output transistors Operational modes: stereo, mono, bridged

CONTACT № 020 8462 1379 # www.abc-audio.co.uk

igital Do Main is a high-end company that's still unknown outside of Japan, but we'd be surprised if that remained the case after word gets out about this amplifier. Apart from being an oddly proportioned, but superbly built and finished integrated power amp with one input and a volume control, this is the first amplifier that we've seen that uses V-FET output transistors.

The V-FET is not a new type of transistor, but it has not been used in audio components since, at least, the early eighties. As a result the few amplifiers that have employed it have become cult classics with a few select online forums filled with discussion about their various merits. The way in which Digitial Do Main has resurrected the V-FET is not unlike the way in which another Japanese company, Audio Note (now KSL Kondo) brought the world's attention back to the single-ended triode amplifier in the eighties. Whether the V-FET will enjoy such a successful revival remains to be seen, but if this transistor is the key to the sound of the B-1 a, then it certainly

As V-FET devices are no longer manufactured, DDM builds them itself which must make it unique in the world of hi-fi companies and beyond. The company came to the attention of UK distributor ABC Audio because it makes a D-1 digital to analogue converter that incorporates MSB Platinum DAC modules and MSB is a key brand in ABC's portfolio (DDM also converts a Denon 2930 to act as an SACD player and is working on rebuilding a classic loudspeaker from the fifties called the RCA LC-1 a). The company's owner, Kazuhiko Nishi, founded the ASCII Corporation, which had early ties with Microsoft and is now a listed multimedia company, so we can safely say that he's not in it for the money.

The B-1a is a 150-watt power amplifier with alternative RCA phono and XLR inputs, you

could feasibly connect one source to XLR and another to the phonos if you wanted to use the amp as an integrated, but changing between them means reaching a small switch on the back panel, so this is not entirely practical. However, by using the amp directly connected to a source gives better results than you can achieve with most preamps, so it's worth considering

There are also volume controls on the rear panel, one for each channel and these can be used to adjust balance if required. The B-1a can be used alone as a stereo or as a mono

#### **SOUND QUALITY**

When the B-1a arrived we were in the process of reviewing the fabulous Vivid Giya loudspeaker (see The Collection 2009) and had been struggling to get as good a sound as had been produced by the next model down in the Vivid range, the K1. One reason for the latter's success was the presence of Leema's superb Pyxis/Altair IV amplification in the system, now that it had been returned we were left with our regular reference kit: amplifiers that sound pretty damn good on most speakers, but which are not in the ultra-fi

### "The V-FET is not a new type of transistor, but it has been used in audio components since, at least, the early eighties."

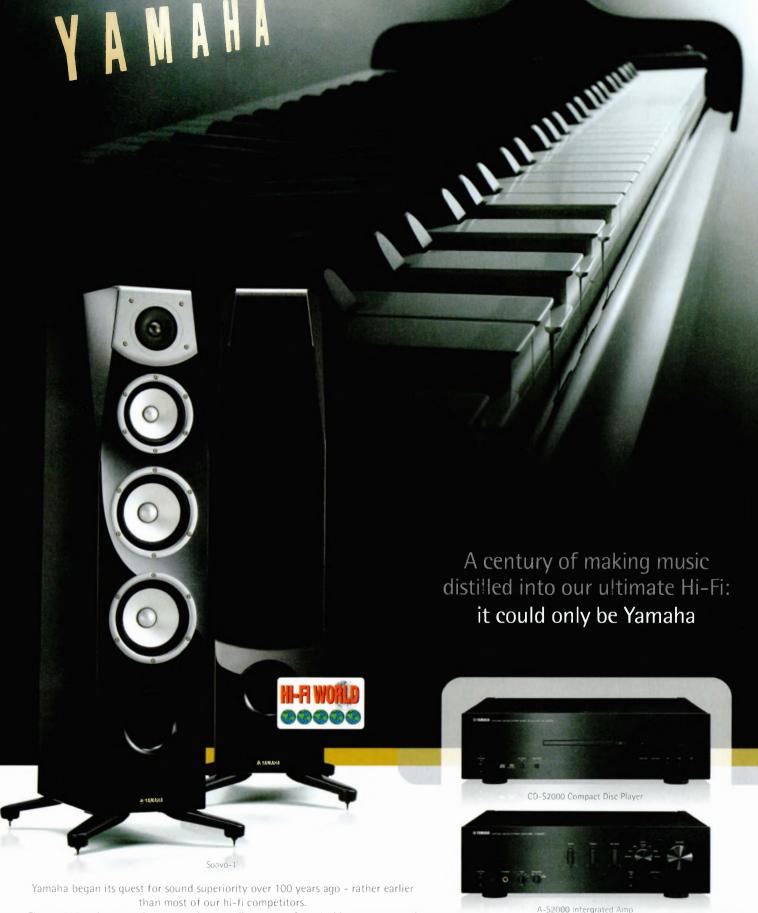
amplifier, or you can bridge it by adding a second B-1a and bolting the two together by replacing the panel opposite the power button with one that links the two units.

Operationally, there is a full on/off switch on the back panel and a standby button on the front. In standby mode the white light around the volume knob flashes on and off, like a very relaxed strobe light, which may not be to all tastes. In true hardcore style there is no remote volume function - this product is about sound not convenience

league. The Digital Do Main, however, proved more than up to the task of revealing just how thrilling the Giya is because the amp itself is remarkably dynamic.

A lot of manufacturers claim that their solid state amp has the positive attributes of a good valve design but, in truth, they rarely succeed in emulating the way that glass audio can extract the life from a recording. The Digital Do Main may or may not make this claim – its website is currently only in Japanese - but the B-1a certainly achieves this goal. From the





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off, you can hear that it delivers a fresh, vigorous and revealing sound that is thrilling with a resolute loudspeaker. A good example of the degree we're talking about is the CD *Brewster's Rooster* (see review on page 87) which sounded excellent on the regular

#### V-FET HISTORY

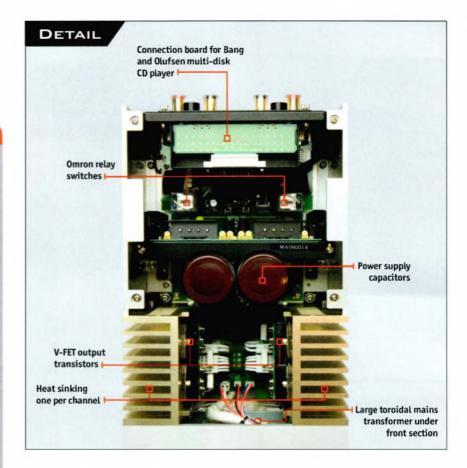
A V-FET is a static induction transistor (SIT) that was used by various Japanese audio companies between 1974 and 1981, primary among them being Sony and Yamaha. Sony produced a range of TA and WEGA series V-FET integrated amplifiers that have become collectors' items today, as very few functioning examples still exist. Even Bowers and Wilkins produced a power amplifier using this transistor, but not in large numbers. Yamaha's B1 and B2 power amps are highly sort after examples of the genre, presumably because they were rangetoppers in their time.

It's not clear why V-FETs ceased to be used, but it could have been their relative fragility, if there is a failure in the power supply upstream they are easily damaged and need to be replaced in pairs. It's also possible that the more bomb-proof MOSFET transistor that is used in most modern amplifiers made the V-FET obsolete in practical terms.

#### **INDUSTRY VIEW**

To get some perspective on the V-FET, we spoke to Sony's long-standing product supremo Eric Kingdon and asked why Sony used V-FETs in the seventies. He said, "the sound character, the overall acoustic balance was quite warm. When I say warm I don't mean rolled off or dull-sounding, they had an easy, very listenable quality. You've heard poorly designed transistor amplifiers. Particularly ones with excessive feedback which can sound steely and hard, well V-FETs tend to have a more manageable nature, they had a more even balance. If anything, they were less transistorlike than many others to my ears. Our amplifiers weren't cheap and you had to be careful in terms of matching them. If one of the output devices went [kaput] you normally had to change the pair and set them up very carefully. They were quite unique in terms of sound".

We also asked Eric why V-FETs disappeared when they did, he wasn't sure but opined that, "they weren't cheap and it could have been that or yield in terms of production rate". We asked whether MOSFETs had superceded them and while he recalled that Hitachi brought out some of the first MOSFET power amps after the V-FET, he couldn't be sure that this was the only reason.



system, but didn't quite do it for us musically. On the B-1a/Giya it became a live and vivid recording: one where the musicians delivered more energy and enthusiasm with a cohesion and groove that had barely been hinted at before.

Now the Giya is a great speaker, but a very expensive one, so we reluctantly swapped it for something more down to earth in order to get a more rounded view of the amp's potential. Enjoying the reviewing process is not strictly off-limits but it can undermine one's objectivity.

Bringing in the relatively real-world Bowers and Wilkins 802D reduced the overall adrenalin level created by the system, but it still achieved an impressivel result. It should be noted that we were using an MSB Platinum III DAC in this set-up and, therefore, were playing to the amp's strengths in the realms of dynamics, imaging and transparency. In this context it became apparent that the B-1 a's valve-style qualities extend to a slight emphasis on the midband, you hear a little more of a piano's right hand or a trumpet than usual.

The treble is extremely clean and smooth which can give the impression that it's rolled off, but the amount of image depth that it conjures suggests otherwise, it's just cleaner than most at this end of the scale – another valve characteristic. The bass has a tremendous speed as well as decent weight, it's not as powerful as something like a Bryston power amp but it is extremely articulate, you get the full thunk of a bass guitar along with all of the harmonic structure; so when the denser passages come along it's easy to follow them.

If you want to play loud a single unit is not sufficient unless you have unusually sensitive speakers, 150 watts into four ohms translates into about 90 watts into eight. This is why DDM offers the bridging and monoblock modes. The fact that you can upgrade by adding on amps is quite a neat approach, although whether it would offer greater resolution is a moot point, but it would certainly increase the grunt-factor.

If you haven't noticed, we rather like this amp. In fact, it's one of the best we've heard in a long time and if you want an open transistor design with massive power, then it's easily the best at anywhere near it's price. **HFC** 

Jason Kennedy





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## Elementary thinking

The Leema Elements Phono is a small box with big ambitions

**PRODUCT** Leema Elements

TYPE Phono stage

PRICE £495

CONTACT № 01938 811900 # www.leema-acoustics.com

eema Acoustics has been punching well above its weight recently. Initially recognised for its loudspeaker designs, the Welshpool-based company now produces three ranges of electronics to partner them.

The Elements Phono is the latest arrival and is intended to partner amps in the first two ranges. Leema claims that the Elements Phono borrows heavily from the flagship Agena phono stage, which is no mean feat given that the Agena is nearly six times the price.

The Elements phono supports both moving magnet and moving coil cartridges. The specifications suggest that few cartridges of either design will present the Elements with any real difficulty. The single input is changed via a push switch on the rear panel. Additionally, there is a low frequency filter activated by another push switch. This only functions below 20Hz with the intention of reducing noise from warped records or turntable motor noise. Power is supplied from an external 24-volt unit.

Phono stages are often rather smaller than other components but even with this proviso, the Elements must be considered truly tiny. It is a rare occasion when the long-suffering *Hi-Fi Choice* logistics manager is given the option of shipping a product in a jiffy bag. At slightly over ten centimetres wide and less than five centimetres tall, the Elements is nothing if not easy to accommodate. The small casework is beautifully finished though and

the small rubber feet provide enough grip to ensure the Elements will not be moved around by the cables being attached to the back, unless you attempt to connect something with the dimensions of a hosepipe. A very minor gripe is that the Elements is sufficiently small that the wires connected to the rear panel are hard to hide away with any degree of finesse.

#### **SOUND QUALITY**

Listening was initially conducted with a Dynavector DV20X moving coil cartridge. This has a relatively low output of 0.3 mv and can provide a challenge for some phono stages

openness that allows the slightly murky nature of its recording in the early 70s to be easily understood without losing any of its charm. The presentation is upbeat and lively without tipping over into unwelcome forwardness with bright recordings. Tonality, especially with individual instruments, is good and vocals were never less than well presented on anything we listened to. Surface noise, even on older vinyl, was well contained and rarely intrusive.

The Elements is happiest with recordings that allow it to show off this tonality and detail. Combinations of instruments and vocals up to and including full scale orchestral works

## "The specifications suggest that few cartridges of either design (MM or MC) will present any real difficulty."

to provide sufficient gain. The Elements was able to easily provide levels sufficient for all but the most ballistic of listening and did so, whilst at the same time providing low levels of background noise.

At no stage in listening did we have any appreciable problems with hum, despite placing the Elements in a number of increasingly unsuitable locations. At this price point we do not see too many Elements being used with moving magnet cartridges, but switching to a Clearaudio Virtuoso for some listening showed that the Elements has similar behaviour with both cartridge types.

The Elements is beautifully controlled and cohesive in use. The hugely entertaining musical score to *Brother on the Run* is reproduced with a fine soundstage and an

were always presented with the same aplomb. Switching to more stark electronic offerings such as Boards of Canada's *The Campfire Headphase* saw it become slightly more congested and less assured, but still able to convey the punch and drive within the recording.

The only real area where the Elements is ever less than excellent, is in the reproduction of very deep bass. Listening to Kraftwerk's *Minimum Maximum* live performances, there was a sense that the very lowest notes were being reined in slightly.

The Elements is a very talented and welcome addition to this competitive part of the market. The specification, performance, and build quality are all extremely impressive. Judged by the toughest standards it is not a complete all rounder, but it is an essential audition at this price point. **HFC** 

Ed Selley







## **Upping the Ante**

Can PMC's new 'luxury' fact.8 speaker justify its premium price?

PRODUCT PMC fact.8

TYPE Floorstanding loudspeaker

PRICE £4,600 per pair

KEY FEATURES Size (WxHxD): 15.5x105x38cms

○ Weight: 20kg ○ Drivers: 19mm soft-dome ferro-fluid driver, 2x 140mm precision drivers ○ Sensitivity: 88dB

○ Impedance: 8 ohms ○ ATL+ bass loading

CONTACT ☎ 01582 405694 ∰ www.pmc-speakers.com

t's roughly 20 years since PMC – the initials abbreviate Professional Monitor Company – first appeared on the hi-fi speaker scene. Since then, the company has enjoyed consistent growth alongside a steadily enhanced reputation in both the hi-fi and studio monitoring fields, with an inexorably expanding range of models to suit all manner of listening environments and requirements.

Apart from obvious distinctions in surface finish, some are more clearly oriented towards home use and others towards the studio. Despite this, plenty of common ground has given the brand a solid and coherent identity that treads a well-judged line between performance and value for money.

Having created speakers that seem to satisfy both domestic and professional markets equally well, PMC has just introduced the £4,600 per pair fact.8, the first ever model that's primarily designed for and aimed at the upmarket hi-fi sector.

The distinction is clearly visible: in the superslim front view, in the luxury-quality, real-wood veneer and fashionably sharp-edged enclosure, in the classy spike-accommodating outriggers, in the attractive silver-plated terminals and links, in the hidden magnetic fastening for the grille, and in the little switches that can subtly shift tonal balance.

All these features have much more obvious appeal to the audiophile and domestic hi-fi communities than to professional users, and that's without examining any of them in detail, or indeed scrutinising any of the internal features of the speaker.

We'll get on to the hidden stuff in due course, but it would be a shame not to pay due attention to the fact.8's very classy presentation. The enclosure itself is beautifully built and veneered on all six faces in a choice of four rather unusual wood veneers. Our samples came in a very subtle 'graphite poplar', giving a dark grey impression at a

distance, while delicate grain and a slight deep reddish tinge are revealed close up. The option list includes 'rich walnut', 'natural oak' and 'tiger ebony'. A full-height dark grey fabric grille fits flush against the front panel with no visible means of support; offer it up and

damped folded column with a large port output near the floor. In this case, an extra 'trap' section is added that allegedly reduces coloration from the port and could qualify the loading as a 'labyrinth'. To make room for the ATL, the speaker is quite deep.

## "The fact.8s supply impressively convincing imaging across an unusually generous listening zone."

magnets concealed under the veneer 'suck' it firmly into place.

The floor coupling is particularly neat. Two chrome-plated steel 'ingots' (each 230x35x9mm) are bolted edgewise into deep 9mm slots in the base of the speaker, adding mass and providing a solid platform for fixing the adjustable, reversible and chrome-plated spike/ball feet. The net result is both stable and effective – but could have been significantly improved if proper locknuts had been supplied instead of the commonly seen little thumbwheel nuts that tend to work loose all too easily.

The twin terminal socket/binder pairs and optional connecting strips are all silver-plated, and are fixed through a substantial steel panel that accommodates the complex 24dB/octave internal crossover network. Also on this panel are two tiny toggle switches, each of which allow selection between three settings for relative bass (0, -3dB, -6dB) and treble (0, -1dB, -2dB) level, allowing adjustment to suit speaker positioning, system and room characteristics and personal taste. These are claimed to operate without introducing any sonic compromise.

In order to achieve that super-slim front view, fact.8 uses two PMC-built main drivers, each relatively small (nominally 140mm) in diameter, with lightly doped 95mm diameter flared paper cones. The tweeter, sourced from SEAS, is an unusual device. The basic dome is 19mm in diameter, but it has a wide surround that also contributes especially at the lower end of the tweeter's working range and has an outside diameter of 32mm. The perforated metal cover provides protection and is also claimed to enhance dispersion.

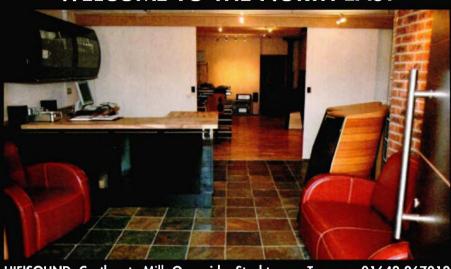
The bass loading is supplied by one of PMC's trademark ATL transmission lines – a well

With the bass set 'flat', the treble at '-2dB', and the speakers positioned well clear of walls, the averaged in-room far-field response looks very well ordered. It holds within +/-6dB right across the audio band, and +/-4dB above 55Hz. Sensitivity is a very respectable 89dB.



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#### SOUND QUALITY

Auditioning was carried out in a heavily furnished and somewhat irregular 4.4x2.6x5.5m (WxHxD) room. The speakers were two metres apart with their backs 0.6 metres from the nearest wall. Most of the listening was done using a Naim CDS 3/555PS CD player, a modified hybrid Rega/ Linn Sondek LP12 with Rega RB1000 tonearm and Soundsmith Strain Gauge cartridge and a Magnum Dynalab MD 106T tuner. Amplifiers included a Naim NAC552/NAP500 combo and an exceptional integrated valve amplifier called theLars. Cables were from Chord Company, Vertex AQ, Phonosophie, and Naim, while equipment supports included Mana, Vertex AQ, Naim and Townshend types.

After installation, it took just a few seconds to appreciate that this loudspeaker is something really rather special, especially in view of its rather modest looking driver line-up. Its most obvious strength is a notable wide dynamic range, less because of the dynamic expression per se, which is more or less average, but rather because its background 'noise' or 'mush' floor is exceptionally low.

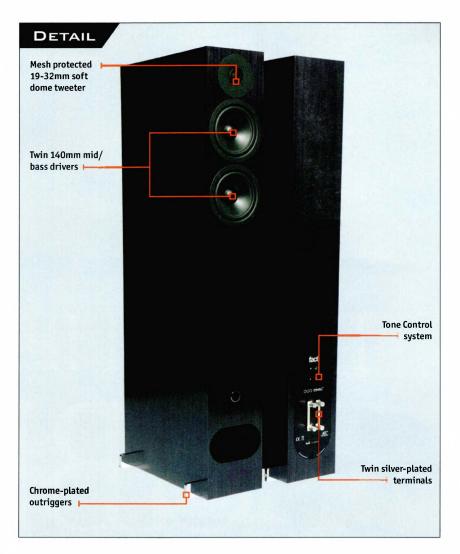
This is essentially a wide-dispersion design, so if the precision and focus of the stereo soundstage is slightly diluted, the fact.8s supply impressively convincing imaging across an unusually generous listening zone – much wider indeed than the separation of the speakers themselves. They also go some way towards filling the end of the room with a spacious and airy soundstage, well detached

#### TONE CONTROLS

Thirty years ago, tone controls were a normal part of nearly every amplifier and a good proportion of speaker systems too. They provided a simple and costeffective way of 'tweaking' a system slightly to cope with minor tonal balance anomalies that can arise from a number of factors.

By the beginning of the 1980s the tide had turned against tone controls of all kinds. Certainly poor implementations had rather sullied their reputation, and it's also true that building them into amplification does introduce extra resonant circuits.

But provided due care is taken (the most important part being the selection of sufficiently high-quality switches, as this is really the only extra compromise involved), incorporating some balance adjustment can be very useful. The subtle (1dB steps) available for relative treble level is mostly to do with personal taste and system characteristics, while the coarser (3dB steps) adjustment available at the bass end is intended to provide compensation for either close-to-wall or free-space siting.



from the speakers themselves, and assisted by a general freedom from any boxy effects.

The balance isn't entirely neutral, as the upper midband is a little 'forward', the more so because the upper bass and lower mid are just a shade shy. This tends to overemphasise detail slightly, which is arguably beneficial, but it can also add a touch of aggression when the volume is turned up high.

Given the speaker's size, the good bass extension and weight came as a bit of a surprise, though certainly a very welcome one. There's usually some compromise in any loudspeaker design and here the designer seems to have opted to supply full bass output at some expense to the maximum volume it puts out.

However, there's also the observation that because the speaker sounds so exceptionally clean and smooth, there is a tendency to wind up the volume and listen at a rather higher level than one might with a less capable speaker. However, the fact.8 will still happily go loud enough to satisfy most domestic listeners in most rooms for nearly all of the time. Only those whose tastes extend to playing Slipknot or the Chemical Brothers persistently at the sort of levels guaranteed to irritate the neighbourhood might perhaps be better off looking elsewhere.

Criticisms are few and minor here – a high price, a slight mid-forwardness, limited ultimate loudness capability is about all. On the credit side, this is an excellent speaker: well balanced and unusually clean and clear sounding, with no discernible boxiness. Yet it's also beautifully styled, presented and finished, which is arguably even more important in an increasingly crowded marketplace. **HFC** 

Paul Messenger



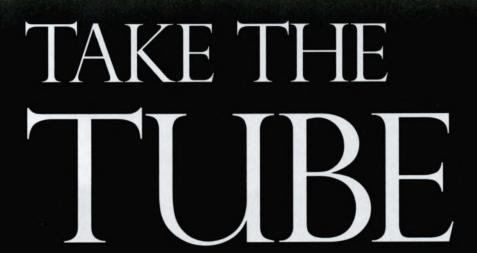
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#### **GROUP TEST & LAB REPORTS: RICHARD BLACK**

## INTEGRATED AMPLIFIERS

We test six highly desirable amps delivering verdicts you can trust



he integrated amplifier is the true workhorse of hi-fi separates.
Unless you opt for the active speakers route, you're going to need an amplifier. Those that combine preamp and power amp functions in a single chassis have obvious attractions of practicality and cost over separate units, aspirational though those may be from a purely sound-quality perspective. This situation has prevailed since the 1960s and doesn't seem likely to change any time soon.

Not all integrated amps are the same. though. A glance through the specifications alone of this group will show quite a wide variety in terms of the number of inputs and other offerings like tone controls. One amp (Pioneer) has both a USB digital input and compatibility with both low- and highoutput phono cartridges, while Cambridge fits the Azur 840A with no less than nine inputs and comprehensive multi-room functionality, and Electrocompaniet thumbs its nose at the whole features thing with just four line inputs. Output power varies by a ratio of nearly 2:1; some amps have tone controls; some feature a headphone output and so on

We all want to buy a product that meets our every practical need, but for many audiophiles sound quality is by far the most important factor. It's the one to which we devote the most time and effort, including, of course, our noted 'blind' listening tests. In these, experienced hi-fi professionals listen to the products under realistic, but carefully monitored conditions and do their best to winkle out salient sonic features without the distractions of stimuli like brand familiarity, and impressive looks.

And indeed, since the days of the venerable Leak, sound quality is where the most progress has been made. Thanks to a slow, but steady evolution in electronics and design techniques, amplifiers have become closer to the ideal of a 'straight wire with gain' – and even in cases where the designers have included a little character, the musical information quotient is certainly higher than ever. For a grand, you can get a lot of amplifier these days, as we discovered... **HFC** 

#### **EOUIPMENT USED**

- Pioneer D9 Mk2 CD player
- CD player
- Cambridge Audio DacMagic DAC
- Pink Triangle PT Export turntable/ SME309 arm/Highphonic MC-A3 cartridge
- Cables by Wireworld, QED, Kimber and Furukawa

#### **MUSIC USED**

- ▶ Led Zeppelin Black Dog
- Penguin Café Orchestra

  Concert Programme
- © Georg Bertouch Trio Sonatas
- Dose Guzman Ambrosio
- **⊘** Joseph Haydn *Symphony 99*

#### **EARS USED**

We base our subjective comments on the findings of our panel of experts from within the industry who give up their time to come and listen 'blind' to the amplifiers. This month, we thank:

Ben Beaumont (Audio Partnership)
Phil Hansen (Red Sheep PR)
Geoff Meads (Presto AV)



#### **LISTENING TESTS**

In classic *HFC* fashion, the centrepiece of the listening was a blind listening text, an attempt to remain free of prejudices and preconceptions. Listening levels were accurately matched and the same programme of music was played through each amp with minimal distractions. In addition, each amp was auditioned on its own more informally, to get the fullest picture of the character of each.

#### LAB TESTS

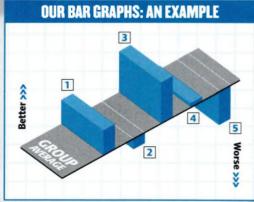
Each amplifier was measured with a variety of equipment, including a Hameg distortion measuring set and also items of audio equipment (ADCs and DACs) adapted to lab duty and reporting data for analysis to Cool Edit and Mathcad on a PC. This approach enabled us to build up a picture of the amps' performance under different conditions of frequency, level and load. This allows a truly accurate assessment of published amplifier specifications and precisely determines each amplifier's characteristics under real-world conditions.

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

#### **LAB REPORTS: THE BAR GRAPH**

Our 3D bargraphs are a simple way of showing how the products compare across five technical parameters. In each case, a percentage is given that falls above or below the group average: higher percentage means better performance (eg lower distortion, lower noise, flatter response). In this case, the parameters are:

- 1) Dynamic power: This reflects an aggregate of continuous and peak (instantaneous) power, giving an indication of power available under realistic conditions.
- **2) Frequency response:** This is a measure of precisely how smooth and linear the frequency response is within (and a little beyond) the audio band.
- **3) Dynamic range:** An indication of the background hiss level, as compared to the amp's maximum power output.
- **4) Distortion:** An aggregate figure of measurements at different frequencies and levels.
- **5) Output impedance:** A measurement of how tight a grip the amplifier has upon the loudspeaker cones.



# MSD TECHNOLOGY

Platinum Mono 200 Amplifier - the amplifier others try to beat...

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HI-FICHOICE magazine

"It just has such natural dynamics, exceptional levels of detail, excellent bass resolution and power, superbly judged tonal balance, and the ability to convey a musical performance with a greater level of holistic entirety than any other power amplifier had previously shown was possible."

"I've listened to many of the world's best amplifiers over the last 25 years. Some have been brilliant when carefully partnered with ancillary equipment and loudspeakers that suited their capabilities, and it hasn't always been the most expensive that have shown greatness. But here is one from a little known brand that has delivered superior performance to all others I have heard so far, and which is also capable of driving difficult speaker loads to high levels."

"It's quite difficult to discuss the sound of an amplifier that is, quite simply, the best that we've heard to date."

RIS BRYANT, HIFI CRITIC IS

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### **CAMBRIDGE AUDIO AZUR 840A V2**

Impressive credentials on this powerhouse amplifier

ffectively a house brand of Richer Sounds (famed as a purveyor of budget hi-fi and AV), Cambridge Audio's Azur 840A £700 pricetag might not be everyone's idea of budget, but it's not jaw-droppingly expensive either. It's also an amazingly impressive bit of kit with a front panel that's a thicker chunk of aluminium than you'll find on most sub-£1,000 amps, while the considerable weight suggests there's a lot going on inside.

The six-inch diameter mains transformer is by a mile the biggest contributor and clearly ready for some heavy-duty current delivery, but the circuitry is also unusually sophisticated, thanks in part to the use of 'Class XD' operation. This aims to achieve very nearly the performance level of Class A, but without the outrageous power consumption (hence also heat output, cooling requirements, size...) of a real Class A implementation capable of delivering this kind of power.

'XD' means 'Crossover Displacement' and is the brainchild of designer Doug Self, a man both ingenious and meticulous, whose stated ethos is that, since we can't agree on what constitutes an acceptable level of distortion, we should attempt to reduce it to levels that no sane person could argue are audible.

As well as Class XD, the 840A offers many deluxe features including accurate 1dB-step volume control by means of relays, nine line inputs (one balanced), provision for custom naming of inputs and full multi-room installation compatibility via Cambridge's 'Incognito' system. Non-intrusive overload protection simply winds the volume down as danger levels are approached.

#### **SOUND QUALITY**

If there's a problem with this amplifier's sound, it's one we've come across on a few

occasions in the past with ultra-low-distortion products – they can sound a bit bland in comparison with their peers. This was evidently the case here, the 840A suffering somewhat against the rather more characterful performance put in by other amps in the group. The main reason we're confident of this analysis is that our listeners' notes refer here and there to a slight lack of dynamics or of 'bite' in the sound, but never in the same place from any two listeners. On the other hand, each listener praised a wide variety of sonic aspects at other points in the presentation.

For instance, each listener in turn mentioned the way in which very busy musical textures stay clear and are easy to hear into and dissect, and all also picked up on the understated strength of the bass. Because that bass is very well controlled, it is rather less overt than some amps make it and so the 840A can sound a little lean at times. When there is real need of low-frequency power, though, it is there in spades. Midband tonality seems to be occasionally disconcerting, seeming one moment slightly thin, the next a touch warm according to the track playing. Again, it seems that this is in large part a reaction to the more coloured presentation of some other amps in the same group.

Listening sighted and without the restrictions of blind testing, we were able to enjoy the vast power reserves of the 840A. More significantly, we were able to appreciate that its lack of character is a very real delight in the long term. Freed from the distractions of direct comparisons, in long-term listening it delivers vast amounts of detail with a minimum of fuss.

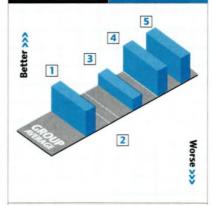
Not everyone will want such simplicity, but if you do, this is a good place to look. **HFC** 



#### **LAB REPORT**

Because of the volume-reducing protection circuit already mentioned, this amp is very hard to drive into clipping. It can be done briefly, at a level equivalent to about 160 watts into eight ohms: under steady-state conditions the output meets Cambridge's 120-watt specification closely. The frequency response is about as flat as they come, some 0.1dB shy at 20Hz and in the treble at 42kHz, while output impedance is very low at about 0.05 ohm. The volume steps are only approximately 1dB, though outside the lab it's hard to see why this should matter. As for distortion, it is pretty much notable by its absence, staying below 0.003 per cent (-90dB) under any conditions we tested and, for the most part, better than 0.001 per cent. Not only is it low in level, it is low in harmonic order, mostly second and third harmonics with a trace of fifth at high frequencies. This amp really does embody Self's concept of 'blameless' audio electronics.

#### **HOW IT COMPARES**



- 1] Dynamic power >> +30%
- 2] Frequency response >> 0%
- 3] Dynamic range >> +10%
- 4] Distortion >> +30%
- 5] Output impedance >> +30%

| SPECIFICATIONS                  |        |        |
|---------------------------------|--------|--------|
| Measurement                     | Rated  | Actual |
| Power output (8 ohms)           | 120W   | 132W   |
| Distortion (1 kHz/8 ohms)       | 0.001% | 0.001% |
| Frequency response (20Hz-20kHz) | ±0 3dB | ±0.1db |



## No compromise sound from any system





May '04







Hi-Fi World Aug '02

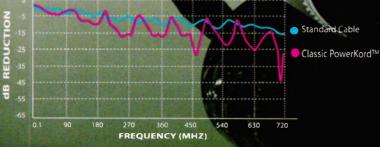
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'I've just attached a Classic PowerKord™ to my Marantz CD6000 and rather than bore you with superlatives about the improvements, I would simply like to say that I won't be upgrading to a newer CD player for some time. Well done nice product." Mr C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

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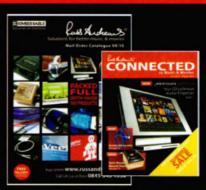
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### **ELECTROCOMPANIET PI-2**

Expensive amp with a distinguished track record

espite rather patchy UK distribution in the past, Electrocompaniet is a company with a long and honourable history. As long ago as 1976, one of its products was described as 'the world's best sounding amplifier' and the brand has enjoyed a strong core following around the world ever since. It's decidedly not one of those brands that likes to introduce a new product range every time the wind changes, but as it happens, its recent reappearance in the UK coincided with a new range, the 'Prelude' line, of which this is the more powerful amp. There's also a PI-1, which is rated at 50 watts per channel.

Construction and features are not wildly out of the ordinary, though the input lineup is a little unusual in having two balanced inputs alongside the two unbalanced ones (all line level - there's no phono option). These days, a total of four inputs isn't that generous, but for most conventional stereo systems, it will suffice. Output is via a single pair of terminals per channel. But if Electrocompaniet has saved money on the connections, it has spent it inside the amplifier. The mains transformer is quite sizeable and the circuit board is very well filled with components. The vast majority are surface-mount parts (including integratedcircuit volume controls from Wolfson), but a few good-quality plastic film capacitors stand proud of the circuit board, and power supply smoothing has a very generous provision of electrolytic capacitors.

The circuit seems to be largely dual-mono, with separate heatsinks for each channel on opposite sides of the chassis. These run warmer than most (see lab report) so a decent amount of space around the amp for ventilation is not an optional extra. Output stages use bipolar transistors, with two pairs for each channel providing safe operation into low-impedance

loads. Operation is simple and hassle-free with one small exception: the first press of a volume button (front panel or remote) can sometimes lead to volume changing by one step in the wrong direction, though subsequent steps will be correct.

#### **SOUND QUALITY**

Our listeners agreed strongly that this amp was the star of the group – between them they hardly managed a single criticism. Just about the nearest to that were a couple of comments about the last (operatic) track, which didn't seem to have quite the scale, nor the level of detail, that one or two others in the group managed. Overall, though, the PI-2 made an overwhelmingly positive impression thanks not least to its bass, definition and dynamics.

What's perhaps particularly noteworthy is that praise was distributed across the various musical extracts, which varied widely not only in musical style but in approach to recording. The Led Zeppelin number, in particular, is not by any stretch a 'clean' recording but, heard through this amp, it had plenty of detail, good soundstaging and a lively quality that made everyone wish for more of it. By complete contrast, our baroque chamber piece is a very detailed and 'pure' bit of recording art but it still attracted similar comments about musical flow, good dynamics and realistic soundstage.

That's not to say that this amp is rose-tinting everything. One listener commented that in the baroque track the violins sounded a little over-bright at times. That said,

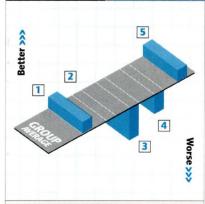
Electrocompaniet seems to have mastered the elusive art of maximising the good points of a recording without losing its particular flavour. As a result, music becomes engaging, vigorous and persuasive, with plenty of detail, but above all, a real sense of direction. **HFC** 

# WINDERSON OF THE STATE OF THE

#### **LAB REPORT**

Electrocompaniet's rating of 100 watts is bang on, with just a little more (about 110 watts) available for peaks. It's delivered from a low source impedance, which will help preserve the admirably flat frequency response under real-world conditions. Distortion is mostly low and predominantly secondand third-harmonic in nature: it reaches about 0.005 per cent at high output, pretty much independent of frequency, and disappears into background noise below about two watts output with no obvious sign of crossover distortion. We were slightly surprised to find residual noise higher than most amps these days achieve, though it's still low enough to disappear unless one uses particularly sensitive speakers (not that likely with a 100-watt amp). Volume steps are mostly 1dB, but occasionally 0.5dB. Given this and the reverse step direction issue noted, it seems there's a software glitch, but it doesn't impact on sound.

#### **HOW IT COMPARES**



- 1] Dynamic power >> +10%
- 2] Frequency response >> 0%
- 3] Dynamic range >> -40%
- 4] Distortion >> -20%
- 5] Output impedance >> +10%

| SPECIFICATIONS                  |        |        |
|---------------------------------|--------|--------|
| Measurement                     | Rated  | Actual |
| Power output (8 ohms)           | 100W   | 98W    |
| Distortion (1kHz/8 ohms)        | 0.006% | 0.005% |
| Frequency response (20Hz 20kHz) |        | ±0.1db |



## Sonus faber.

CREMONA SERIES. LOOK TO THE PAST TO HEAR THE FUTURE.

## "FAST, TRANSPARENT, DYNAMIC, OPEN, CLEAR, VIVID." HI FI CLUBE / JOSÉ VICTOR 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.

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 crosssection, 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

At the top of the new Cremona range lies the brandnew 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



Sonus Faber CREMONA M







£1,270 201938 811900 # www.leema-acoustics.com

### **LEEMA PULSE**

Gorgeous-looking amplifier packs quite a performance

ometimes the most trivial things can make the biggest impression. We were greatly taken with the power button on this amp. It does the same as most – brings it out of standby – but it has just the right combination of travel, spring force and general feel and shows how a little thought can add to general pride of ownership in unexpected ways.

There's a lot more to like about the Pulse amp, of course. The rest of the front panel, for starters, is a large brushed aluminium affair with a deeply engraved logo and lots of blue LEDs that indicate volume setting and selected input. The knobs for both those functions are also made from solid aluminium and rotate nicely and without wobble or eccentricity. Leema has chosen an unusual way to illustrate volume setting, with eight well-spaced LEDs around the volume control from eight to four o'clock, and eight closely-spaced ones below. The former show large steps and the latter small ones of 1dB (actual volume steps are 0.5dB). We'd have lit the small-step LEDs in the opposite direction, but anyway it's a neat solution for easy repeatability.

We almost felt nostalgic when we opened this amp up and found not a single surface-mount component on the audio board. With its electronic volume control and recent vintage output transistors it's certainly not a throwback, however, and has clearly been painstakingly designed with a small number of high performance op-amps and a selection of small-signal transistors in addition to the output power devices. Input selection uses relays. Output transistors are mounted on a single large heatsink with a simple over-temperature protection device, and power is sourced from a large toroidal transformer. In addition to five line inputs there are both

flavours of phono, while multi-component integration is provided by Leema's proprietary LIPS – 'Leema Intelligent Protocol System'.

#### **SOUND QUALITY**

Although this amp didn't quite elicit such a chorus of praise as the Electrocompaniet, it still shed light on recordings in ways that no other amps in the group quite did, suggesting that it certainly has its own unique strengths. Among hi-fi specifics, it was greatly liked for its bass, which was variously described as deep, detailed and well defined.

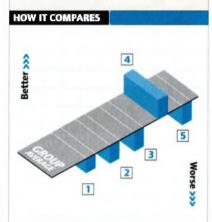
Among other characteristics, this seems to be a very honest amp that does little to conceal the limitations of imperfect recordings. We always make a point of including at least a couple of those in the listening session since so few recordings in the real world come truly up to scratch. For example, the Penguin Café Orchestra track is good in many ways, but lacks a little detail in the midrange and that was picked up on with this amp. Led Zeppelin sounded a little brash, while with the operatic track, our listeners duly picked up on some excellent detail in the lower strings of the orchestra, as well as a very well-scaled crescendo to a powerful climax.

It seems, indeed, that Leema has struck a pretty good balance between warts-and-all and general musical life and energy with this amp. The main warning note we would sound is about voices, which sometimes seem just a shade dry and less clear than we'd expect, but otherwise this is an amp with a fine combination analysis and just enough character to keep things interesting. The phono stage, not part of the blind test, is very fine with moving magnet cartridges, just a little constricted with moving coils. HFC

# THE OPEN AND THE CAPTURE AND T

#### LAB REPORT

Output power is fine and offers brief peaks just above 100 watts. Frequency response is not quite as broad as some, though 0.2dB attenuation at both ends of the audio spectrum still constitutes a very flat response. Some degree of rolloff in both bass and treble (-1 dB about an octave and a half above and below the audible range) is arguably sensible and reduces opportunities for untoward overload and interference. Phono frequency response, practically identical for both cartridge types, is as flat as the proverbial in the bass and just a shade rolled off in the treble, O.5dB at 20kHz. Distortion is very low indeed and unusually consists mostly of 5th harmonic in the midrange: treble distortion rises just a little. At any frequency, distortion disappears into noise at low outputs. The noise floor is a shade on the high side by current standards, but once again is not likely to be audible under normal conditions



- 1] Dynamic power >> -15%
- 2] Frequency response >> -20%
- 3] Dynamic range >> -20%
- 4] Distortion >> +20%
- 5] Output impedance >> -20%

| SPECIFICATIONS                  |         |        |  |
|---------------------------------|---------|--------|--|
| Measurement                     | Rated   | Actual |  |
| Power output (8 ohms)           | 80W     | 76W    |  |
| Distortion (1kHz/8 ohms)        | 0 00800 | 0.002% |  |
| Frequency response (20Hz-20kHz) | ±0.3d8  | ±0 2db |  |







**£750 2** 02890 279830 **www.marantz.com** 

### **MARANTZ PM8003**

Packed with features, this amp really holds its own

arantz effectively has two product lines for two-channel stereo – the regular stuff (model numbers in the thousands) and the esoteric (model numbers under 20). The PM8003 is currently the top of the former range, boasting (wouldn't you guess?) technology 'trickled down' from the esoteric stuff. It's not an idle boast either, as this is a considerably fancier amp in many ways than some of the dearer ones here, thanks to Marantz's size and consequent advantages on the volume purchasing and manufacturing front.

Superficial fanciness includes luxuries like tone controls, phono stage (moving-magnet only), separable pre- and power amplifier sections, two record in/out loops and twin switched speaker outputs. At least one other amp in the group has any one of those, but none offers the whole lot. But then you can get those for less than £750 and what we're more interested in is the sound it all makes. Of course, Marantz has put its well-loved 'Hyper-Dynamic Amplifier Module' (HDAM) circuits to good use here, high-performance circuit blocks built using discrete transistors. In fact, discrete components dominate the proceedings, though input switching uses an integrated circuit, making the circuit boards

There's little evidence of tweaky component types – most of the resistors are tiny commercial-grade parts, for instance – but a few can be found, including high-speed rectifier diodes, which generate less switching noise than regular types. The mains transformer is a decent-size toroid and the volume control, uniquely in this group, is an 'old-fashioned' motorised mechanical potentiometer, which gives single-turn operation from minimum to maximum volume,

that's really much nicer than the endless twiddling required for most electronic controls. The case is basic, and copper-plated.

#### **SOUND QUALITY**

It's quite clear from our listeners' reaction to this amp that it manages some aspects of performance very well indeed, and others, perhaps not quite so admirably. Specifically, it is very good with dynamics, musical flow and the overall 'big picture', but perhaps less good at detail, rhythm and the minutiae that make for analytical listening. Fair enough; an amp at this kind of price that sets out to be all things to all men is likely to fail, but one like this that knows its strengths, can make some listeners very happy, if perhaps leaving a few unmoved.

Therefore, the listener on our panel who really likes a detailed sound was slightly underwhelmed by the PM8003, commenting that something seemed amiss, but it was hard to pinpoint what. Later in the session, he had identified a slight loss of fine detail as the culprit. The others, meanwhile, were much more taken with the general atmosphere, the 'swing' and the lively pace of the sound, which largely convinced them of the music realism even though they did comment on the odd moment of smudged or omitted detail.

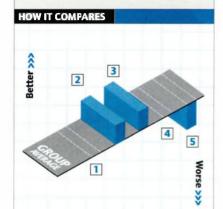
It's a tricky compromise and one we spent a good amount of time investigating after the panel had left. Really analytical listeners are unlikely to be won over, but we did feel that the life and energy make the sound very appealing, especially at low volume.

Interestingly, the phono stage seems a little more detailed than the line inputs and judged purely as a phono-driven amp, this one scores rather higher. There is also a very impressive degree of bass drive, which again, is better than from line-level sources. **HFC** 



#### LAB REPORT

Output power is about average for the group and brief peaks can easily exceed 100 watts. The moderate output impedance (by solid-state amp standards) will cause the frequency response to deviate very slightly from what is otherwise an exceptionally flat curve, only one tenth of a dB shy at an octave above and below the audio hand. The phono response shows signs of very mild tailoring, with a small (0.2dB) lift and very gentle rolloff in the high treble. Distortion performance is very good, with midband levels not much above 0.001 per cent and treble still comfortably below 0.01 per cent. Output levels below a watt or two are essentially distortion-free. Noise is very low (also true of the phono stage, incidentally, though of course it is noisier than the line inputs). Congratulations to Marantz on achieving all this with very low power consumption - standby consumption of 0.2 watts equates to about 20p per year.



- 11 Dynamic power >> 0%
- 2] Frequency response >> +20%
- 3] Dynamic range >> +20%
- 41 Distortion >> 0%
- 5] Output impedance >> -30%

| SPECIFICATIONS                  |        |        |
|---------------------------------|--------|--------|
| Measurement                     | Rated  | Actual |
| Power output (8 ohms)           | 70W    | 88W    |
| Distortion (1 kHz/8 ohms)       | 0.020  | 0 003% |
| Frequency response (20Hz-20kHz) | ±0.3dB | ±0.0db |





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### **MYRYAD MXI2080**

Mid-price amp holds its own among the competition

he big Myryad news of late has been the Mi all-in-one, but the company's range of conventional stereo (and indeed multi-channel) products continues to thrive. It hasn't changed much in recent years and we've reviewed this amplifier before, but it's always interesting to see how old favourites like this stack up against newcomers, hence its reappearance.

Like other amps in the MX series, the '2080 is modular in concept. Each power amplifier channel is almost entirely self-contained, including power supply rectification, capacitors, and the heatsink. All they share is the mains transformer, which has a separate winding for each channel. Between the output channels sits the preamp board, which has its very own mains transformer: the logic circuitry is powered from a third transformer which, of course, is the one operational in standby mode.

That's all pretty purist stuff, a theme continued on the preamp board, which uses relays for switching and a high quality electronic volume control. As we did, you'll probably find yourself reaching for the remote in preference to the front panel knob, as the latter (beautifully made and devoid of any trace of wobble) is a bit stiff and awkward to turn, while the half-dB volume steps make for an awful lot of turns from top to bottom of the range. Connection between preamp and power amps is made externally, using short interconnects (supplied), where extra sockets allow for easy bi-amping, daisy-chaining and so on. Eight line inputs are available and two recording outputs.

Newcomers to this amp often spend a while puzzling over how to switch it on, and doing so accidently, due to the fact that the decorative metal shape directly above the display is also a touch-sensitive on/off switch!

#### **SOUND QUALITY**

Our listeners apparently didn't quite know what to make of this amp and comments on its performance varied more than those for any other in the group. All the same, a consistent picture emerges when one looks closely. The real issue seems to be the character of the bass, which is full and tuneful but not always the tightest around. Given the wide variation in how listeners perceive bass – some are much more sensitive to bass 'snap' than others – and the obvious differences in both level and nature of bass from one track, or style of music, to another, some divergence of opinions is therefore inevitable.

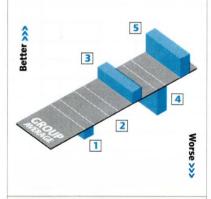
So it was only natural that the panel member who most values extension and tuning of bass liked this amp a lot, finding it very satisfying and convincing, particularly with sounds like plucked double bass. With limited extension or any degree of dryness, that can easily become an indistinct dull thud, but the Myryad made it sound very much like a real instrument. This brought out details in the Penguin Café Orchestra that he hadn't heard before, and the same qualities brought new life to the baroque track.

On the other hand, our rhythm fiend was less convinced, missing some of the excitement in Led Zeppelin and finding the Penguin band less energetic than other amps had made it seem. He also pointed to some harshness in the treble, which doesn't tie in with our other listeners' notes nor with our sighted listening later. In all probability, it's simply a side-effect of frustration with the bass. Indeed, the other listeners were distinctly complimentary about the treble and midrange, finding each rich in subtle detail and precisely imaged. At least the listeners all agreed on dynamics, which they found natural and unforced. **HFC** 

#### LAB REPORT

Continuous power output is par for the course in this Ultimate Group Test and peak power is about the same too, though the relatively small power supply capacitors in the MXI2080 make it less able to sustain that peak power for a useful time span. Nevertheless, it's a gutsy enough amp, an inconsequential couple of watts short of its notional rating. Output impedance is low and frequency response across the audio band very flat, with less than 1dB down an octave above and below audio. Distortion is low, if not the lowest in this (notably competent) group, and consists almost entirely of second and third harmonics, which vanish below about 5 watts output. Distortion barely rises at all at high frequencies. The noise floor contains a small amount of hum, but it's almost all pure 50Hz magnetic pickup from the transformer, only likely to be the least bit audible with very sensitive (large!) speakers.

#### **HOW IT COMPARES**



- 1] Dynamic power >> -10%
- 2] Frequency response >> 0%
- 3] Dynamic range >> +10%
- 4] Distortion >> -30%
- 5] Output impedance >> +20%

| SPECIFICATIONS                  |        |        |  |
|---------------------------------|--------|--------|--|
| Measurement                     | Rated  | Actual |  |
| Power output (8 ohms)           | 80W    | 78W    |  |
| Distortion (1kHz/8 ohms)        | 0.02%  | 0.006% |  |
| Frequency response (20Hz-20kHz) | ±0.2dB | ±0.1db |  |



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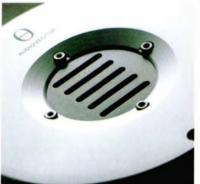
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### **PIONEER A-A9 MK2**

Budget-priced amp struggles to make an impact

ioneer's 'G-clef' range, of which this is a part, was launched a couple of years ago and marked Pioneer's re-entry into the serious stereo separates market. One of the key features of the range was that it had been subjectively assessed and honed at Air Studios, George Martin's recording facility in Hampstead, where Pioneer has strong connections. Now in Mk2 quise, the products have been slightly revised, changes in this case including a revised volume control (now electronic rather than the single-turn potentiometer of the original version), tweaked circuit board layout for lower in-circuit impedances, and a modified power supply with low-loss, high-speed rectifier diodes and particularly low impedance

Internally, the A9 is a fully dual-mono design, at least as far as the power amplifier stages are concerned. Each of these has its own circuit board and heatsink and even its own toroidal mains transformer, which if nothing else, ensures that maximum output is the same when one channel is driven as it is when both are going gung-ho. The preamplifier section is a conventional stereo board, including a phono stage switchable (at the rear) between moving-magnet and moving-coil sensitivity.

There is also a USB socket on the rear, intended for connection to a computer rather than a portable music player. This seems a sensible idea, incorporating a basic DAC which both upgrades computer audio performance and facilitates connection of a computer to the domestic hi-fi. On the whole, component quality within the A9 is, as one would expect, fairly basic. But Pioneer makes mention of the output transistors, which are fast multiple-emitter types and help to give the circuit a high slew rate, often cited as an important factor for avoiding transient distortion.

#### **SOUND QUALITY**

It's perhaps a shame that this amp was being compared with competitors – some of which cost quite a lot more – as its performance came in for some criticism. It's clearly not without merit, but our listeners felt that overall it lacked something in terms of drawing one into a performance. Since this was something that the (cheaper) Marantz amp was rather good at, we can't quite let Pioneer off the hook on grounds of value.

If one comment summed up the reservations, it was that 'Everything is there, but it seems to be happening in the background'. Somehow, the aural image conjured up by this amp just doesn't seem as immediate as that produced by most of the others in the group. On the other hand, our listeners felt that the overall tonal character is fine, perhaps a little on the mellow side, but none the worse for that, while the images it produces are clear and stable, and detail is generally good. Presentation was described as smooth, and while that isn't necessarily a bad thing, it may simply be that it's really rather too smooth for its own good. It polishes not only the rough edges but also genuine musical information - those little details that may not be consciously perceived, but which bring music to life.

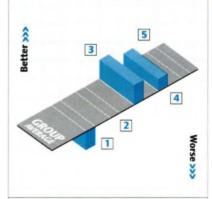
As a result, there is not as much dynamic impact as one expects to hear from familiar tracks, nor is there quite the rhythmic precision and vitality. Bass is present but not always very well integrated with the rest of the frequency band, while high treble seems a little closed. At best, the sound is nice, but in the kind of unthreatening way that makes for great background music but disappointing hi-fi. This is a nicely turned-out product with good features, but it just doesn't seem to do the music thing as one would wish. HFC



#### LAB REPORT

There's little enough in the technical performance of this amp to explain its lack of sonic immediacy. The most likely candidate would appear to be its distortion spectrum, which contains an unusually large number of harmonics, especially at output levels above about five watts. But even so, can even fourteenth-order harmonics cause so much damage when their actual level is well below -100dB (0.001 per cent)? The total distortion figure is higher than that, but is dominated by lower orders of harmonic fourth at high power, second at medium power. Distortion rises a little with frequency but is still only around 0.03 per cent at 20kHz, at medium and high outputs. For the rest, everything seems largely beyond reproach. Output power is the lowest in the group but still perfectly healthy (and no, we weren't running into overload during the listening!). Frequency response is exemplary via line in and a shade rolled off in the treble via phono.

#### **HOW IT COMPARES**



- 11 Dynamic power >> -20%
- 2] Frequency response >> 0%
- 3] Dynamic range >> +20%
- **4]** Distortion >> +10%
- 5] Output impedance >> 0%

| SPECIFICATIONS                  |        |            |  |
|---------------------------------|--------|------------|--|
| Measurement                     | Rated  | Actual     |  |
| Power output (8 ohms)           | 70W    | 65W        |  |
| Distortion (1kHz/8 ohms)        | 0 05%  | 0 00 25% n |  |
| Frequency response (20Hz-20kHz) | ±0.3dB | ±01db      |  |





# **CONCLUSIONS**

#### Badge winners make up the majority of our amp Ultimate Group Test

e claimed in the introduction to this Ultimate Group Test that sound has, on the whole, improved considerably over the years. This comment was initially prompted by a nostalgic audition of a venerable model that had just been returned to active service after restoration. Reckoned quite a winner in its day and still pleasant enough, it was still seen off on grounds of neutrality, detail, stereo imaging and general musical vim and vigour by all six of the present contenders. They are all, at the very least, competent

But differences exist and for once it appears that they correlate rather well with price. That certainly applies to the most and least praised of the models here: Electrocompaniet's PI-2 at £1,600 is the dearest, but the compliments showered on it by our listeners (backed up by our own measurements) suggest that it's a justifiable expenditure, at least as long as you don't need a hosts of inputs or any extra features. By contrast, Pioneer's A-A9 Mk2 seemed disappointingly short on involvement and general insight and indeed even at its

relatively modest price falls short of the standards we've come to expect from its maker.

That leaves four amps with the same overall score, though the Marantz and Cambridge Audio models gain a point for value by virtue of being considerably cheaper than the Leema and Myryad models. Points ratings are about all they share, though, as their particular sonic characters are distinctly dissimilar, with the Cambridge being neutral almost to a fault but extremely detailed with it, while the Marantz is more about the big picture with less emphasis

on the little things. It's very much a case of horses for courses – if everyone's taste were the same we could shorten these reviews to a tick or a cross!

Dearer they may be, but Myryad's and Leema's offerings add some refinement and go some way towards combining the strengths of Cambridge and Marantz models without any of the drawbacks or limitations of either. Leema gives you very good detail and terrific energy, plus a fine phono stage, while Myryad has come up with some very persuasive bass and a great way with dynamics. **HFC** 

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#### CD PLAYERS

#### ARCAM CD17 £700

Silky-smooth treble in the right system is very persuasive all round.

#### **MOON CD.5 £999**

This player offers terrific vitality and also some good analytical skills.

#### LOUDSPEAKERS

MONITOR AUDIO SILVER RS8 £850 Highly dynamic floorstanding model that thrives on big-scale music making.

#### **BOWERS AND WILKINS 684 £699**

Sounds upmarket, but surprisingly drivable within the means of these amps

#### **HINTS AND TIPS**

>> Switching amps off when not in use for an hour or more saves electricity and improves reliability. A few minutes' warmup is no bad thing, though.
>> Amps can improve subtly with

good support - decent racks and/or

isolation feet

- >> Use decent cables and don't buy them any longer than you need, especially speaker cables. >> Unless you actually intend to use
- >> Unless you actually intend to use them, bypass tone and balance controls if possible. Most amps have some kind of 'direct' switch which does this.

#### AMPLIFIERS AT A GLANCE



# Round-up

For a quick, inexpensive and simple performance boost, add some isolation to your system

ome equipment is more obviously microphonic than others. LP turntables are the most notorious offenders, 'reading' any surface they stand on. Valve electronics and many FM tuners can also

transduce mechanical vibration. Solid-state amps and digital sources are much less obvious, but a lot of empirical evidence points to some kind of isolation being no bad thing for any kit. Here are four to consider.

# Aurios Classic Bearing Feet

Type Isolation feet

Price £230 (pack of three

Contact 2 020 8958 1004 # www.aurios.net

urios is a trade name of Vistek, an American company specialising in isolation systems for applications like high-performance microscopes, so this appears to be a product with technological cred. It's based on a very simple idea, that of a ball bearing in a dished seat. Put something on top of the ball and it will have a little freedom to move sideways, restrained by gravity which will pull the ball back to the lowest point of the dish. Each Classic foot contained three such balls in an assembly held loosely together for convenience of handling and positioning. They are very neatly made and finished and clearly feature some high-precision parts — we were quite unable to feel any 'notchiness' to the movement.

The clever part about this is that, unlike a spring, the resonant frequency of anything put on Aurios feet will be the same regardless of weight. On the other hand, there is next to no vertical isolation. Does this matter? Not much, if our experience is anything to go by.

VERDICT

A widely applicable isolation device. Not recommended for suspended turntables, though - too many degrees of wobble!

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We found that results with solid-body turntables were excellent, the sound gaining considerably in precision and focus compared with no isolation or, indeed, with basic feet (Sorbothane etc.). Actually the best results came with Aurios feet on a few millimates of Sorbothane sheet, which abilied a little vertical isolation. CD players also gained in definition, though our microphonic valve amp was less obviously improved. Because of the way these feet work, they are much less critical of positioning than spring-based

of positioning than spring-based isolation feet, which enhances their utility. **HFC** 

# AURIO9 CLA

# Isonoe Isolation Feet

TYPE Isolation feet

PRICE £98 (pack of four)

his product was apparently conceived for the DJ market and is distributed to the hi-fi world by Origin Live. Somewhat akin in concept to industry-standard microphone supports, it uses five rubber bands (OK, visco-elastic polymer.... hi-tech rubber band!) to support a central part from an outer ring made of magnesium alloy. Said central part has an M6 screw thread projecting upwards which will fit into the base of some audio components, replacing the standard feet — otherwise the kit can just rest on top of the screw thread, not ideal but perfectly workable, we found. The base contacts the shelf underneath via three small ball bearings, giving a small amount of extra isolation, but the main virtue is in the springiness imparted by the bands, which make for excellent sideways isolation and pretty good vertical too.

We struggled to find many components with an M6 thread for the feet, but even when just using the resting option (which does add

**VERDICT** 

An efficient product that gives real isolation and as such is well suited to highly microphonic kit



quite a lot to height) it was obvious that this foot does a very good job. It was very useful with unsuspended turntables, where it reduced pickup from the underneath surface and gave appreciably clearer sound as a result – even on a wall-mounted shelf.

A notably microphonic valve preamp also benefitted markedly, with the sound gaining air and definition that it lacked when the preamp stood straight on a floor stand. But even CD players seemed to become just a shade more precise and detailed. HFC



# Quadraspire QX25 Support

TYPE Isolation feet

PRICE £25 (pack of four)

e imagine that someone had a proper 'Eureka!' moment when they conceived this device, as it is certainly one of the simplest audio accessories we've ever seen -- two identical bits of carefully profiled acrylic sheet, which slide together and provide a very slightly flexible, four-pointed support for audio kit, cables... anything, really. The 25 in the name denotes height in millimetres: there are also QX50 and QX165 (the latter for big amps and speakers) available. Purists might query the use of four-point support when three is generally reckoned to be the optimum number, but the flexibility inherent in this design, due to the combination of the material's finite stiffness and the fairly loose sliding joint, ensures that all four points will be in proper contact, at least. Quadraspire provides thin stick-on pads to help with this. By the same token, there is some real isolation in at least the horizontal plane, though once again there is less vertically. While isolation is not in the same ballpark as that offered by the Isonoe and Aurios devices, the little QX25 did improve the subjective BEST BUY

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degree of isolation,
especially with CD players

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magazine

performance of
solid-body
turntables.
In addition, its
much less wobbly
nature makes it
more compatible
with suspended
turntables, adding a
useful extra degree of isolation
without inducing complete
instability. It's at its best, though,
with digital sources and amps,
which in our tests gained some
extra treble 'air' and clarity, subtly
enhancing performance in rather similar
manner to an interconnect upgrade, for instance. HFC

**VERDICT** 

# Sonic Freedom Offspring

TYPE Isolation feet

PRICE £98 (set of four)

CONTACT ☎ 0845 017 6207 # www.sonicfreedom.co.uk

ver the years there have been many variations on the basic idea of the spike and this is another. It consists of a base, made of non-magnetic stainless steel, 50mm in diameter and 12mm high, with a conical spike sticking up from it by a further 6mm. The spike is not ultra-sharp, but being part of the same bulk material as the base will presumably conduct vibrations fairly efficiently to it. The base rests on its support via a thin rubber ring. Sonic Freedom does not go into great detail on how these feet work, but in the end a spike is a spike and the mode of operation is twofold: first, there's an 'acoustic impedance mismatch' with whatever contacts the top of the spike, which will filter higher frequencies and second, careful positioning (which is always critical) will enhance this by contacting areas of the equipment from where vibration is damped or, at least, not amplified by resonance.

Our usual advice, that spikes do not give enough isolation for solid-body turntables, holds true here, but we did find some benefit with suspended decks which tightened up sonically to a useful

#### **VERDICT**

A smart and practical spike which is subtly different both conceptually and in performance from others we've tried.



degree. Strictly speaking, the benefits are mostly in the midrange and treble, but bass often seems to benefit 'on the side', as it were, the improved midrange detail giving a shade more bass kick. As for digital sources, we felt these were among the more successful spikes we've tried, giving a touch of extra detail particularly in the vocal register, and slightly better stereo imaging stability, too. **HFC** 

Richard Black



e're particularly delighted to have discovered the Aurios and Isonoe feet, which both offer some very real benefits to a range of equipment. The Aurios are a bit on the expensive side, but there's quite a lot of precision machining in there and the results do arguably justify the cost. With just a little vertical isolation

from Sorbothane or similar, the Aurios feet can work real wonders on solid-body turntables and are very easy to use too. Isonoe is cheaper, but needs more care in application. The Quadraspire feet are excellent value, while Sonic Freedom's take on the spike is successful, but not quite as obviously beneficial as either Isonoe or Aurios.

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## **Competition**

# A Funk V2 turntable and arm worth £1,390

The Funk Firm's guru, Arthur Khoubesserian, revisited the design of the company's eponymous turntable, introducing a number of refinements. With the selection of a higher torque motor came a steel plate beneath the Achroplat platter, increasing its moment of inertia, though the three-point belt-drive system remains unchanged.

In complete contrast to its insubstantial appearance, the Funk V2 turns in a solid performance which blows away visual preconceptions, as we discovered in our Turntables Ultimate Group Test in HFC 324. Allied to deep, clean, fast bass is a nimbleness of presentation and excellent timing, which fully vindicate Funk's iconoclastic approach to the design of

Making a great partner for the deck is Funk's reworking of Rega's RB301 tonearm - its collar for VTA adjustment allowing much easier optimisation of cartridge positioning than the stock item. Add to this the Funk V2's electronic speed selection and the competition winner will have a source which combines simple set-up and impressive performance.

For your chance to win this fabulous turntable, please answer the following question:

#### QUESTION

Which modified tonearm is fitted to the Funk V2? A: Lambretta 50cc B: Funkenstein Z1 C: Rega RB301

#### **HOW TO ENTER**

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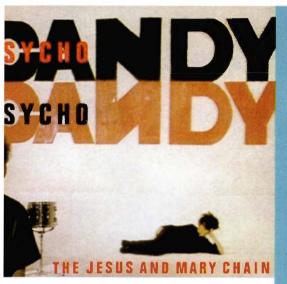
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www.acoustic-energy.co.uk

# ChoiceCuts

New music reviewed and rated by our experts

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



# THE JESUS AND MARY CHAIN Psychocandy

Wea International

"...the results married beguiling melodic pop with debts to sixties' girl groups..."

Words by lan Harrison

# Classic Album

A combination of melodic pop and explicit songs of nihilism and paranoia, Psychocandy took the music world by storm!

totemic aura of badness and danger has alighted on a select group of musicians. Bluesman Robert Johnson still has a frisson of devilry about him for reputedly selling his soul to Satan in the early thirties; later, The Rolling Stones and The Sex Pistols would both be held up as agents of chaos and misrule. Thanks to the rucks that accompanied their short, feedback-driven live shows in 1984 and '85, The Jesus and Mary Chain briefly held this dubious honour, too.

But while being allegedly concerned with outrage, noise and blasphemy, they also wanted to be pop stars. "We'd like to be extremely huge and extremely popular with girls," singer Jim Reid told *Smash Hits*, only partially in jest. "A teenybop image appeals to me... I'd like ten million in cash under the bed."

You couldn't blame him. Coming straight out of East Kilbride, a new town southeast of Glasgow, Reid had shared a room with his guitarist elder brother William until the latter was 21. From the Reids' perspective, prospects and opportunities for self-expression were few in their corner of Lanarkshire; in his essential history of UK indie labels My Magpie Eyes Are Hungry For The Prize, David Cavanagh writes that "it was not unknown for the pair to watch 14 hours of television a day."

An obsession with esoteric rock and pop music, however, provided imaginative escape. With transfusions of the Velvet Underground, Syd Barrett, T Rex, punk rock and more, the Reids and bassist Douglas Hart began to plan their own band. Dressed in black with shades, blank expressions and hair teased high, their bedroom plotting began to gather pace when kindred spirit and scenester Bobby Gillespie passed a demo tape to his friend Alan McGee McGee was running club nights in London and the Creation indie label, though the Mary Chain's debut 45, November 1984's Upside Down, would be their only single

released on that storied imprint. By the end of the year they would be signed to Blanco Y Negro, an offshoot of WEA, for their debut album *Psychocandy*.

Now joined by Gillespie, who played a minimalist drum kit with rudimentary intensity and would later find fame as frontman of Primal Scream, the band decamped to Southern Studios in north London, where they self-produced 14 songs with the assistance of engineer John Loder.

Released in November 1985, the results married beguiling melodic pop with debts to sixties' girl groups as well as darker influences such as techno brutalists Suicide and the Velvet Underground. The escapist sweetness of Just Like Honey or Taste Of Cindy combined romantic angst with an undercurrent of sickness; elsewhere more explicit songs of nihilism and paranoia – Never Understand or The Living End – achieve transcendence via the shrill, purifying, sometimes kaleidoscopic use of feedback.

Stories differ on the genesis of their signature sound, but it was to be their secret weapon, creating obscene sheets and spikes of raging and explosive sound which, perhaps surprisingly, actually benefit from a high-quality sound system which can pick out the competing levels of noise. This intensity could not last. Though Jim Reid said he thought they'd implode after their debut, they ditched the feedback-witheyerything regine and continued with the

This intensity could not last. Though Jim Reid said he thought they'd implode after their debut, they ditched the feedback with everything recipe and continued with the more conventional, tuneful *Darklands* in 1987 and would record four more albums before disbanding in brotherly acrimony in 1998 (they reformed in 2007).

Psychocandy, meanwhile, has gone down as one of the great debut LPs. It can still divide opinion, as Jim Reid told the NME "The sort of people who despise us are the sort of people we want to despise us." HFC

### **Choice**Cuts



#### HERITAGE ORCHESTRA FEAT. DJ YODA



Prokofiev Concerto For Turntables & Orchestra

www.nonclassicalrecords.bandcamp.com

Music: Take a London-based classical composer (Gabriel Prokofiev), one of Britain's most inventive club mix-masters (DJ Yoda) and a virtuosic, but maverick orchestra that delights in exploring uncharted territory and you have one of the most unusual records you will hear this year. Not everything in this five-movement concerto works, but the use of the turntable as a solo instrument in is breathtakingly bold and the results sound surprisingly organic.

Sound: Scratching, cutting and beat-juggling are among the DJ-ing techniques integrated into the orchestral palette, while in the fourth movement, the turntable even turns into the lead melodic instrument. The effect is quite extraordinary. NW



### BRUCH & BRAHMS VIOLIN CONCERTOS



Sarah Chang (violin), Kurt Masur (cond), Dresdner Philharmonie EMI Classics

www.emiclassics.co.uk

Music: Nil points for the programming which is middle ground romantic fare (albeit of the highest quality) from two near contemporaries: Johannes Brahms and Max Bruch. As for the violin soloist Sarah Chang, she just about has it all: beauty, intelligence, skill and sophistication, as well as a mesmerising unity with the Dresden Orchestra. She never puts a foot wrong throughout both works, but it's the lesser Bruch that is the more moving on disc – perhaps because it was the piece she auditioned for at the Juilliard when she was five and a half years old.

Sound: Chang's care and sensitivity are nothing less than special. This is a great release even if the choice of works is predictable. AG

### NAXOS

# Ludwig THUILLE Sextet • Piano Quintet

Chantily Quintet • Gigli Quartet Gianluca Luisi, Piano



### LUDWIG THUILLE SEXTET, PIANO QUINTET



Chantily Quintet, Gigli Quartet, Gianluca Luisi (piano) Naxos

www.naxos.com

Music: Of the two pieces presented here, the *Sextet* is the best known work by Ludwig Thuille (1861-1907 and a contemporary of Richard Strauss), which is scored for flute, oboe, clarinet, horn, bassoon and piano and which is approachable and more than merely enjoyable. It may not be a masterpiece as such, but it's well worth getting to know. The *Piano Quintet* is less often played in public, but it is an equally attractive work.

**Sound:** The disc is made all the better thanks to excellent performances and very good recorded sound quality, not forgetting, of course, Naxos' customary giveaway pricing. *AG* 



#### **CLARENCE BUCARO**



New Orleans

Hyena Records

www.hyenarecords.com

Music: Bucaro –an Ohio lad with a voice somewhere between Al Green, Jackson Browne and Van Morrison – ended up in New Orleans in 2004, song-writing even as he started a passionate affair. He laid down vocals for ten songs, all about the affair, then abandoned them for almost half a decade. And now, with help from producer Anders Osborne and various others – including Kirk Joseph of the Dirty Dozen Brass Band – he's finally finished this album. And bloody brilliant it is too. Big excellence from the Big Easy.

**Sound:** Incredibly well recorded and atmospheric, this is a living sound picture with plenty of subtle depth. *PS* 



#### **FLAMING LIPS**





#### **Embryonic**

Warner Brothers

www.warnerbras.com

Music: Wayne Coyne's band have perfected a kind of epic, freaky, psych-pop grandeur on recent albums, but the follow-up to their top-ten 2006 release At War With Mystics, takes a deliberate side swerve. On Embryonic, the arrangements are less elaborate, the melodies less saturated, resulting in a freer, more spontaneous feel that at times even sounds like they're jamming. It's never less than

absorbing, but the unrefined - even unfinished - feel may disappoint fans of the lushness that made recent albums so special.

Sound: Flashes of their old multilayered majesty can be heard on tracks such as Powerless and Silver Trembling Hands, shining through the more chaotic noise. NW





#### **BASEMENT JAXX**

Scars

XL Recordings

www.xlrecordings.com

Music: When south London's Felix Buxton and Simon Ratcliffe released their debut long player Remedy in 1999, they drew a line in the sand, outlining the future of intelligent dance/pop crossover

for the next decade. Since then they've alternated between spangly pop hits and eclectic genre mashing and their latest leans towards the latter. There are big tunes like the anthemic Raindrops and grime-lite workouts like the title track. It's as good a party starter as

you'll hear all year.

Sound: The Jaxx didn't earn their studio tans without spending a lot of time labouring over their mixes and this is another excellent job, packed with dynamic twists and turns throughout the audible bandwidth. DO





#### RICHARD HAWLEY



Truelove's Gutter

Mute

www.mute.co.uk

Music: For his fourth solo album, the former Pulp sideman may very well have produced his most melancholic masterpiece. Not that he's generally known for songs about parties and shaking one's booty, but even by his own gloomy standards, this is a downbeat record. Which isn't to say it's a grim listen by any means; gutwrenching hearthache has never sounded so velvety-smooth and attractively dishevelled. We may all be in Truelove's Gutter, but at least one of us is looking at the stars.

Sound: The big, open sound of a reverberating guitar string is one of Hawley's signatures and it's much in evidence here, along with glass harmonica, for some gloriously bleak soundscapes. DO





#### **JOHN SURMAN**



lahel

www.ecmrecords.com

Brewster's Rooster

Music: Brit wind player extraordinaire John Surman has covered a lot of ground in his career, including this latest collaboration with John Abercrombie (quitar), Drew Gress (double bass) and Jack DeJohnette (drums). The feel varies from the intense; Kickback, to mellow; Billy Strayhorn's Chelsea Bridge, and the playing never less than consummate from a band of ECM stalwarts. Surman's baritone sax work has an effortless fluidity that avoids over smoothness because his glorious tone retains the power to involve and inspire. **Sound:** ECM studio albums are consistently in the top league and this is no different with very low noise, wide bandwidth and dynamics. Guaranteed to make any system sound sophisticated. JK

### **Choice Cuts**



#### **BILL EVANS**

Music Sound

At the Montreux Jazz Festival

Verve/Speakers Corner 180g www.speakerscornerecords.com

Music Recorded in 1968 with bassist Eddie Gomez and drummer Jack DeJohnette, this set finds pianist Bill Evans in upbeat mood. He is clearly inspired by Gomez, the pair achieving a rare empathy on many numbers. It reveals the range of Evans' considerable talents and t's not hard to hear why he has been so influential.

Sound: An odd recording where piano is a little thin on side one, but recovers on two albeit moving in the soundstage from one tune to the next. The bass steals the sonic show. **JK** 



#### **JB LENOIR**



Alabama Blues

L+R/ Pure Pleasure 180g www.purepleasurerecords.com

Music Pure Pleasure has a knack for finding obscure yet remarkable blues albums and this latest by the 'blues poet' JB Lenoir is another gem. With his high-pitched voice and simple guitar, plus occasional drum backing, his songs are direct and powerful. With lyrics about being sent to Vietnam and racism in Alabama, he was as strong a protest singer as any in the folk scene of the day.

Sound: Recorded under the supervision of Willie Dixon for the German L+R label, this is an open and dynamic album with unusual fidelity for 1965. *JK* 

#### HIGH-QUALITY AUDIO

#### TCHAIKOVSKY 1812 OVERTURE

Valery Gergiev (cond), Mariinsky Orchestra Mariinsky

SACD (stereo/multichannel hybrid disc) www.lso.co.uk

**Music:** This well chosen selection of Tchaikovsky's shorter works includes some extremely well known and other less familiar fare. All were commissioned from him and despite their differences, they are recognisably



of the same ilk, which gives this disc a sense of coherence. The *1812 Overture* is exciting and bombastic and the other works show that the composer was a man who was comfortable in many oeuvres.

**Sound:** This is the second disc we've reviewed from the Mariinsky label and the sound is powerful and, in the appropriate sections, suitably explosive, with an expansive spatial soundfield from the multichannel SACD layer. AG



#### KING CRIMSON

In The Court Of The Crimson King 40th Anniversary Bonanza WHD

CD/ DVD-A/ 5.1/ MLP/ 'declicked' vinyl www.whd.co.jp

Music: To this day it still makes the hairs on the back of the neck stand rigid with equal amounts of dread and wonder. The mixture of Mellotron, reeds and synthesizer with the cornerstone pounding-rock sound of Greg Lake, Mike Giles and Fripp's astonishing



acoustic and electric technique made for a brew so heady that it invented the term progressive rock.

**Sound:** Many say the very first red *Court* pressings from 1969 are the business. Mixed from the original eight-track tapes, before bounce-downs, the separation, frequency precision and sheer dynamism of the music is frightening. A major sonic miracle. *MP* 



#### **CLAIRE MARTIN**

A Modern Art

Linn

SACD (stereo/ multichannel hybrid disc) www.linn.co.uk

Music: For her 13th album, the award-laden singer says she's tried to treat jazz as "a modern art". Modern or not, her smoky alto is a thing of wonder as she wraps it around newer songs the likes of Donald Fagen, Joshua Redman and the late Esbjorn Svensson as well as a couple of standards including Rogers and



Hart's Everybody Today and Everything I've Got by Cy Coleman. It's a beautifully judged set with a central performance that the singer considers her best ever.

Sound: The acoustic sextet supports Martin's silkily smooth, articulate vocals with sensitivity and élan. And while the recording doesn't sound like it's pushing any sonic boundaries, it's always a delight to revel in its lush aural contours. DO



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Michell Optimum PMC Quadraspire

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#### **LCD & PLASMA SCREENS**



#### Philips 42PL9664 LCD TV

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.

#### Samsung 6000 • 7000 • 8000 Series sung's 2009 range includes both full 1080p LCD. LED models including the award-winning UE46B8000.





#### Panasonic VIERA TX-L37S10

ward-winning new 37" LCD TV. Other screen sizes and ranges are also available including Plasma, Freesat and WirelessHD models.

#### DLP PROJECTORS

Want a bigger picture? Then a full 1080p projector and screen could be the answer.



JVC DLA-HD350

This award-winning projector has to be seen to be believed.

#### Optoma HD80 • HD82

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

#### **BLU-RAY DISC PLAYERS**

#### Panasonic DMP-BD60 & 80

players from Panasonic blend compre hensive features with top-drawer picture and sound quality



#### Sony BDP-S360 · S760 · S5000ES



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 s BD-Live

players deliver high-end picture quality



#### **HOME CINEMA RECEIVERS**

#### Denon AVR-1910

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



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



#### Sony STR-DA5400FS • STR-DH800

These two award-winning AV receivers from Sony deliver exceptional performance. Pictured STR-DAS400ES



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



#### Denon AVR-2310

ceiver combines fine specification, solid build with breathtaking low-level





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 MKIII

eplacing the Genie 2, the MKIII version includes a nev motor, more stable motor base and a new tone arm with traditional anti-skate. Supplied with an OM3e Ortofon cartridge fitted, the Genie MKIII is available in Standard Black with

and Red finish options available at extra co







design, flexible connectivity and a level

of reproduction far beyond that of budget separates.

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

power transformers, has a refined bi-polar output stage and is capable of swinging over forty five amps of current for precise

#### Cvrus

owing 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 mu 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







#### Roksan Kandy K2

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

# Leema Antila II CD Player & Tucana II Amplifier

The dual mono designed Tucana II uses three heavy-duty toroidal



#### 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

The A5 offers exceptional performance in relation to its compact dimensions. New drive units ensure clear and natural mid-range and beautifully open treble. The A6 utilises technology developed whilst developing the ST loudspeaker with its asymmetrically sculptured tweeter faceplate and refined 18cm hass/mid driver



# choice

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B&W 600 Series

#### **B&W** Panorama



#### **B&W** MT-25



#### RRW MT-30

-winning 5.1 package including the PV-1 subwoofer

#### Wharfedale

Diamond 10.1 This 10th generati version of the '80's classic combines insight, precision and control along with fine build and finish.



#### O Acoustics 2000 Cinema Pack

Smart styling complement the O Acoustics performance.



#### KEF KHT3005SE

er package available in high gloss black finish.



#### **Dali** Lektor

Dali complements its range with the Lektor than the award-winning represents outstanding

Arcam Solo Mini



#### **ALL-IN-ONE SYSTEMS**

#### Denon D-M37DAR

Denon's micro systems are back. This award-winning model, available in silver or black, features a CD player, capable of reading MP3 and WMA discs, a DAB tuner, and 30W amplifier. Optional SC-M37 speakers.



#### Teac Reference 600

Award-winning system comprising the PD-H600 CD player and AG-H600DNT receiver. Features include both wired and wireless network connections for internet radio, a DAB tuner and a healthy 2 x 75 W power output



### **B&W** Zeppelin

This award-winning iPod docking station ticks all the boxes: it's beautiful, solid as a rock and sounds amazing!

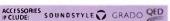
Award-winning integrated CD, Radio and Amplifier

with iPod control via optional rLead/rDock



#### **ESSENTIAL ACCESSORIES**

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#### **MULTI-ROOM AUDIO**

#### Sonos BU250 Bundle

This multi-room digital music system lets you play your favourite tunes all over the house – and control them from the palm of your hand. You can even play different songs in different rooms.



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More at www.SSAV.com

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| Pioneer BDP-320       | £349 (SRP £39) |
| Sony BDP-S760         | £WEB (SRP £395 |
| <b>Denon</b> DBP-1610 | £369 (SRP £39) |

### RECEIVERS

ore at www.SSAV.com

| Sony STR-DH800        | £279 SRP £349           |
|-----------------------|-------------------------|
| Denon AVR-1910        | EWEB (SRP £449          |
| <b>Denon</b> AVR-2310 | EWEB ISRP £799          |
| Pioneer SC-LX82       | <b>£WEB</b>   SRP £1899 |

#### A/V **SPEAKERS**

More at www.SSAV.com

| Q Acoustics 2000 Cinema Pack | <b>EWEB</b> | (SRP £549  |
|------------------------------|-------------|------------|
| B&W MT-25                    | £949        | (SRP £95)  |
| <b>B&amp;W</b> 685 Theatre   | £1229       | (SRP £1229 |
| Mon Audio Radius R90 HD10    | £1269       | (SRP £1272 |

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More at www.SSAV.com

| <b>Philips</b> 32PFL/404 | £5/9 (SRP £64)  |
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| Panasonic TX-L37510      | £599 (SRP £69)  |
| Philips 42PFL9664        | £WEB (SRP£149)  |
| Samsung UE46B8000        | £WEB (SRP £209) |

## CD PLAYERS

More at www.SSAV.com

| Marantz CD6003 | EWEB ISRP £299  |
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| Arcam FMJ CD17 | £WEB ISRP £600  |
| Cyrus CD 6 SE  | £899 (SRP £900  |
| Cyrus CD 8 SE  | £1199 SRP £1200 |

## AMPLIFIERS

gre at www.SSAV.com

| Marantz PM6003  | <b>£WEB</b> (SRF £299 |
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| Cyrus 6 XP      | £899 (SRP £900        |
| Cyrus 8 XP d    | £1499 SRP £1500       |
| Leema Tucana II | £3399 SRP £3425       |

#### HI-FI **SPEAKERS**

More at www.SSAV.com

| Wharfedale Diamond 10.1  | £199  | SRP £199   |
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| <b>B&amp;W</b> 685       | £369  | (SRP £371) |
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SEVENOAKS OUND



# Choice mail



The pick of this month's best letters

Write to: Letters, Hi-Fi Choice, Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW. Or email your letters to: Hi-Fi Choice@futurenet.com

#### Barking up the wrong tree?

In HFC 326, one of your correspondents, Malcolm Evans, wondered what is the point of stand alone CD players is in this age of multiformat players, PCs and DACs. I have to ask the same question about subwoofers.

Subwoofers seem to have been relatively popular in audiophile systems and not just home cinema, for a few years now, despite the fact that they appeared to be frowned upon back in the 1980s and 1990s. Why has the consensus changed? Were subs in previous decades fundamentally sub-standard (excuse the pun)? Were they only really usable in huge rooms which loudspeakers of a more practical size were unable to drive?

Megawatter via email

HFC A number of factors have seen the rise of the sub over the last ten years or so. Back in the earlier days of 'infra-bass' reproduction, size was often a real stumbling block, with many designs resembling sideboards more than audio equipment. Properly implemented, subs built on the scale of large pieces of furniture could actually sound very good, but were guaranteed a Spouse Approval Factor a long way down the negative scale. Positioning for optimal sound was also tricky, unless you happened to live in a barn or converted warehouse.

# "Subwoofers seem to have been relatively popular in audiophile systems and not just home cinema, for a few years now..."

Another problem was the fact that the vast majority of subs used to be passive.

Connecting one to your system involved a low-pass crossover with inductors and capacitors the size of beer cans, which did sound quality no favours whatsoever. It was very difficult to engineer a seamless transition from main/satellite speakers to sub as well, since the crossover point of the latter was fixed. Woe betide if the roll-in of the sub



happened too far above or below the roll-off of the main speakers.

The revolution in plumbing extra octaves of bass came about when designers (such as Richard E Lord of REL Acoustics) began combining small, very rigid enclosures with built-in amplification and active filtering. Not only did this take the strain off the main system's amplification, it permitted much more flexible, effective integration between sub, main speakers and room acoustics, especially as the cabinet was small enough that repositioning was now a viable option. It also eliminated another perceived problem with most passive subwoofers, which was their 'slowness'. They might have gone deep, but reproducing crisp transients was not their forte.

This new generation of subs opened up another area of experimentation for some keen listeners, who swear that stereo subs sound better than singles, despite the fact that such low frequencies are non-directional. This may be due to lower SPLs from each individual sub yielding lower distortion levels from the

# LETTER OF THE MONTH

#### Moggie on my Maggie

Erm, this is probably not the sort of query you get every day, but I need some advice on cleaning one of my speaker covers after our beloved pet cat marked (ahem) one of my Maggie 1.5QRs, leaving a smelly stain. Can you tell me how to successfully remove the stain without damaging the Maggie's 'sock'?

By the way, before any audiophile retentives ask, no, this sort of feline 'modification' does not improve the sound of your system.

Dave via email

HFC As I'm sure you're already aware, the socks on Magneplanars can be removed. Jon Marks, one of our contributors, has a pair of Maggies in his speaker collection and reports that gentle hand-washing works well and that you might even get away with machine-washing at a low temperature.

One other option in this case is an enzyme spray designed specifically to remove these sorts of deposits, though it would be wise to test this first on an area of fabric round the back, in case it causes bleaching.



drivers, or, perhaps, because it gives even more flexibility in terms of positioning and avoiding exciting room modes. Whatever the reason, audiophile subs have been with us for a while and are unlikely to fall out of favour with those wanting to extend their system's reach downwards.

#### Any colour, as long as it's green

I happen to be an audiophile doing a degree in Environmental Management and this has got me thinking about power consumption and greenhouse gas emissions. Now I'm not some muesli-knitting tree-hugger, but I'm well aware of the school of thought which says that hi-fi components should be left turned on all the time to maintain optimum temperature (imagine the bill for a class A milk crate of an amp!)

It goes without saying that I'm not antiaudio, but I've just bought a plug-in power monitor, and it's really quite alarming how much power is used by the TV, home cinema receiver, etc on full tilt.

In these increasingly environmentally aware times, surely designers should be striving to produce gear which uses less energy?

I can see that hi-fi's share of global carbon emissions probably has a lot of zeroes after the decimal point, but every little helps...

thegoodlife via email



HFC Some components only need 30 minutes or an hour to warm up, in which case common sense and a desire to help the environment and keep down electricity bills would seem to dictate that equipment is switched off when not in use. For those components which take quite a while to warm up, leaving them switched on all the time is an option.

In terms of energy efficiency, switching amps are clearly at the top of the list, typically managing close to 90 per cent in real-world usage. More conventional amplifiers occupy the middle ground: class B has a maximum theoretical efficiency of 78 per cent; class A

# "In these increasingly environmentally aware times, surely designers should be striving to produce gear which uses less energy?"

can only manage up to 50 per cent and as low as 25 per cent (depending on circuit design – push-pull or single-ended).

One way to manage a system for best sound and smallest carbon footprint would be to run it from a plug-in timer which would switch the system off at night, but power it up ahead of a listening session. The timer's potential impact on sound quality is, however, open to debate.

Reliability and longevity are other issues which can be affected by how much time a system spends powered up. One studio engineer we know, kept a log of equipment failures, with half of the equipment left powered permanently on and the other half turned off when not in use. He found that the components which were left permanently switched on failed less frequently, but this was for only a small sample size of products and only over the period of a couple of years, so it's hardly conclusive.

One bonus of owning quality gear is that it is usually constructed from parts which last and often possess proper cooling; some biscuit-box electronics with skimpy heatsinking and poor ventilation cook their innards to a very early grave. Longevity is arguably more important than electronics being recycled under the EU's WEEE directive. All household electrical items which use mains electricity, or have the capacity to do so, are covered by the Waste Electrical and Electronic Equipment directive, the main aim of which is to ensure greater recycling of these items. The problem is, cheap electricals are too cheap to be worth repairing and regardless of how beneficial recycling is, avoiding buying a product with a very short lifespan in the first place is likely to be better for the environment.

#### **Very Tricky Adjustment?**

Last week I had some time off and decided to do a spot of cartridge juggling. First onto the

Gyrodec was an Ortofon 2M Blue, which is a lovely, full-bodied cart with a sweet treble. Next up was the Audio Technica AT-F3 OCC (10th anniversary special edition). This was much more refined and had slightly better stereo imagery with a lovely front-to-back soundstage. Finally, I fitted my current cartridge, an Audio Technica AT-OC9L/II moving coil. Transients were better defined and the positioning of instruments was spot on.

I use an Audio Origami re-wired and re-weighted RB300 arm and being an engineer, it proved no problem to make some easy fitting spacers to adjust the vertical tracking angle. I tried every cart with angles varying from sloping down to the arm, to level arm, to sloping down at the cartridge in five 1.5 mm stages from level. I heard absolutely no difference in any of the carts using different vertical tracking angles, even when going straight from one extreme to the other!

I can only put this down to the fact that, to alter a fine stylus tip angle relative to the contact point in a normal groove, I would have to drastically lift or drop the tonearm by a huge amount! I'm now firmly in the Rega camp on this and consider the VTA unimportant. Get it level and get your LPs on!

Ivor via HFC forum

HFC Taking the output directly from a phono stage (or via the output of a tape loop) and feeding it into a decent PC soundcard provides a quick way of investigating what sort of change there is in the high-frequency response. RightMark's Audio Analyser (http://audio.rightmark.org) makes this sort of check easy. Other ways of checking include using headphones for before and after comparisons, and listening to both extremes on the inner grooves, where high-frequency roll-off will be particularly obvious.





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



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



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



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.

#### In the driving seat

I've got my ATC SCM11 standmounts hooked up to a Densen Beat 200 preamp and a Beat 310 power amp. One thing I've read a lot about with this line of speakers, is that they need loads of power to really wake them up because they have a sensitivity of 85db. I'm wondering, should I get another Beat 310 or just go for the £2,376 ATC SIA2-150 integrated, which will surely do the job?

audiobuff via email

HFC The SCM11 does indeed need abundant current to sing. Although it's a relatively benign eight ohm load, its low sensitivity calls for genuine reserves of power. The Beat 310 is rated at 80 watts into eight ohms and 160 watts into four, but you need something which provides plenty of amps. The SIA2-150 (HFC 314) does precisely this and the updated version features slightly tighter bottomend grip than its predecessor.

One other brand which would make a pleasant partner for the SCM11 is Chord Electronics, although its CPM 2650 integrated will set you back about another thousand pounds over the ATC. If you can track down one of its older integrateds or power amps, their clarity, smoothness, transparency and control are very attractive.



# Ask*Us*

Got a burning hi-fi question? Find the answer here...

#### Send your queries to:

Ask Us, Hi-Fi Choice, Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW. Or email your queries to: hifichoice@futurenet.com

#### **Got it taped**

During a recent mad flurry of redecorating, I stumbled across a box of old cassettes, which I hadn't even thought about in years. Although I yearned to listen to them again, I don't actually have a tape deck to play them on, hence my email.

Having taken a look at a well-known auction site, it looks as if I could lay my hands on something suitable for around £40. The problem is, I know as much about tape decks as I do about quantum physics. I've short-listed single decks from Denon, Teac and Technics. I can't see why I'd need a twin tape deck, but what should I be looking for?

Audioseer via email

HFC Buying a decent used cassette deck is more problematic than just about any other second-hand audio purchase, because there's a fair amount which can go wrong.

Head wear is one of the main things to look out for. In our experience, many listings which boast about such-and-such a deck's amorphous head being immune to wear will almost certainly be describing a deck with a head past its best. You need to ask the seller specifically what condition the head is in.

Belt-drive decks more than five or six years old will often suffer from slipping belts. The rubber hardens and becomes shinier with age, and the resulting slippage produces very obvious speed instability, which is most noticeable towards the end of the side of a cassette. It goes without saying that direct-drive transports don't suffer this fault, but their complex electronics can drift.

Oxidation of switches can make recording problematic, as a number of circuits are switched at the same time and dirty contacts can cause drop-outs, inability to record, or channel imbalance.

One of our favourite used decks is the SE version of Yamaha's KX-580. With its audiophile capacitors and other tweaks, it offers great sound despite its single-capstan transport and two-head design. Aiwa's AD-F810 has dual capstans and three heads, and is also a very capable deck.

#### Tips on tips

I would like your advice on a replacement cartridge for my Lyra Clavis DC which is now 10 years old. My front end is a Linn LP12 with Ekos arm and a Lingo 2. The amplification is Naim 252 with Supercap and two 135s driving Naim SBLs. The system sounds superb. I am prepared to spend up to £1,800-£1,900.

I was thinking of the Koetsu Red, Dynavector XX2 Mk2, Lyra Helikon, or Ortofon Cadenza Black. Which one of these cartridges would best suit my system? The Koetsu Red has had rave reviews but would it work in an Ekos arm? I doubt whether I will be able to listen to all these cartridges in a dealer's, so I would be grateful if you could point me in the right direction.

Simon Culder via email

HFC While the heavier Koetsus need quite careful matching with an arm to ensure they give their best, of more concern here is the major difference in terms of presentation





#### A question of technique

I've been intrigued by the growing fan base that the Technics SL-1210 DJ turntable seems to have among audiophiles. I was wondering if a modified Mk2 or Mk5 with a new arm and power supply would be an upgrade over a Pro-Ject RPM6.1 SB?

espresso 111 via email

**HFC** If there's one piece of hi-fi which is pretty much guaranteed to stir up heated debate amongst vinyl-lovers, it's the SL-1210. In stock form, it's generally a very well-built deck descended from the original audiophile SL-120 of the 1970s, which was often partnered with an SME arm and one of the better Shure cartridges. Sonically, however, the DJ-orientated SL-1200/1210 is a bit of a mixed bag; the high torque linked to the tight feedback loop in the motor control circuitry prevents this deck producing the sort of performance the old SP-10 Mk2 and Mk3 managed, while the arm with its removable headshell isn't the best.

Suitably revamped with a decent power supply, new arm and altered motor control circuitry, the SL-1210 (the 1200 is the silver version) is actually a very capable deck indeed. Partnered with something like a Rega RB251 or better, a modified Technics showcases the qualities of direct-drive done right, where bass has a speed, solidity and control beyond the reach of many belt drives of a similar price. As opinions vary so strongly on this deck, though, we'd have to suggest you try to audition one before you buy.



compared to your Clavis DC. You're obviously very happy with the crisp, detailed, slightly lean sound of your Lyra. The Koetsu is really coming more from the other end of the spectrum, with a bass which is richer, but slightly less controlled, and a softer, slightly more rolled-off treble. Both cartridges can really make music, but the Koetsu is given to a warmer, more fluid and more relaxed presentation. If you'd like to retain the clarity, detail, drive and energy of your Clavis, we suggest you try the Dynavector or the Helikon. Set up properly, the Dynavector has a slightly smoother midrange, which is more forgiving of belowpar recordings, but still packs a real dynamic and rhythmic punch. We've not yet had the chance to review the Ortofon, but look forward to doing so.

important synergy always is when it comes to putting together any system, but I can mix and match some of the other components to balance the sound in the way I want. I'm willing to spend up to £6,000, even though the bookshelf placement will presumably maul the resultant sound quality.

Turntable Ted via email

HFC As you clearly realise, setting up a pair of small speakers on a bookshelf is what every audiophile worth their salt would try to avoid in terms of positioning. As you have no other alternative, you're pretty much in terra incognita as far as getting decent sound quality goes.

Speakers with rear-firing ports are going to be hard to accommodate, unless they react

well to a bung in the port. Infinite baffle designs in such a confined space could be tricky too. Getting some decent replacements for your Wilsons is definitely going to require at least a couple of demos. The speakers we've selected cover a range of prices, but as you say, if size is paramount, your choice is unfortunately limited.

Our shortlist for this conundrum would include the Dynaudio Confidence C1 (£5,000). At 44cms, the latter is four centimetres shorter than your Wilsons. You don't mention what the height restriction is with your bookshelves but this may fit, as would the Micro Utopia Be (£3,500) at 42.5cms. If the 41 cm KEF Reference 201/2 (£3,000 in the satin finish) won't fit either, you might want to try another Dynaudio speaker, the Contour S1.4 (£2,500), which is only 40cms tall.

#### **Modus operandi**

I am currently using an Accuphase C-222/P-102 combination to drive my Klipsch RF-7 floorstanders. I'm more than happy with the top and midrange, but I just can't get the bass under control in my room, which measures five metres by four by two. I'm guessing this will be due either to the lowish damping factor of the P-102, or some very dodgy room modes.

I'm considering a change of speaker format to something more monitor-like, in particular the Yamaha NS-1000M, though I've heard it can be difficult to balance the Yamaha's bright, hard edge. I'm open to suggestions, but I'm assuming something smaller, with tighter, less extended bass would be the best bet. I fear, however, that this might be an uphill struggle, and I might have to try other means to get the room under control.

SpinDoc via email

HFC Before you think about bass traps in the corners and a seriously overstuffed sofa, we'd suggest you audition some speakers which are a better fit for your room. In typical Klipsch style, the RF-7s are very sensitive, but a large floorstander with twin 10inch woofers is extremely unlikely to drive your room without problems, unless it has a very tight, dry bass.

The P-102 is a sweet, smooth, enjoyable amp, but power is a little limited at 50 watts into eight ohms and 80 watts into four. Whether it works with the NS1000Ms in your room is a question best answered by actually having a listen to that combination in situ, as the Yamahas are difficult to please in terms of amplification.

A pair of fairly efficient standmount loudspeakers would be a good place to start your auditions, with or without a subwoofer added at a later date. You don't mention a budget, but without more

#### **Diminutive duet**

I'm looking to downsize from my Wilson Duettes, but whatever replaces them will have to sit on a bookshelf firing into a rectangular room of 10ft by 25ft. Can you suggest any truly shelf-mountable speakers that are smaller than the Wilsons?

I realise how







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power on tap, your Accuphase won't fully exploit the ATCs mentioned elsewhere in these very pages, but the Tannoy DC6 (HFC 310, £900) shows off the benefits of a dual-concentric driver, which is also happy placed close to the rear wall. If your budget will stretch to it, PMC's TB2i with its 90dB sensitivity and easy eight ohm load is worth a listen too.



#### Apple of her eye

My girlfriend has been admiring my equipment (my Wharfedales, that is) and has decided she wants to spend up to £500 to get a better iPod dock than she currently has. She likes the look of the Bowers and Wilkins Zeppelin and the Fatman iTube ValveDock, but I favour Onkyo's ND-S1 with an outboard DAC, amp and speakers. This would be a major stress on the budget, and wouldn't look as neat and tidy as an integrated set up.

Soundsurrender via email

**HFC** There's no doubt that you're right to prefer something like the Onkyo or the Fatman over a fully integrated system like the Zeppelin. The latter, for all its strengths, is limited by the size and placement of its drivers, even though it looks great.

Fatman's ValveDock is very easy on the eyes; those glowing bottles are a real head-turner for non-audiophiles. Although the Fatman sounds very pleasant too, ultimately, the Onkyo with its ability to extract a digital stream from the iPod would certainly be the best of the bunch sonically, assuming your girlfriend's iPod is compatible. You could try matching the ND-S1 with an iBasso D10 Cobra DAC/headphone amp (HFC 326) with upgraded op amps. The tiny D10 has a line output along with an impressive headphone amp, thereby making late-night listening a possibility if small speakers such as the Q Acoustics 1020i get on the neighbours' nerves after-hours. All you need to round out the system is

a small power amp within the bounds of your budget. Have a look at a well known auction site for Tripath or other similar small digital amps. which can he had for very

reasonable

sums. They may only provide around 15 watts to speakers before they run out of steam, but they can sound surprisingly smooth, clean and controlled.

#### After Apollo

It's finally time for me to put my Rega Apollo out to pasture, so I'm looking for a replacement CD player for around £800 after selling off the Rega. I know the Apollo has real strengths, but I find its sound a little cool and slightly artificial at times, so I'd ideally like to find a replacement which has a richer, warmer, more organic sound.

stevensonsrocket via email

**HFC** There's a couple of players which spring to mind, depending on the degree of warmth you're likely to be happiest with. Roksan's latest upgrading of its K2 at £895 (reviewed in HFC 315) has brought with it significant improvements to sound quality and the player now has an impressively even-handed presentation, which mixes drama and delicacy in equal measure. We realise it'll be stretching your budget, but the K2 would be at the top of our list along with Marantz's SA8003, which comes with the added bonus of SACD replay capability and a price tag around £70 lower. While the Marantz might not match the Kandy in terms of detail retrieval, it has an impressively solid, musical presentation that's unfailingly engaging over long listening sessions. If neither of the above quite hits the mark, you might want to consider a second-hand player with a valve output stage. Unison Research's Unico CDP has a current retail price of £1.152, so should fit within the scope of your budget and it has a warm, smooth, involving sound.



Although even affordable hi-fi components can last for years before needing repair or replacement, prevention is better than cure, and a few simple routines will maintain your hi-fi on top form.

Most listeners underestimate how important it is to keep hi-fi cool, stacking hot components tightly in a rack without much space between shelves is a sure-fire recipe for an audio roast. This is doubly true with valve amps operating near other components, or racks jammed right into a corner where ventilation is poor – those holes punched in lids are there for a reason.

Many a PC has suffered an unecessary or untimely death due to overheating. As air flows through the case or power supply, dust builds up inside, covering heatsinks and making them much less effective at removing heat from components. The same goes for a lot of hi-fi gear; if your system has served you well for many years but is looking a bit furry through the ventilation holes, it's worth lifting the lid and giving it a clean with a soft brush. Of course, you should only try this if you've switched off the units, you understand electrical safety and you fully appreciate that it may invalidate any warranty.

CD players usually work for years without problems, unless you feed them a disc which looks as if it's been used for sand-blasting practice. That said, don't underestimate the importance of cleaning the lens every now and again to keep off dust (and smoke, if you're a tobacco addict). If the skipping continues and the player's too old to be worth an expensive repair, a drop of oil on the laser sled slide rails can work wonders (bearing in mind the caveat on safety above).

Loudspeaker surrounds tend to harden and crack (if made from certain types of rubber) or disintegrate (if it's foam) over time. Keeping the speakers out of strong sunlight can help slow these problems to a degree and is a good idea to stop the veneer fading, which will reduce their resale value. If you're feeling particularly caring towards your drivers, you might even consider unscrewing and rotating them 180 degrees to compensate for the slight sag which can occur in surrounds and suspensions as the years go by.

Turntables and tape decks require more care than most other components.

The former benefits from a dust-free stylus, regular re-levelling (if required) and, in the case of some older decks, a bearing clean and a change of oil with the recommended lubricant. Keep

the heads and capstans of tape decks clean with regular applications of isopropyl alcohol on cotton buds and use a specialist rubber cleaner for the pinch rollers to remove oxide shed by the tape.



# Made in Japan – Sony Rock and Roll

**Jon Marks** salutes one of the world's first high-efficiency class D audio amplifiers, Sony's 1A-N88 and the superb minimalist 1A-E88 matching preamp

or many, the arrival of CD marked the audio world's first encounter with digital. In fact, bridging the gap between digital and analogue started in 1974 at the Consumer Electronics Show, where renowned American company Infinity showed off its revolutionary Digital Signal Processing Switching Amplifier. Two years on, Infinity sold its first production example and Sony followed 12 months later with the TA-N88 class D power amp and the TA-E88 preamp.

Shigeo Takahashi worked as an audio designer at Sony for a decade from 1974, when the company began focusing its efforts on the design of its next generation of components, amongst them the TA-x series. In an in-house interview in 1985, he summed up the Japanese giant's approach to audio equipment at that time: "There was a major drive in Sony in the midst of the golden age of hi-fi separates to focus all available resources on answering the question, what should the new design for the new era be? The TA-N88 and TA-E88 were introduced in 1977, with the power amp's main features being high-power output combined with small size and low weight. Both pre and power were designed to be simple electronically and structurally without disturbing the sound, while adhering to the philosophy that the pursuit of function would make for good design."

#### TUNE IN AND SWITCH ON

Although Sony's PWM class D amp might have had a relatively simple circuit, as John Ulrick and Jim Henderson at Infinity had found, making the break from decades of traditional linear amplifier design required a great deal of research and development, as well as the use of esoteric parts.

One obstacle in the way of Sony and Infinity realising their designs was the fact that the output stages needed transistors which could

One firm which manufactures its own class D amplifiers from scratch rather than using pre-fabricated modules is American outfit NuForce, which was set up by Tranh Nguyen, former chief engineer of the Tomahawk cruise missile power system. NuForce's Casey Ng commented, "Many PWM amps use a waveform that is clocked too low and a severe brickwall 20kHz filter, which badly shifts the phase and does not preserve high-fidelity. The Sony TA-N88 was ahead of its time, as it switched at a fairly high 500kHz.

# "None of Sony's other high-end line-ups were as successful, technically developed and beautiful as the TA-x88 series." Axel Dahl, thevintageknob.org

switch decent amounts of current at a high-frequency, never a recipe for cheap devices. In Sony's case, the answer was to create its very own V-FETs, the 2SJ28 and 2SK82, which were able to switch up to 10 amps at 500kHz. In the TA-N88, these yielded 160 watts per channel into an eight-ohm load, the amp using a Pulse locked Power Supply switching at 20kHz. Sony claimed 0.05% distortion at the rated output, across a bandwidth of 5Hz to 40kHz.

Unfortunately, the V-FETs were very expensive."
John Ulrick, co-designer of the original
Infinity amp and still creating class D amps at
Spectron Audio, made a similar point: "While
Sony used proprietary devices, we chose bipolar
transistors from Solitron. These were MIL-spec
parts and very expensive."

Another critical part of any class D amp is the output filter, as it dictates to a large extent efficiency, reliability and measured and sonic performance. One of the factors affecting filter selection is speaker impedance and as is often the case, a four or eight-ohm resistor is assumed. Of course, as any audiophile worth their salt knows, very few if any loudspeaker systems behave like simple resistors. More advanced class D topologies incorporate the filter into the feedback system, as did the original Infinity amplifier, although this poses major challenges for designers.

Taking this solution to, perhaps, its ultimate conclusion is one of Spectron Audio's modern amplifiers. In a manner reminiscent of Kenwood's Sigma drive from that company's fast, high-end amps of the late-Seventies



The TA-E88 preamp and TA-N power both had 6mm thick and 88mm high aluminium fascias







Three rare images of initial designs for the Sony pre and power (copyright Asahi Sonorama)



The cramped internals of the TA-N88 contributed to capacitor failures due to heat



The TA-E88 pre with matching tuner and cassette deck. The power amp is a TA-N7 V-FET



The pre's two channels are fully dual-mono, with all controls shaft-driven for shorter PCB traces  $\ensuremath{\mathsf{PCB}}$ 

onwards, the Musician III can be supplied with an extra pair of current-sensing loudspeaker cables, which extend the feedback loop right up to the loudspeaker's binding posts. Unfortunately, like many companies, Sony was unable to implement output filter feedback, resulting in a high output impedance (the damping factor was only 20), resultant uneven frequency response (there was obvious high-frequency peaking with a 16-ohm load), and a presentation which could vary from one pair of speakers to the next.

Written on the back of Sony's TA-E88 is: 'This preamplifier contains completely independent twin mono amplifiers. The chassis design and panel layout exactly follow the audio signal paths in simple and straight sequence.

All major components developed for use

exclusively in this model are based upon strict specifications. A marvellous and new experience in sound reproduction is thus assured.'

This wasn't far off the mark, according to knowledgeable Parisian Axel Dahl of retro site (thevintageknob.com), "The TA-x88, and more affordable TA-x86, represent Sony's most coherent and best-selling high-end range worldwide. Bar the original ES series (manufactured from 1965-1970), none of Sony's other high-end line-ups were as successful, technically developed and beautiful as the TA-x88 series."

The TA-E88 is indeed a very capable, very good-looking preamp. Compared to the competition of the day, which was often spattered with nearly as many controls as a quadrophonic receiver, the Sony is slim, sleek,

fabulously built and executed almost without compromise. Each channel has its own potted mains transformer and the power supply circuitry is hidden under the left-side bulge of the lid. Under the main area of the lid are multiple carefully regulated supply lines feeding circuitry which is fully discrete and fearsomely well implemented in classical technical terms. Dual-FETs and transistors abound, as do current mirrors and audiophile components; the switch gear is a joy to use, but the crowning glory is the stepped-attenuators for balance and volume, both made by Alps to Sony's specifications.

Truly a feast for the vinylphile are the two phono inputs and switchable headamp (the latter taken from that in Sony's HA-55 headamp). One phono input has load impedance and capacitance selectable in 10kOhm and 100pF steps via the dials on the top right of the lid, while the other runs either straight through or in conjunction with the headamp (which itself has two load settings). Shorting plugs were provided for these inputs when not in use.

Shigeo Takahashi's claim that this pre and power were designed to be simple electronically and structurally without disturbing the sound is, perhaps, slightly disingenuous; the circuitry through which the audio signal flows directly in the TA-E88 might be considered fairly short, but it's surrounded by some rather complex ancillary circuitry to enable it to work at its highest potential. Likewise, the amps both benefit from unstintingly superb construction.

#### **OH HAPPY EARS**

I was lucky enough to own a TA-E88 about a decade ago, having picked it up for the measly sum of £150. Personally, I thought I'd gotten away with a particularly flagrant case of

#### **HOW PWM WORKS**

In a typical class D amplifier, the Pulse Width Modulated square waveform is created by comparing the audio input signal with a triangular waveform, which has a frequency of 500kHz in the Sony. This square wave has a fixed frequency, but the length of time it is in the high or low states varies according to the incoming signal. This way, as the audio input signal rises towards the top of a sinewave, for example, the squares of the PWM waveform will become steadily broader at their highest voltage. The opposite is true as the amp reproduces a sinewave which is heading towards its lowest point - the squares of the PWM waveform will become steadily broader at their lowest voltage (For a clear, concise and in-depth explanation of how class D works, visit Rod Elliot's informative site at http://sound.westhost. com/articles/pwm.htm).

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- · High-quality standalone DC motor · Optional clamp
- Optional HR supply Optional Orbe-style platter and clamp
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Michell Engineering represents traditional British craftsmanship. For over 30 years, the family-owned business has hand-crafted exquisitely engineered turntables, designed to extract the wealth of information buried deep within the grooves of vinyl records.

When you invest in a Michell turntable you can be certain that the company's founder, the late John Michell, was personally involved in its

The Michell range includes the Gyro SE, NEW Gyro Silver 25, Orbe SE, TecnoDec, TecnoArm A and HR Power Supply.



#### SEVENOAKS SOUND & VISION

With 37 years' experience, nobody knows more about getting the most from music. Whether you're looking to upgrade an existing system or buy a system from scratch, you can listen in peace and quiet in our comfortable demonstration rooms with Sevenoaks' experts on hand to help you choose the components that are right for you.

\* Some products are not available in all stores or via mail order. Please call before travelling or visit www.ssav.com to check. Advert vaild until 10/12/2009. E&OE

#### **NATIONWIDE STORES**<sup>4</sup>

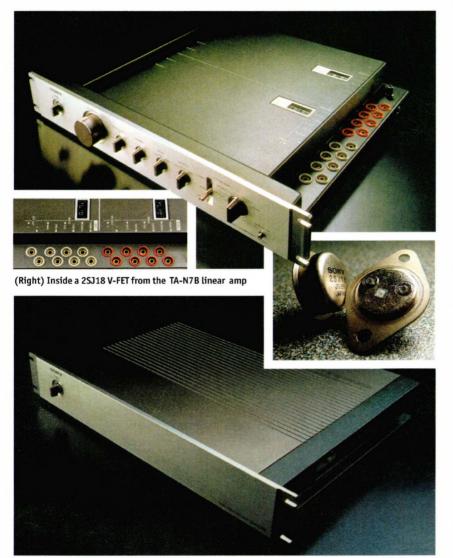
Aberdeen 01224 252797 Bedford 01234 272779 Brighton Hove 01273 733338 Bristol 0117 974 3727 **Bromley** 020 8290 1988 Cambridge 01223 304770 Chelsea 020 7352 9466 Cheltenham 01242 241171 **Epsom** 01372 720720 Exeter 01392 218895



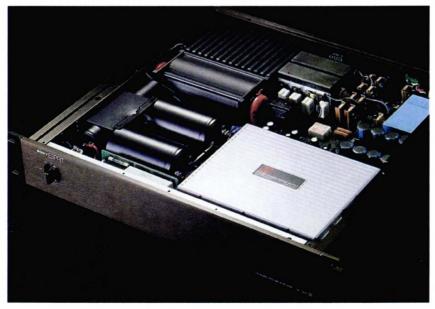
**(\$)** WWW.SSAV.COM

the experts in home entertainment

(Below) The TA-E88 preamp has an excellent phono stage with very flexible user-adjustable loadings



The TA-N88's inputs were on the right-hand side, while the speaker terminals were on the left  $% \left( 1\right) =\left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right)$ 



The TA-N900 was a class A amp which employed Sony's switching Pulse Locked Power Supply

#### TIP TOP TA-X

A recurring problem with the power amp is the failure of one of the lower-voltage electrolytics in the Pulse Lock Power Supply, or the main reservoir capacitor. This is bolted to the casework, which doubles as a heatsink, tending to shorten the capacitor's life. If these capacitors give up the ghost and one of the bias supplies goes, it invariably takes the V-FETs with it, as they get switched hard on. To use a word known all too well to enthusiasts of vintage gear, those V-FETs are unobtainium (unless you cannibalise another TA-N88). Apparently, a MOS-FET mod is possible, though definitely not for the uninitiated.

The preamp is largely bullet-proof, with occasional problems due to failed capacitors (electrolytic and tantalum) or matched devices. Again, the latter are very difficult to get hold of, though some vintage or modern equivalents can be made to work with a little tweaking.

daylight robbery, especially after a furtive look under the lid as soon as I got it home. Plugging it into my system, I was impressed that an amp of this age could produce such enjoyably fast, rhythmic, controlled bass. There was plenty of detail too across a broad, precise sound stage, albeit one which fell slightly short on depth. Tonally, the pre made a great match with a DIY 6CA7 power amp, the valves compensating for a slightly grey tonal quality in the Sony, while the heavyweight output transformers allowed the bass through almost unsoftened.

This pedigree in the lower frequencies was just as apparent on vinyl, where it made a perfect match with the bass drive and punch of a Garrard 401, or a classic direct-drive like Technics' SP-10 Mk2. The phono stage's flexibility was a boon for cartridge reviewing too, although the Sony was replaced in my system by a DPA 50S line and phono stage for more critical judgement.

Less successful was the TA-N88, as the lack of feedback after the output filter rendered it vulnerable to variable performance. It was, however, capable of a clean, solid presentation with commendable soundstage depth when driving an easy eight-ohm load, but it never really fulfilled the potential of a correctly engineered class D power amp.

If you're after a slim, stylish vintage system, well-fettled examples of this Sony pre and power combo can still be had, as can the matching TA-K88 cassette deck and TA-J88 tuner (if you're lucky enough to find them). With the rare TA-D88 four-way active crossover, an active system becomes possible, though anyone able to find the purpose-built glass rack for this set-up should buy themselves a very large bottle of champagne to enjoy with their music. **HFC** 



**Andy Giles Associates** 



# HFC BUYER'S GUIDE

Welcome to the new-look *Hi-Fi Choice Buyer's Guide* – the ultimate directory to the very best high-performance hi-fi gear that you can buy. Here, you'll find our favourite current products listed under easy-to-use categories, with up-to-date pricing and trustworthy verdicts.

#### Reviews you can trust

Hi-Fi Choice test results are the most reliable in the business. We employ the UK's most respected hi-fi journalists and use the most stringent techniques to ensure our ratings are the ones you can trust. All the equipment we rate most highly is contained within these pages, from CD and vinyl to the latest disc players, amplifiers, tuners and loudspeakers.

#### Reviews online

We've also included *techradar* listings where our reviews appear online with our sister site *techradar.com*. To access selected *Hi-Fi Choice* reviews online, simply type: techradar.com/ into your browser (remembering the forward slash), followed by the six-digit number printed in the first column of our *Buyer's Guide*.

#### How to use this guide

The Hi-Fi Choice Buyer's Guide is the best way to make a shortlist of components to audition. Pick the ones that best suit your taste and budget, then use our Dealer Classified section to find specialist outlets where you can try them with your favourite music and test discs.

THIS MONTH'S H-FI HIGHLIGHT



For under £1,000, the Focal Chorus 726V loudspeaker scores very highly in terms of both its build and value. It also boasts a superior sound and is a fine all round performer at a very realistic price (see page 112).

# Source components

CD PLAYERS

TURNTABLES

PHONO CARTRIDGES

RADIO TUNERS

HEADPHONES

Amplifiers

109 STEREO AMPLIFIERS

Cables
111 INTERCONNECTS & SPKR

Loudspeakers

112 stereo speakers

Stands and supports

115 EQUIPMENT SUPPORTS

Dealer Classified

Dealer Guide

Dealer Directory













# Our favourite sources



BEST BUY EDITOR'S CHOICE D PLAYERS WWW.TECHRADAR.COM HEADPHONE SOCKE CO-RW COMPATIBL Any one of these fine players will make sweet music for years to come BADGE PRODUCT HP TO £1 000 Arcam CD17 315 a 0 Civilised sound, with a positively deluxe treble. Bass is clear, if not the weightiest ever Cairn Tornado 950 The Tornado is a full-on experience that delivers intensely real sound for its price 0 305 Cambridge Audio Azur 840C 700 Superbly capable with a resolution and tonal evenness that's well worth hearing (silver finish) 0 (6) 315 Cyrus CD6 SF 318 900 A combination of detail and sheer musical energy with a hint of high end to the performance Harman/Kardon HD990 Highly detailed with excellent extension at both extremes and impressive resolution /594818 a 0 323 550 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 CD5 895 307 Its competent musical performance comfortably exceeds the expectations of an entry-level player Pioneer PD-D9 850 A mostly well-balanced player that's arguably at its best with classical music /636734 6 . 326 Roksan Kandy K2 895 State-of-the-art technology and precision-engineering produces a fine CD performance /483697 a • 0 315 Rotel RCD-1520 695 /608305 323 Lacks optical digital output, but feature-count is fine and sound quality is expressive and open 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 318 1,300 Excellent detail and imaging, neutral tonality and above-average bass resolution /395096 . 0 0 . Audio Research CD5 312 5,055 Audibly better than most CD players on the market – assertive and very dynamic /455309 9 Bryston BCD-1 • 300 2,500 Not as open as some but more timely than most, it also sounds a lot more gripping than it looks Cairn Fog 3 2,200 Ergonomically challenged, high-energy player with Gallic charm and digital preamp on board • 302 Classé CDP-102 Its sound is rich and dynamic with a full bottom end and impressive power for such a smooth player • 286 Consonance Droplet CDP3.1 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 FMM Labs CDSA • 9,995 Classy, stripped down to basics SACD/CD player with some excellent engineering below decks • 302 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 • 0 323 /612396 Linn Akurate CD 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 • 304 297 Marantz SA-7S1 A bargain even at this price, the SA-7S1 sets the benchmark for CD/SACD players of its ilk • 5.900 Meridian G08 2,400 Advanced digital processing with special apodising filter that gives a very clean sound /455040 312 Moon CD3.3 Another revealing and refined player which warrants inclusion on anyone's must-hear shortlist 321 The HDX hard disk player represents an entirely new paradigm for high-fidelity replay • • 311 307 Roksan Caspian M Series-1 1,450 An exceptionally fine CD player that provides a high-end and musically rewarding performance . Shanling CD-T1000SE • 306 Commendably committed player which gets right to the heart of a wide variety of musical styles Sony SCD-XA5400ES 1,199 Elegant, refined control system and very strong CD/SACD performance • . 313 /465933 \* Unison Research CDF 2,495 Valve CD player with interchangeable DACs that doubles as a standalone DAC that oozes musicality /483759

SPECS KEY SACD COMPATIBLE Plays high-resolution SACD discs in two-channel mode. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a DAC or digital recorder.

OPT DIGITAL OUTPUT Optical Toslink output for digital connection to a DAC or digital recorder. CD-RW (rewritable) discs, most CD players can cope with CD-Rs.

CD TEXT Will display album and track titles from inserted disc. BAL ANALOGUE OUT Balanced XLR output connections for similarly equipped amplifiers. HEADPHONE SOCKET Quarter inch

(6.3mm) headphone jack fitted to the CD player. VARIABLE OUTPUT Player features both fixed level and variable, volume adjustable outputs.









Belles IA-01 Amplifier



# Our favourite sources



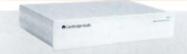
| WH. | BEST BLIV | -0- | EDITOR'S CHOICE |
|-----|-----------|-----|-----------------|

| _    |                               |         |  |                   | SPEC     | IFIC#      | FICATIONS                  |                  |                    |             |  |  |  |
|------|-------------------------------|---------|--|-------------------|----------|------------|----------------------------|------------------|--------------------|-------------|--|--|--|
|      | URNT/                         |         |  | WWW.TECHRADAR.COM |          | SUSP SUB(  | SWITCHABLE<br>SPEED CHANGE | SUPPLED WITH ARM | SUPPLIED WITH CART | SSLE NUMBER |  |  |  |
|      | best record players           | -       |  | AR.CO             | Speeds   | SISSAHÜENS | CHAB                       | TH AA            | TH CAI             | EMI         |  |  |  |
|      | PRODUCT                       | 2       | COMMENTS   | 2                 | 35       | S          | mm                         | 3                | 24                 | #           |  |  |  |
| Ţ    | Clearaucic Emotion            | 1,185   | Beautifully built with open and clean sound emphasising mid and top, but delivering nice timely bass       |                   | 33/45    |            |                            | 0                | 0                  | 30          |  |  |  |
| +    | Clearaudio Performance        | 2,300   | Ceramic-magnetic bearing spells a surprisingly uncoloured performance                                      |                   | 33/45    |            |                            | 6                | 0                  | 29          |  |  |  |
| 4    | Continuum Caliburn            | 125,000 | Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand                   | /587169           | 33/45/78 |            | 0                          | 0                | 0                  | 32          |  |  |  |
| +    | EAR Disc Master               | 8,800   | Combines new 'no contact' drive technology and high-quality materials to bring state-of-the-art resolution |                   | 33/45/78 | 0          | 0                          | opt              |                    | 27          |  |  |  |
|      | The Funk Firm Funk V2         | 1,390   | Not only as beguiling as those that preceded it, this turntable is also more substantial to boot           |                   | 33/45    |            | .0                         | 0                | 0                  | 32          |  |  |  |
| Ŧ    | The Funk Firm Saffire         | 2,450   | Individual design and a sound that's refined and neutral with strong timing and dynamics                   |                   | 33/45    |            | 0                          | opt              | opt                | 30          |  |  |  |
| Ŧ    | Lumley Heliosphere            | 2,495   | A distinctive looking turntable with a unique sound and a performance that reflects your vinyl             | /560765           | 33/45    |            |                            | opt              | opt                | 31          |  |  |  |
| Ŧ    | Michell Tecnodec              | 579     | Needs careful partnering but can deliver a very sophisticated result for the money                         |                   | 33/45    |            |                            | opt              |                    | 30          |  |  |  |
| Ŧ    | Michell Gyro SE/RB250         | 1,565   | A marriage of shot-putter-strength, build quality and robust audio (including arm substitute)              |                   | 33/45    |            |                            | 0                | 0                  | 32          |  |  |  |
| +    | Pro-Ject RPM 5                | 550     | Great looks plus engaging sound puts it in the serious league, but needs good isolation for best results   |                   | 33/45    |            | 0                          | 9                | 0                  | 27          |  |  |  |
| Ŧ    | Pro-Ject RPM 6.1              | 750     | With its huge platter this is a steady design that's capable of fine results with a decent cartridge       |                   | 33/45/78 |            |                            |                  |                    | 29          |  |  |  |
| ♥    | Pro-Ject X-Pack               | 1,000   | Combines some very strong elements (Ortofon Rondo Red) into a killer package with top sound and value      |                   | 33/45    |            | 8                          | 22               | ÷Κ                 | 30          |  |  |  |
| Ŧ    | Rega P3-24                    | 390     | Very competent, uncoloured and musical, much improved by £148 outboard electronic power supply             |                   | 33/45    |            | opt                        | 0                |                    | 29          |  |  |  |
| Ŧ    | Roksan Radius 5/Nima          | 1,375   | Sophisticated design with accomplished sound quality, excellent imagery and good isolation                 |                   | 33/45    | 0          | 0                          |                  |                    | 24          |  |  |  |
| •    | SRM Arezzo                    | 699     | The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay          | /625025           | 33/45    | 0          |                            |                  |                    | 32          |  |  |  |
| -    | Townshend Rock 7              | 1,720   | Has the ability to pull detail out of a vinyl groove, making it the most resolute turntable at its price   |                   | 33/45    |            |                            | 0                |                    | 32          |  |  |  |
| Plai | Townshend Rock V/Excalibur II | 7.000   | If you want to hear everything that's on a record then there's no better machine for the job               |                   | 33/45    |            |                            | 0                |                    | 30          |  |  |  |

|                  |  |       |   |                   |   | ECIFICATIONS |             |        |  |  |  |
|------------------|--|-------|---|-------------------|---|--------------|-------------|--------|--|--|--|
| PHONO CARTRIDGES |  |       |   |                   |   |              | REPLACEABLE | ISSUE  |  |  |  |
| MM               | 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 |       |   | WWW.TECHRADAR.COM |   |              | 10          | NUN 3U |  |  |  |
| BADGE            | PRODUCT  | ٤     | COMMENTS  | COM               | M | MC           | SMINE       | NUMBER |  |  |  |
| -                | Denon DL-103R  | 290   | Adds refinement to the basic DL-103. One of the best rock'n'roll cartridges around  |                   |   | 0            |             | 285    |  |  |  |
| <b>*</b>         | Dynavector DV-10X5   | 295   | A high-output MC with superb dynamics and fine timing that's difficult to mount, but well worth the effort                |                   |   |              |             | 307    |  |  |  |
| Ŧ                | Grado Prestige Gold  | 149   | Produces rich, open and expansive music with the minimum of fuss  |                   |   |              | -           | 235    |  |  |  |
| *                | Ortofon Salsa  | 280   | Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean sound |                   |   | 毫            |             | 290    |  |  |  |
| 7                | Ortofon Rondo Red  | 375   | Delivers detail, power and resolution and makes a good case for its price   |                   |   | 15th         |             | 307    |  |  |  |
| *                | Sumiko Blue Point Spec Evo III   | 239   | High-output MC with refinement at high frequencies and a nimble, articulate and revealing sound                           |                   |   | 0            |             | 270    |  |  |  |
| Ŧ                | van den Hul MC One Special   | 699   | A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light                     |                   |   |              |             | 235    |  |  |  |
|                  | van den Hul Condor XCM   | 2,400 | A stunning cartridge with stereo imaging, dynamics and resolution to die for  |                   |   | \$           |             | 265    |  |  |  |

|       |                         | _        |   |         | SPEC   | ECIFICATIONS |      |       |        |  |  |
|-------|-------------------------|----------|---|---------|--------|--------------|------|-------|--------|--|--|
| P     | HONO                    | 2        | Production and highly compatible unit offering fine detail and a pleasing, mellow balance  Revolutionary kit assembly that rewrites the rules about vinyl playback  For dynamics and real bass extension with good tonal colour this is the one to beat |         |        | ADJ.         | SS   |       |        |  |  |
| Get   | the best performan      | nce from | n your turntable  | ADAR.   | NI ONC | NI ONC       | ADJ. | MP6DA | UE NUN |  |  |
| BADGE | PRODUCT                 | 8        | COMMENTS  | MOC     | SIN    | SLIA         | AM   | NO.   | 99     |  |  |
| -     | Cambridge Audio 640P    | 100      | An outrageously good bargain that suits budget systems, but can conficently survive upgrades  |         | 0      | 0            |      |       | 305    |  |  |
| -     | Creek OBH15             | 240      | Practical and highly compatible unit offering fine detail and a pleasing, mellow balance  |         | 0      | 0            |      |       | 305    |  |  |
| 01.   | Soundsmith Strain Gauge | 6,100    | Revolutionary kit assembly that rewrites the rules about vinyl playback   | /618387 |        |              |      |       | 324    |  |  |
| *     | Tom Evans Microgroove   | 480      | For dynamics and real bass extension with good tonal colour this is the one to beat   |         |        | 0            |      |       | 234    |  |  |
| #     | Trichord Dino/Dino+     | 563      | Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility   |         | 0      | 0            | 0    | 0     | 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 Agreatturntable for those upgrading from an entry-leveldeck. Sound engineering at a bargain price



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Beyerdynamic

Black Rhodium

Bose

**Boston Acoustics** Case Logic Castle Cinemax Creek CyberDyne Dali Denon

**Easymount Epos Epson** eton Exposure Fatman Freeplay Goldring Grado Griffin Harman Kardon iLuv Imerge Infinity **InFocus** lon IsoTek Systems IXOS Jamo **JBL Jmlab** just-racks JVC **KEF** Kicker

**Leema Acoustics** LG Logitech Magic Box Marantz Mission **MJ** Acoustics **Monitor Audio** Monster **Mordaunt Short Musical Fidelity** NAD Nakamichi **Niles Nordost Omnimount** Onkyo Optimum Opus Ortofon **Panasonic Partington Philips** Pioneer **Polk Audio** 

**Proficient Audio** Pro-ject Projecta **PSB Pure Digital** PYI F **Q** Acoustics **QED** Quad Rako Roberts Roksan Roku Roth Samsung Sanus Scandyna Sennheiser Shure Silvermann **Skull Candy** SlouchPod Sona by Alphason Sonance Sonoro Sonos

Sony Soundcast Soundstyle Speakercraft Spectral Supra System Bundle Tangent Tannoy **TEAC** Tech Link **Technics TerraTec** Tivoli **TOSHIBA Triskom True Colours** van den Hul Velodyne VitaAudio Vogels Waterfall Wharfedale Yamaha

And many more

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BITZ FREE **DELIVERY** 

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# Our favourite sources



BEST BUY EDITOR'S CHOICE

|                                   |       |  | SPECIFICATIONS     |            |         |     |                  |                |                  |           |
|-----------------------------------|-------|--|--------------------|------------|---------|-----|------------------|----------------|------------------|-----------|
| RADIO '                           |       | UNERS  | WWW.TECHRADIARICOM | -          |         |     | REMID            | SIG. STREN     | BOT. 70          | ISSU      |
| ourf the waves with th            | ese ( | carefully selected tuners  | PALIAR             | WAVEBANDS  | PRESEIS |     | REMIDTE CICNTROL | STRENSTH METIF | ROT, TUNING KNOB | UE NUMBER |
| ADGE PRODUCT                      | ξ     | COMMENTS   | COM                | SON        | SEIS    | RDS | TROI.            | Ē              | MOR              | BCK       |
| M TUNERS                          |       |  |                    |            |         |     |                  |                | Ž.               |           |
| Creek Audio Evolution             | 350   | Sound is detailed, cohesive and extended both tonally and spatially - very classy                |                    | FM,M       | 80      | 0   | •                |                | 90:              | 30        |
| Rega Radio 3                      | 390   | Strong bass, clear treble and a high enjoyment factor makes this an appealing FM performer       |                    | FM,M       | 20      |     | •                |                |                  | 28        |
| T+A T1210R                        | 1,200 | High-end looks are matched by the sound, which is detailed and sophisticated                     |                    | FM         | 100     | •   | •                |                |                  | 28        |
| AB/FM TUNERS                      |       |  |                    | B. C. S.   |         |     |                  |                |                  |           |
| Arcam FMJ T32                     | 600   | A highly cost-effective way of optimising the airwaves. iPod functionality is definitely a bonus | /559242            | DAB,FM     | 100     |     | •                | •              | •                | 31        |
| <section-header></section-header> | 400   | Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard          |                    | DAB        | 40      | •   | •                | •              | •                | 29        |
| AB/FM PORTABLES                   | 200   | THE WINDS OF STREET  |                    |            |         |     |                  |                | Y                |           |
| Monitor Audio Airstream 10        | 225   | The range of features on this DAB/FM/Internet radio is certainly impressive                      | /636713            | DAB,FM,Web | 4       |     |                  |                | :8:              | 32        |
| Pure Move                         | 80    | A feature-packed, beautifully built DAB/FM radio that is a pleasure to use                       | /608367            | DAB,FM     | 20      | 0   |                  |                |                  | 32        |
| Pure Evoke Flow                   | 150   | It makes internet radio integrate beautifully with conventional radio                            | /465944            | DAB,RM,Web | 40      | 0   |                  |                | 9                | 31        |
| Pure Evoke-2S (portable)          | 170   | Attractive and well thought-out. Many useful features and very enjoyable with classical music    | /516285            | DAB,FM     | 100     |     |                  |                |                  | 31        |
| 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      | 55) | 0                |                |                  | 32        |
| Vita Audio R2i                    | 300   | Very smartly built with a sound that's full-bodied, neutral and detailed                         | /611865            | DAB,FM     | 30      | de: | 0                |                | 0                | 32        |

SPECS KEY INAVERANCS 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.

|       |   |       | A11=A   | SPECIFICATIONS |             |            |           |             |            |              |              |     |  |
|-------|---|-------|---|----------------|-------------|------------|-----------|-------------|------------|--------------|--------------|-----|--|
| H     | HEADPHONES                                  |       | WWW.TECHRADIAR.COM  | BLB            | 55          | CH         |           | 2           |            | 3.5MM JAC    | ISSI         |     |  |
| Audi  | udiophile solutions for home and travel use |       | ADAR.   | ELECTROSTATIO  | SLPRA-ALFAL | CIRCUMAURA | OPEN BACK | CLOSED BACK | WEIGHT (g) | JACK ADAPTOR | ISSUE NUMBER |     |  |
| BADGE | PRODUCT                                     | 3     | COMMENTS  | MOO            | ATIC        | BAL        | JRAL.     | ACK.        | Ã          | (6)          | TDR          | 99  |  |
| *     | 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 |  |
| Ŧ     | Beyerdynamic DT880                          | 230   | Combines musical involvement with a high degree of analytical virtues. Also very comfortable                  |                |             |            | 0         | 8           |            | 205          | 65           | 312 |  |
| *     | Denon AH-D2000                              | 300   | Among the best closed-back headphones we've heard and very fine by any standards                              |                |             |            | 0         |             | 0          | 350          | 0            | 309 |  |
| -     | Denon AH-D5000                              | 600   | Sound is comparable with good open-back models, while solation both inward and outward is useful              |                |             |            | 0         |             | 0          | 320          |              | 312 |  |
| *     | Denon AH-D7000                              | 900   | One of the best closed-back designs, bearing comparison with the finest open-back models                      | /478417        |             |            | 0         |             | 0          | 295          | 0            | 314 |  |
| Ţ     | Etymotic ER-4P                              | 195   | Fiddle with in-ear earpieces and angles of approach and you'll be repaid with super-detailed sound            |                |             |            |           |             |            | 20           |              | 319 |  |
| Ŧ     | Grado SR60i                                 | 100   | A strong contender with out-of-class sound in most areas: a brilliant budget all-rounder                      | /603478        |             | 0          |           | 0           |            | 210          | 0            | 322 |  |
| *     | Grado GS1000i                               | 1,100 | A superb transducer, capable of astonishingly high performance standards                                      | /624782        |             |            |           | 0           |            |              | 0            | 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 |  |
| Ŧ     | Sennheiser HD650                            | 388   | Clear and detailed, with very natural tonality through bass and midrange with just a little treble coloration |                |             |            | 0         | 0           |            | 275          | 0            | 312 |  |
| -     | Sennheiser HD800                            | 1,000 | These headphones will convert loudspeaker listeners to the delights of personal stereo performance            | /619269        |             |            | 6         | 0           | 0.         | 350          |              | 324 |  |

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



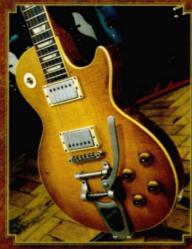


#### **Sennheiser** HD 650 £388 An easy recommendation – Sennheiser's HD 650 should really cost more than this – it's simply fabulous and is a genuine bargain in the world of hi-fi



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## Our favourite amplifiers



| - | BEST | RHY  | 109 | EDITOR'S  | CHOICE |
|---|------|------|-----|-----------|--------|
|   | DLJI | DU 1 | /   | EDITION 3 | CHUICE |

Roksan Caspian M Series-1

Trilogy 909/990

| NTEGF<br>ur pick of the best or   |        | TED AMPLIFIERS   | WWW.TECHRADAR.COM | LINE INPUTS | PHONO INPUT | REMOTE CONTROL | HEADPHONE SOCKET | POWER OUTPUT (M) | ISSUE NUMBER |
|-----------------------------------|--------|--|-------------------|-------------|-------------|----------------|------------------|------------------|--------------|
| DGE PRODUCT                       | ξ      | COMMENTS   | MO                | SIU         | S           | ē              | À                | 3                | 430          |
| P TO £1,000                       | -47    |  |                   |             |             |                |                  |                  | -            |
| Cambridge Audio Azur 740A         |        | Ticks all the boxes for bass, clarity, imaging etc. and invites the listener into the music with uncommon grace  |                   | 6           |             | 0              |                  | 100              |              |
| Cambridge Audio 840A v2           | 700    | A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)   |                   | 8           |             | ÚÌ-            |                  | 120              |              |
| Marantz PM8003                    | 750    | Detail isn't the utmost, but great vitality makes this amplifier quite thrilling   |                   |             | MM          | **             | 40               | 95               |              |
| Moon 1.5                          | 999    | A likeable amp in many ways, with admirable bass, treble and imaging   |                   | 5           |             |                |                  | 60               |              |
| NAD C3226BEE                      | 320    | Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed  | /60328            |             |             | \$             | 65               | 50               |              |
| Naim Audio NAIT 5i                | 765    | More versatile than previous Nait's, the 5 <i>i</i> is a superb amplifier that offers vivid insights into all manner of music  |                   | 4           |             | 12             |                  | 50               |              |
| Roksan Kandy K2                   | 895    | Superior design and high-performance credentials makes this amplifier a must-have bargain  | /48372            | 2 5         | MM          |                |                  | 125              |              |
| 30VE £1.000                       |        |  | 100               |             |             |                |                  |                  |              |
| ATC SIA 2-150                     | 2,376  | Revealing, dynamic and powerful amplifier that works with a wide range of speakers, has superb build quality   | /478483           | 3 4         |             |                | 99               | 150              |              |
| Arcam A38                         | 1,450  | A winning combination of sonic virtues including highly developed detail and musicality  |                   | 7           | opt         | 100            | 8                | 100              |              |
| 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 contended  | /49857            | 4 4         |             | 38             | 06               | 65               |              |
| Ar.d o Analogue Puccin Settanta   | 1,450  | Detailed and lively, particularly in the upper octaves, but lacks a little bass extension  |                   | 5           | MC          | 155            | 13               | 160              |              |
| Copland CTA405                    | 2,998  | A musical and involving amplifier, which also has incredible insight and is user-friendly by valve amp standards   |                   | 5           |             | 0              |                  | 50               |              |
| Cyrus 8 XP d                      | 1,500  | High on features with a revealing upbeat sound and impressive five input onboard DAC   | /608669           | 9 6         | )           | 0              | 0                | 70               |              |
| Electrocompaniet ECI-3            | 1,650  | This is an impressively resolute and powerful integrated amplifier for the money   | /61830            | 4 5         | )           |                |                  | 70               |              |
| 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          | 0              | 0                | 160              |              |
| Jadis Orchestra DiP               | 3,450  | A smooth, refined, yet dynamic-sounding tube amplifier with the added 'novelty' of an iPod dock  | /465908           | 3 5         | 1           |                |                  | 40               |              |
| Eeema Tucana II                   | 3,425  | Highly featured, well-built and not short of power, this is a highly resolute and organic amp  | /612396           | 5 7         |             | 4              |                  | 148              |              |
| > Lyngdorf Millennium Mk IV       | 10,995 | State-of-the-art digital amplifier successfully transcends virtually all the problems that afflicts others of its type   | /60323            | 1 5         |             |                |                  | 150              |              |
| MSB Platinum M200                 | 13,656 | This amplifier's devastatingly good all-round sound quality sets a benchmark that few will approach  | /603452           | 2           | 65          |                |                  |                  |              |
| 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           | 1           |                |                  | 80               |              |
| Mystère ia 11                     | 1,450  | Small, deceptively powerful integrated valve amp with a crisp, pacey sound   |                   | 4           |             |                |                  | 40               |              |
| NAD 375BEE                        | 1,000  | A good, solid amplifier that is fundamentally musical and gives a great bang for your buck   | /625323           | 3 7         | 4:          |                | 69               | 150              |              |
| Naim Audio NAIT XS                | 1,250  | Its spellbinding, refined musical performance is a challenge to all integrated amplifiers  | /498536           | 6 6         | *           | *              |                  | 60               |              |
| Pure Sound A30                    | 1,400  | Valve integrated, with the accent on music rather than rhythm. Needs more inputs, though   |                   | 3           | }           |                |                  | 30               |              |
| Sugden A21aL Series 2             | 1,399  | Lovely solid-state Class A amplifier, sweet as a nut and more powerful than its predecessor  |                   | 5           | opt         | 40             |                  | 21               |              |
| 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               |              |
| Unison Research P70               |        | Delightful valve amplifier with fine neutrality, sweet midband, impressive bandwidth and ample power   |                   | 4           |             | 63             |                  | 70               |              |
|                                   |        | VER AMPS   | WWW.TECHRADAR.COM | PUWEH       | CIFIC       | PHONO INPUT    | REMOTE CC        | POWER OUTPUT (W) |              |
| parate boxes can br               | ing Cl |  | DAR.COM           | AMPLIFIER   | LINE INPUTS | JINPU (        | CONTROL          | W Ind            |              |
| TO £2,000                         |        | E COMMENTS   | × 7               | , ,         | S           |                |                  | 5                |              |
|                                   | /840W  | 2,000 Enterprising technology delivers a pre/power combo that always sounds detailed and controlled  | 4                 | p 0         | 8           | ont            | 53               | 200              | ſ            |
| OVE £2.000                        | 301011 | Electricity recombined a properties control that arrays sounds detailed and sound income   | F-32-24           |             |             | орх            |                  | 200              | ŀ            |
| Arcam C31/P38                     |        | 2,450 Very civilised sound in the best possible way. Well featured and smartly built   | 6                 | /9          | 7           | ont            | 16.              | 100              | ı            |
| Border Patrol Control Unit        |        | 3,995 Bluff-looking valve preamp, with one of the most neutral yet dynamic sounds around   | -                 | -           |             | opt            | 10               | 100              |              |
| Bryston BP16/ 2B SST <sup>2</sup> |        |  | 08649             | -           |             |                |                  | 100              | ł            |
| Bryston BP26                      |        | 3,670 Cracking preamp brings detailed results  | 50045             |             |             | opt            |                  | 100              |              |
| Chord Prima/Mezzo 140             |        |  | 9,                |             |             | opt            |                  | 120              |              |
|                                   |        | 7,135 Small, muscular, beautifully made and styled, and sounds like a dream  | 9                 | -           |             | ont            |                  | 400              |              |
|                                   |        | 9,200 Pre plus mono power combo with superb build, huge power and enormous flexibility.  2,275 A DAC (pro with natural page and recolution to dio for and any digital inputs for engage up to 06kHz. | 18                | -           | 6           |                | 0                | 400              |              |
| 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  |                   | -           |             |                | -                | 20               |              |
| Densen Beat B-200/B310            |        | 2,400 Lively, energetic combination that bring a great sense of scale to familiar recordings   | 9                 |             |             | opt            |                  | 80               |              |
| Hovland HP-100/RADIA              |        | 18,900 Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers  | -                 |             |             |                |                  | 125              |              |
| Naim NAC 152 XS/NAP 15            | 2 72   | 1,920 Preamp and power amp duo offers excellent performance and classic Naim virtues   | 6                 | 9 9         | 6           | G,             |                  | 60               |              |

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.

2,800 A powerful and enjoyable-sounding amplifier combo that brings out the strengths of its CD player

10,390 Extremely musical valve-based pairing with hybrid power and beautiful finish

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n 5

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Little wonder then that we concluded that the HD800 is the £1,000 headphone that could be yournext £25,000 loudspeaker."

Hi>Fi+, Awards 2009



" At short first acquaintance I knew these were the best over-ear phones I'd heard. "

Keith Howard Hi-Fi News, October 2009



"Very few loudspeaker designs can come even close to the level of detail resolution offered by the HD800 headphones. Voices and instruments all have exactly the timbre that they do in real life. Sound is simply superto in every way."

Hi-Fi Cholce, Awards 2009

## Our favourite cables





BEST BUY FOITOR'S CHOICE

|    |                                   |       |   |                   |          | ECIFI      |        |       |                    |              |
|----|-----------------------------------|-------|---|-------------------|----------|------------|--------|-------|--------------------|--------------|
|    | ABLES es really can make          |       | fference, especially our top recommendations  | WWW.TECHRADAR.COM | STRANDED | SOLID CORE | COPPER | 191   | DICHIAL CABLE TYPE | ISSUE NUMBER |
| GE | PRODUCT                           | Î     | COMMENTS  | 78                | 8        | 욺          | 至      | SEVER | ¥                  | ER.          |
|    | OGUE INTERCONNECT                 |       |   | - 2/3             |          |            |        |       | _                  |              |
| 7  | Audioquest Sidewinder             | 45    | A detailed cable, with fine tonality and excellent rhythm – slight upper-bass warmth does little to detract                   |                   | 0        |            | 0      |       |                    | 29           |
| 2  | Black Rhodium Prelude             | 90    | Practical and sensibly priced all-rounder that seems happily compatible with a wide range of kit                              |                   | •        |            | •      |       |                    | 29           |
|    | Black Rhodium Coda                | 150   | Superb bass with neutral and detailed midrange, treble generally sweet with occasional slight constriction                    |                   | 0        |            | •      |       |                    | 299          |
|    | Black Rhodium Polar Illusion      | 250   | A good all-rounder, with clear and purposeful bass and particularly fine treble   |                   | 0        |            | •      |       |                    | 32           |
| 7  | 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          |
| 7  | Chord Co. Indigo Plus             | 995   | Costly, and high-class cable needs running in, but this is a finely detailed design overall                                   | /608313           | 0        |            |        |       |                    | 323          |
| 2  | Clearer Audio Silver-line         | 283   | Complex, well-screened cable which offers good sound all round with exceptional bass  |                   |          |            | 0      |       |                    | 279          |
|    | CrystalCable Piccolo              | 348   | Thin, but tougher than it looks, Piccolo has some qualities of a solid-core type – notably resolution, focus and articulation |                   |          |            |        | 65    |                    | 294          |
|    | Kimber Timbre                     | 145   | A very neutral cable that will complement even very upmarket systems  |                   | •        |            | •      |       |                    | 312          |
| 7  | Monster M350i                     | 45    | Few cables at this price reveal so much about the recording space.  |                   | •        |            | •      |       |                    | 28           |
|    | Monster M1000i                    | 230   | Very capable, with only a hint of bass dryness to set against excellent results elsewhere                                     |                   | •        |            | •      |       |                    | 28           |
| 7  | Nordost Wyrewzard Dream           | 110   | Slight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass                            |                   |          | •          |        |       |                    | 303          |
| 7  | Oehlbach NF214                    | 63    | The bass is a matter of taste, but suits many smaller speakers with good mid and treble                                       |                   | b        |            | •      |       |                    | 28           |
| 7  | Profigold PGA3000                 | 80    | Not the ultimate for lovers of clinical precision, its character is engaging and detail and extension are good                |                   |          |            | 6      |       |                    | 299          |
| -  | QED Signature Audio S             | 190   | Mellifluous and rounded, this cable is a great choice for lovers of the human voice   |                   | 8        |            | G)     |       |                    | 32           |
| -  | Supra EFF-IX                      | 77    | Lively sounding cable which maintains a high level of detail and neutrality, musically, a great all-rounder                   |                   | 9        |            | 0      |       |                    | 306          |
| 7  | Townshend Isolda DCT100           | 99    | Sound has a particularly enjoyable cohesion and naturalness that makes for great listener involvement                         |                   |          | 3,         | •      |       |                    | 31:          |
| -  | van den Hul The Wave              | 125   | Generally neutral, with a hint of upper-bass richness: images seem to reside slightly further away than most                  |                   | 40       |            | •      |       |                    | 312          |
| 7  | van den Hul Integration Hybrid    | 170   | Bass is nothing remarkable, but mid and treble are outstandingly open and clear   |                   | 8        |            | •      |       |                    | 306          |
| 11 | AL INTERCONNECTS                  |       |   | 200               |          |            |        |       |                    |              |
| 2  | Kimber DV-30                      | 98    | A superb performer that lacks very little, even when compared to Kimber's high-end models                                     |                   | 0        |            | 0      |       | E.                 | 31           |
| -  | Merlin Scorpion Digital           | 130   | Reduces distortion, making sound clear with unusually revealing low frequencies   |                   | •        |            |        |       | Ε                  | 31           |
| 7  | SupraAnCo                         | 30    | This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context                           |                   | •        |            | •      |       | Ē                  | 304          |
| 11 | KER CABLES (PRICE P               | ER ME | TRE)  |                   |          |            |        |       | U.S.               |              |
| _  | 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            |                   | 0        |            | •      |       |                    | 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               |                   | 0        |            | •      |       |                    | 294          |
| -  | Chord Co. Silver Screen           | 6     | Screened speaker cable with excellent treble, but just a little light in the bass at times                                    |                   | 03       |            | •      |       |                    | 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)       |                   |          | •          |        | •     |                    | 30           |
| 7  | Kimber 8PR                        | 21    | A cable that really enjoys the music, also admirable for the levels of analytical detail it allows through                    |                   | •        |            | 0      |       |                    | 29           |
| 5  | 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                   |                   | •        |            | •      |       |                    | 28           |
|    | Nordost Heimdall                  | 185   | Alternative to Valhalla, silver-plated, micro-monofilament construction, suitable for exacting systems                        |                   | 0        |            | 6      |       |                    | 27           |
| -  | QED X-Tube XT300                  | 12.5  | A natural and controlled-sounding cable that's cost-effective for mid-priced systems  |                   |          | 28         | 0      |       |                    | 31           |
| -  | QED Revelation                    | 15    | Sensibly priced, this cable offers a performance which is a step-up from budget types   |                   | 9)       |            | 6      |       |                    | 318          |
| ,  | Townshend Isolda DCT              | 50    | Cryogenically treated 'impedance-matched' cable with stabilising components added   |                   |          | 6          | 6      |       |                    | 24           |
| 7  | van den Hul The Wind              | 50    | Separate conductors provide plenty of room for experimentation and the conductor quantity keeps resistance low                |                   |          | •          | 5      |       |                    | 31           |
| -  | Wireworld Solstice 5 <sup>2</sup> | 25    | Rather bulky and awkward, but performance amply justifies it with superb bass solidity  |                   | 9        |            | e      |       |                    | 310          |
| -  | Wireworld Oasis 6                 | 40    | Excellent bass with tunefulness and extension all first-rate. Awkward to handle, though                                       | /617560           | 0        |            |        |       |                    | 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, 0 - optical. Cables are one metre length unless otherwise stated



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|---|------------|
| Creek Evolution CD Player E/D (2Yr G/tee) (545.00)                  | £349.00    |
| <b>Linn Unidisk SC</b> Universal CD Player E/D (1Yr G/tee)(3145.00) | £1995.00   |
| Linn Linto Phono preamp Blk S/H (1Yr G/tee)(1180.00)                | £599.00    |
| <b>Linn C 4100</b> PowerAmp Sil New (2Yr G/tee)(1980.00)            | £1295.00   |
| <b>Naim CDX 2</b> CD Player E/D (2Yr G/tee)(3250.00)                | £2595.00   |
| <b>Naim CDS 3</b> Head Unit S/H (1Yr G/tee)                         | £1995.00   |
| <b>Naim DVD 5</b> DVD Player E/D (2Yr G/tee)(2600.00)               | £1495.00   |
| Naim SuperNait Amplifier E/D (2Yr G/tee) (2475.00)                  | £2495.00   |
| Naim Allae Speakers - Cherry F/D (2Yr G/tee) (2500 00)              | £1475 00   |

## All items listed below with full two year warranty

Arcam Solo Mini Music System [70] ...(Was 750.00) Arcam Solo Music System E/D ..... (Was 1250.00) Arcam Solo Movie 2.1 System NEW .(Was 1450.00) Arcam AV9 Processor Silver E/D . . . . (Was 3750.00) Arcam P1000 7 Chan amp Sil NEW .. (Was 1600.00) Arcam P1 Mono amps - Pair Sil E/D . . (Was 3000.00) Now - £529.00 Now - £699.00 Now - £729.00

Now - £1595.00 Now - £795.00 Now - £1495.00

## Our favourite loudspeakers



| TERE   | 0        |  | S                 | SPEC            | IFIC         | ATIO          | iS             |            |               |             |
|--|----------|--|-------------------|-----------------|--------------|---------------|----------------|------------|---------------|-------------|
|  |          | SPEAKERS   | WWW.TECHRADAR.COM | SIZE W.H,D (CM  | FLOORSTANDER | EASE OF DRIVE | BASS FROM (HZ) | -FR        | CLOSE TO WALL | COOL MONOCH |
| rhaps the most in  | fluentia | link in the chain  | DAR C             | ,H,D (0         | STANE        | OF DR         | ROM (          | FREE SPACE | W 01          | 9           |
| GE PRODUCT   | 3        | COMMENTS   | ×0                | Š               | )ER          | Ā             | H              | Ä          | Ĕ             |             |
| 7 TO £1,000  | 2 202    | Double and the Ministry of the Control of the Contr |                   | 20.00 5.24      | D/A          | ^             | 24             | - 100      |               | 2           |
| Acoustic Energy Aegis Nec  |          | Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight  |                   | 20,90.5,24      | :20          | A             |                | 37         |               | 2           |
| <ul> <li>Acoustic Energy Radiano</li> <li>Amphion Ion L</li> </ul> |          | Limited bass, power handling and dynamics, but exceptional mid-to-treble voicing   |                   | 18.5,32,25      |              | A             |                | 100        |               | 3           |
|  | 900      | Sharp styling, fine mid/treble coherence and a sweet treble, but less happy bass alignment in test room  |                   | 162,32626.5     |              |               |                | 0          |               | 3           |
|  | 867      | A very fine little speaker that's at its best with natural recordings where it adds little and reveals much  |                   | 21,38,25        |              | Α-            | 55             | 卷          |               | 2           |
| AudioPro Avanti A.10   | 350      | A tough and effective little speaker - overall balance is quite smooth and even  |                   | 19,29,26        |              | A+            | 38             | 0          |               | 3           |
| 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             | 0          |               | 2           |
| 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        | 0            |               | 22             | 0          |               | (           |
| Bowers and Wilkins 683   | 879      | High-class drivers and a great price makes for a warmly recommended speaker  |                   | 20,99,34        | 15           |               | 20             | 0          |               | (           |
| DALI Ikon 6  | 999      | Needs care with setup, but rewards you with impressively transparent and obsessively detailed sound  |                   | 19,100,33       | 3            | А             | 37             | 0          |               | 2           |
| Dynaudio DM 2/10   | 880      | Unfashionably bulky standmount has fine dynamics, grip, bass and headroom and is well mannered   |                   | 27.5,45,35      |              | Α             | 22             | 0          |               | 6           |
| Focal Chorus 706V  | 389      | Advanced drivers deliver an even, overall balance with healthy dynamic expression and tension  |                   | 22,39,25        |              | А             | 27             | 0          |               | (           |
| Focal Chorus 726V  | 950      | Compact and realistically priced, the Chorus 726V is a good all-round performer  |                   | 22,99,37.5      | 0            | Α             | 25             | 2/1        |               |             |
| JBL Studio L880  | 700      | Good value floorstander with neutrality, massive headroom and plenty of punch  |                   | 22,99,37        | 0            | А             | 25             |            |               |             |
| KEF (Q50   | 599      | Looks cute and very discreet, with spacious imaging, good balance and a sweet treble   | /483527           | 17.5,81.5,26    | 130          | Α             | 23             | *(2)       |               |             |
| Monitor Audio BR2  | 230      | Good-looking standmount has a muscular sound with superior coherence   |                   | 18.5,35,25      |              | A-            | 30             |            | 0             |             |
| Monitor Audio BR5  | 450      | Not the best dressed in its class, but detailed, bold-sounding and good value  |                   | 17, 85,25       | Α).          | A-            | 36             | 0          |               |             |
| 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        | 0            | А             | 33             | 0          | 0             |             |
| 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             | 0          |               |             |
| PMC DB1i   | 895      | Could be more neutral, but a very effective musical communicator with fine warmth and sweet treble   |                   | 15.5,29,23.4    |              | Α+            | 30             | 0          | 131           |             |
| 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             |            |               |             |
| 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    |              | А             | 48             |            | 0             |             |
| 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             |            | 0             |             |
| Rega RS1   | 390      | Clever close-to-wall speaker has a fine coherence and good communication skills  |                   | 15,32,23.6      |              | А             | 23             |            | 35            |             |
| 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             |            | -3:           |             |
| Spendor S3/5R  | 750      | Lacks dynamic muscle and loudness potential, but lovely smooth neutrality and good bass extension  |                   | 16.5,30.5,190   |              |               | 25             | 83         |               |             |
| Tannoy Revolution DC4T   | 599      | Ultra-compact floorstander that lacks bass weight and dynamic tension, but sounds open and coherent  | /488857           | 15,85,16        | G            |               | 40             |            | 99            |             |
| Tannoy Revolution DC6  | 900      | Pretty compact standmount likes wall loading, delivering a lively bass and smooth, coherent midband  |                   | 23,36.5,23      |              | Α             | 40             |            |               |             |
| 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             | G          |               |             |
| Wharfedale Diamond 10  |          | Despite the low price, the 10.5 ticks many of the boxes, with superior voice band coherence  | /636778           | 22,88,30        | 0            |               |                | 0          |               |             |
| BOVE £1.000  | 7.00     | Souphie the law photo, the 10.5 teles many of the coxes, with supplied voice said constitute   | 7030770           | 22,00,00        | ÷            |               | 50             |            |               | H           |
| 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      | ٥            | Α             | 27             | 0          |               | ī           |
| Amphion Argon2 Annivers  |          | Notably superior coherence and focus, fine neutrality and dynamic range with low coloration  | 7007200           | 19,38,31        | Ť            | A-            |                | 0          |               | t           |
| Amphion Helium 520   | 1,000    | Sharp styling and fine value for money with excellent voice-band coherence   |                   | 16,104,22       | 43           | - 1           | 28             | 0          |               |             |
| _  |          |  |                   |                 |              |               |                |            |               |             |
|  | 2,300    | Very solid build ensures an impressively clean sound with loads of bass and fine neutrality  |                   | 19,92.5,30.5    |              |               | 26             | 0          |               |             |
| ALR Jordan Classic 5   | 1,550    | Slim, laid-back floorstander has sweet sound with fine coherence, imaging and dynamic range  |                   | 17,99,26        | 0            | A             |                | 0          |               |             |
| 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             | - 54       |               |             |
| ATC SCM19  | 1,534    | Super-linear motor system and heavy-weight construction makes the ATC a pro favourite  |                   | 22,44,31.5      |              | A-            |                | 55-        |               |             |
| ATC SCM16A   | 2,376    | Makes a great case for the active speaker. Includes built-in amps and is good value  |                   | 27,45,33        |              | ACT           |                | 0          |               |             |
| Aurousal 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 | 0            | . 07          |                | 0          |               |             |
| AVI ADM9   | 1,125    | Active mini-monitors that are exceptionally accurate and dynamic sounding  |                   | 20,30,26        |              |               |                |            |               |             |
| Bowers and Wilkins CM  | _        | Tall, elegant, expressive midband and expansive, but well-controlled bass  | /597244           | 20,102.5,32     | .>           | A             |                | 0          |               |             |
| Bowers and Wilkins 805   |          | Classy standmount with excellent coherence and imaging. Can sound laid back, but a real delight  |                   | 24,39,33        |              | Α             |                | 0          |               |             |
| Cabasse MC40 Java  | 1,360    | This large and handsome speaker has a notably smooth and evenhanded neutrality   |                   | 25,110,35       | 9            |               |                | 0          |               |             |
| Cabasse Bora   | 2,200    | A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics  | /618354           |                 |              | Α             | 52             | 0          |               |             |
| Dynaudio Focus 220   | 2,630    | Cleverly tapered floorstander has a brilliantly smooth, neutral balance and very sweet treble  |                   | 20.5,98,29.5    | 45           | A-            | 20             | 0          |               |             |
| Focal Chorus 816 V   | 1,099    | Fine, warm balance, superior dynamics and a sweet top end, but could be smoother   |                   | 28,100,37.5     | 8            | A+            | 20             | 0          |               |             |
| 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     | 0            | А             | 45             |            |               |             |
| 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             | 0          |               |             |
| Focal Chorus 836V  | 1,699    | Bulky, sharply priced three-way could be prettier, but has good bass with genuine grip   |                   | 28,115,38       | œ.           | А             | 28             | 1891       |               |             |
| E E  | 4,399    | Outstanding mid and top with fine delicacy and low coloration, but lacks some bass grip and drive  |                   | 26.5,111,35     | 101          | A-            | 25             | 0          |               |             |
| Focal Electra 1027 Be  | 1,000    |  |                   |                 |              |               |                |            |               |             |
| Focal Electra 1027 Be Free FS1                                     | 3,500    | An elegant design for anyone after the minimum of wiring. Wireless with Sonos or Airport Express   |                   | 16,87,27        | (8)          | ACT           | 35             | 0          |               |             |

## Our favourite loudspeakers



BEST BUY EDITOR'S CHOICE

| BO | TERE( VE.£1,000  PRODUCT   | <b>D</b> ( | SPEAKERS continued  | WWW.TECHRADAR.COM | SIZE W,H,D (CM) | FLOORSTANDER | EASE OF DRIVE | BASS FROM (HZ) | FREE SPACE | CLOSE TO WALL | SSUE NUMBER |
|----|----------------------------|------------|---|-------------------|-----------------|--------------|---------------|----------------|------------|---------------|-------------|
| =  | Guru QM10                  | 1,595      | A very clever close-to-wall standmount with fine imaging, that sounds a lot bigger than it looks    | /465869           | 30,25.2,23.2    |              | А             | 26             |            |               | 31          |
|    | 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      |              | А             | 30             |            |               | 31          |
|    | Kudos Cardea C1            | 1,450      | A very pretty compact standmount with a delightfully subtle and delicate sound quality              |                   | 20,35,27        |              | А             | 40             |            |               | 30          |
| 7  | Kudos Cardea C2            | 1,950      | This floorstander is a fine all-round performer with fine voicing and neutrality                    |                   | 20,92.5,27      | 0            |               | 23             |            |               | 32          |
|    | Kudos Cardea C30           | 5,250      | An absolute honey that fully justifies its hefty pricetag, lacking only a little dynamic tension    | /394973           | 20,112,27       | 6            |               | 22             | 0          |               | 3           |
| 7  | Magico V2                  | 18,000     | High pricing derives from this speaker's superb, painstaking engineering and impressive performance | /624700           | 25.5, 115,30    |              | А             | 32             |            |               | 3:          |
| 7  | 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  |              | А             | 25             | •          |               | 3:          |
| 7  | Monopulse 42A              | 1,995      | Oddball styling, fine bass-to-mid balance and dynamics and superb voice coherence                   |                   | 26,110,25       |              | А             | 25             |            |               | 31          |
| 7  | Monopulse 82               | 2,495      | Could be more neutral, but excellent coherence, lively dynamics and fine imaging                    |                   | 27,110,25       |              | A-            | 20             |            |               | 2           |
| 57 | Monitor Audio PL300        | 6,000      | New level of sophistication from a manufacturer best known for mainstream, cost-effective designs   |                   | 41,111,47       |              | Α-            | 28             |            |               | 3           |
| 7  | Mordaunt-Short Perf 6 LE   | 4,799      | Striking moulded enclosure minimises coloration, while overall balance is smooth, neutral and open  |                   | 24,115,43       | •            | А             | 22             |            |               | 3           |
| 7  | 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             |            |               | 3           |
| 7  | Opera Callas               | 3,195      | Technically innovative multi-tweeter system, this is a grown up and articulate performer            | /429144           |                 |              |               | 32             | •          |               | 3           |
| 7  | Opera Seconda              | 1,995      | Fine styling and finish, plus very superior voicing, if a shade lacking in warmth                   |                   | 24,1025,31.5    | •            | А             | 20             | •          |               | 3           |
|    | Pioneer S-2EX-W            | 5,200      | This speaker offers superb midband neutrality and exceptional clarity                               | /587272           | 291.565.425     |              | А             | 37             | •          |               | 3           |
| 7  | PMC GB1i                   | 1,425      | Good-looking floorstander has great class with fine delicacy and sweet detailing                    |                   | 15.5.87.23.4    |              | А             | 30             | •          |               | 3           |
| 7  | PMC FB1i                   | 2,100      | A floorstander that boasts impressive bass extension and a smooth sweet top end                     | /429594           | 20,100,30       |              |               | 20             |            |               | 3           |
| 7  | PMC OB1i                   | 3,600      | This floorstander delivers a smooth overall balance with wide bandwidth and dynamic range           | /429697           | 20,1025,32.5    | 0            | А             | 20             |            |               | 3           |
| 27 | PMC IB2i                   | 8,900      | Delivers a top-class sound quality, fine imaging and exceptional dynamic grip                       | /617595           | 33,74,46.5      |              | А             | 25             | •          |               | 3           |
| 7  | PSB Synchrony One          | 3,500      | Slim and discreet floorstander that delivers superb sound quality and flexible bass                 | /516267           | 22,109,32.5     |              | А             | 45             | 0          |               | 3           |
| 7  | Revel M22                  | 1.800      | A remarkably clean and revealing speaker with superb tonal and microdynamic capabilities            |                   | 22,37,30        |              | Α-            | 48             |            | 0             | 2           |
| 7  | Revel F32                  | 3,200      | Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound              |                   | 22,105,39       | 0            | А             | 20             |            |               | 2           |
| 7  | Roksan Caspian FR-5        | 2.475      | Sharp-looking speaker sounds exceptionally open and lively without aggression                       |                   | 20,100,25       |              | А             | 22             |            |               | 2           |
| 7  | Ruark Talisman III         | 1,499      | No bass demon, but a sophisticated and agile speaker epitomising Ruark's design ideals              |                   | 22.84.31        |              | А             | 22             |            |               | 2           |
| 7  | 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             | •          |               | 3           |
| 7  | 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             |            |               | 3           |
| 7  | Sonus faber Cremona Audit. | 3,350      | Open, exciting and with surprisingly good bass this is 'The Little Speaker That Could'              |                   | 20,35,37        |              | А             | 50             |            |               | 3           |
| 7  | Spendor SP3/1R2            | 1,600      | Conservative styling, superb neutrality and coherence with unusually low coloration                 |                   | 22,40,28        |              | А             | 37             |            |               | 3           |
| 57 | Tannoy Definition DC10T    | 5,000      | Classy speaker has massive base, high sensitivity and precise image focus                           | /608326           | 34,112.5,32     | •            | Α+            | - 35           | •          |               | 3           |
| 7  | Totem Model 1 Signature    | 1,975      | Expensive, but very seductive miniature delivers a beautifully smooth and balanced midband          |                   | 17,31,23        |              | А             | 35             |            |               | 2           |
| 7  | Triangle Genese Quartet    | 2,775      | Great material value and a solid all-round sonic performance with great loudness potential          |                   | 23,117,37       |              | А             | 25             |            |               | 3           |
| 7  | Triangle Magellan Concerto | 16,250     | New 'sw2' version is less immediate than its predecessor, but it remains highly enertaining         |                   | 60,160,45       | •            | Α-            | 32             |            |               | 2           |
| 7  | 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       |              | А             | 20             | •          |               | 2           |
| 7  | 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       |              | А             | 35             |            |               | 3           |
| 7  | 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        | •            | А             | 28             |            |               | 2           |
| 7  | Wilson Benesch ACT         | 9,100      | Enclosure gives uncanny freedom from 'boxiness'. Well-balanced, but top end might be sweeter        |                   | 23,108,36       |              | А             | 20             | 0          |               | 2           |
| 0/ | Wharfedale Opus            | 1,500      | Great material value and a solid, if bright and forward sound. Has great loudness potential         |                   | 26,100.5,41     | 0            | А             | 23             | 49         |               | 3           |
| 7  | Yamaha Soavo 2             | 1,200      | Cunningly crafted standmount with a beautiful balance that always sounds lively, open and involving |                   | 22,38,35        |              | А             | 28             | 8          |               | 29          |

SPECS KEY SIZE W,H,D (CM) Width, height and depth of one cabinet in centimetres. FLOORSTANDER Speakers that don't require stands. EASE OF DRIVE How much power the amplifier needs (approximately) to drive the loudspeaker effectively. A+ 25 watts plus A 50 watts plus A-100 watts plus ACT Active – the speaker has its own in-built amplifier. BASS FROM How low the speaker goes – the smaller the number the deeper the bass. FREE SPACE The speakers work best away from wall(s). CLOSE TO WALL The speakers will work best when up against a wall (but avoid corners).



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| _     |                               | _     |  |          | PECIFICATIONS |        |                   |         |             |  |  |
|-------|-------------------------------|-------|--|----------|---------------|--------|-------------------|---------|-------------|--|--|
| E     | QUIPN                         |       | ENT SUPPORTS   |          | TOP PLATE     |        | NUMBER OF SHILVES | 9       | JUSS        |  |  |
| A de  | cent hi-fi rack ma            | kes a | a sound investment   | неснт см | SIZE (I       | WELDED | TEMS              | SHELF T | SSUE NUMBER |  |  |
| BADGE | PRODUCT                       | Σ     | COMMENTS   | Se Car   | (CM)          | 99     | S                 | 341     | ER          |  |  |
|       | Atacama Equinox               | 409   | Stable, modular design with style and excellent bass transients                                | 81       | 50,50         | 0      | 4                 | Glass   | 217         |  |  |
| *     | Audiophile Base Std Supp't    | 1,200 | Expensive and quite bulky, but sound is unusually detailed and resonance-free                  | 57       | 46,35         |        | 3                 | MDF     | 302         |  |  |
| -     | Custom Design Inert Matt      | 70    | solation platform can improve the sound of hi-fi components, but is a bit small for most kit   |          | 40x25         |        |                   | Metal   | 311         |  |  |
|       | Custom Design Icon Signature  | 330   | Gorgeous wood and glass looks: sound lacks a little detail, but is nice and lively             |          | 56,37         |        | 4                 | Glass   | 286         |  |  |
|       | Custom Design XL4             | 380   | Simple construction pays off in smart looks. Sound contribution is minimal                     |          | 60,42         |        | 4                 | Glass   | 293         |  |  |
|       | Custom Design Milan           | 509   | Good-looking stand with nothing more to complain of than slight muddying of detail             | 57       | 48,39         |        | 4                 | Glass   | 302         |  |  |
| MC    | Hi-Fi Racks Podium            | 500   | A keenly priced piece of high-class furniture that also happens to sound great                 |          | 59.5          |        |                   | Wood    | 320         |  |  |
| Ţ     | Milty Foculpods               | 22.5  | A set of isolation pads that are amazingly useful for damping vibration and improving sound    | 2        | 5             |        |                   | Polymer | 311         |  |  |
|       | Partington Minim              | 470   | Adds its own character to rock, but to the detriment of acoustic sounds                        | 78       | 45,37         | 200    | 5                 | Glass   | 302         |  |  |
|       | Quadraspire Q4 Reference      | 680   | Excellent performance from the school of wobbly racks. Natural-sounding and plenty of detail   | 51.5     | 49,39.5       |        | 4                 | MDF     | 217         |  |  |
| 9     | Russ Andrews Torlyte Platform | 146   | This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound      | 8        | 48,36         |        | 1                 | Torlyte | 302         |  |  |
|       | Russ Andrews Torlyte Rack     | 988   | Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice | 68       | 54,49         |        | 4                 | Torlyte | 240         |  |  |
| *     | Townshend VSSS                | 1,380 | This attractive Seismic Sink retains the same excellent vibration-killing sound quality        | 76       | 35,50         |        | 4                 | Glass   | 273         |  |  |

|       |                           |       |  |            | SPEC      | IFIC/    | ATION   | s              |             |
|-------|---------------------------|-------|--|------------|-----------|----------|---------|----------------|-------------|
| 5     | PEAKI                     | E     | R STANDS   | Ξ.         | TOP FLATE |          |         | HIMILI         | issi        |
| Not a | all stands are mad        | le eq | ual – try one of our top buys  | HEIGHT (OM | SIZE (CM) | FILLABLE | WELD! D | NIMBER OF LEGS | SSUE NUMBER |
| BADGE | PRODUCT                   | Σ     | COMMENTS   | 5          | Š         | m        | 0       | S              | 99          |
|       | Anvil Sound Display Stand | 229   | A variety of smart looks available – sound is clear and precise                                  | 50         | 20,17     | 0        |         | 1              | 293         |
|       | Custom Design SQ402       | 100   | More of a range than a model. Capable of fine results, especially with Acoustic Steel top plates | 62         | 18,16.5   |          |         | 2              | 299         |
| ₹     | Custom Design RS300       | 110   | An attractive stand whose lack of coloration suits it to high-resolution systems                 | 56         | 16,5,18   | 0        |         | 1              | 281         |
| *     | Custom Design SQ404       | 220   | Robust four-pillar design gives very low coloration and maximises performance                    | 61         | 18,16.3   | 0        |         | 4              | 283         |
| ₩     | Partington Ansa 60        | 119   | Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent                  | 62         | 18,15     | 0        |         | 4              | 232         |
| Ŧ     | Partington Dreadnought BS | 299   | Sound is better defined in almost all areas than cheaper, slimmer stands can offer               | 62         | 17,23     | 6        |         | 5              | 309         |
| *     | Partington Heavi II       | 499   | Robust to the nth degree, this stand helps produce very precise bass and upper frequencies       | 53         | 31,22     |          |         | 6              | 287         |

SPECSKEY 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.



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|  | 1999   | Audiolab 8000P, black UK built version  | 279  |
| Bill Beard Phono Stage, mm/mc switchable   | 2999   | Audiolab 8000C&P grey versions excellent boxed  | 349  |
| Clearaudio Master Solution c/w Unify tonearm<br>EAR 834P, vgc  | 399  | Audiolab 8000A, excellent   | 179  |
| Garrard 401 & SME3009, excellent   | 799  | Audio Research VS110, excellent boxed   | 2999   |
| Graham 2.2 Tonearm, nr mint boxed  | 1199   | Audio Zone Amp2 Monoblocks or mint boxed  | 799  |
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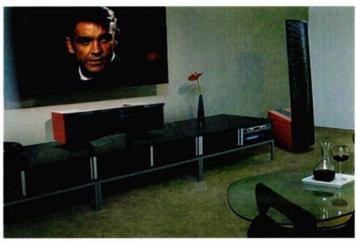
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# Second-hand guide

High-end CD players are a snip in the £1,500 bracket

icking off our selection of grand-and-ahalf CD players is the Pathos Digit. As we've already been impressed by the performance and value offered by it's bigger brother, the Endorphin, this simplified version should prove similarly appealing. With it costing just £2,000 brand new, this makes an excellent nearly new purchase at our £1,500 price range.

Launched in September 2007, most models will still be under the transferable two-year warranty. Do remember, though, that an original receipt of sale is required for this to be operational. As you'd expect, the Digit is fully serviceable with the only change being a switch from a bright chrome surround to a frosted one. This cosmetic change is sometimes identified by the name, New Digit. Contributing to the sweet sound quality is a pair of triode valves in the output stage. These should be good for five years, but even if not, at £35 per pair, they won't break the bank.

Another CD system to use valve output stages is the Tube Technology Fulcrum. For well over ten years TT has made a range of 24-bit, two-box and integrated CD players with valve output stages. For our money, you should be able to pick up one of the TX24 transports with a Fulcrum DAC64. This combination cost around £3,500 new and was a substantial improvement on previous, pre-2003, TT products. The TX24 uses a Sony KSS212B laser head that's both reliable and cheap to replace (around £15). If you can find the higher quality TX4000 transport, this uses the superior KSS213b laser and an improved digital filter. The sound quality is slightly more precise, but not hugely different. Both transports only

really shine when partnered with the Fulcrum DAC64. Using an optical clock-locking link, data loss is very low. The DAC was also one of the first to pioneer 24-bit technology back in 1998. This has since been uprated to a 64-bit/192kHz Pulse Array DAC. Unusually. this DAC is paired with a valve output stage for a unique configuration. TT claims the 6922/ECC88 tubes should last 8,000 hours which sounds ample until you realise the tubes and DAC are 'Ever warm' meaning the valves are constantly powered to sound their best from full switch-on. Should the valves need replacing a good, branded pair can be had for about £40. Although out of its original twoyear warranty, the 2006 pairing we found for £1,600 looked good value.

In HFC 284 we reviewed the McIntosh MCD201 and were so impressed by the expressive sound and great value (for a Mac) that we awarded it a Best Buy. Back then it cost £3,400, but three and a half years later we've seen one for £1,700 from a dealer and



Although launched in 1998, the Wadia 830 was seen as a successful product both inside and out of Wadia

should be fine. Better still, buy from a dealer who's prepared to offer a warranty. Although UK McIntosh distribution has just changed hands, a good dealer will always be able to help. Get a good one and the MCD-201 is one of the best Stateside CD player bargains about.

More US esoterica comes from the Wadia 830. Combining a basic chassis with proprietary Wadia electronics gave the 830 the expected Wadia sound and when buying second-hand it's worth seeking out a model

# "...we reviewed the McIntosh MCD201 and were so impressed by the sound and great value that we awarded it a Best Buy."

others below that. The allure of a McIntosh comes not just from its expansive sound quality but also the esoteric styling and image. Generally the products hold their value extremely well, yet this hasn't quite been the case with the MCD201. Some reports of problems with discs skipping and the transport locking meant the player's image soon became

tarnished. McIntosh did respond with a firmware upgrade, although some machines still appear to be troublesome and some noisier than others, too.

Ultimately McIntosh replaced the player just two and a half years later with the upgraded MCD301. Now, although

the MCD301 is generally considered better, it's not within our price range of £1,500. It's also worth realising that the MCD201 is still an exceptionally well-made machine and, for most users, reliable. Ensure you check any potential machine with a variety of discs. If it reads them all and is quiet in operation it

with the optional digital input/output, or 'digital hub'. This allows you to use other digital sources (such as DVD or HDTV) with the 830 and make good use of its, still, superb sounding DAC.

Wadia told us that it had had very few issues with the player and despite using a more basic transport it has proved reliable. Lasers inevitably wear out, but at least Wadia still stocks them – quite rare for many twelve-year-old CD players. So if it's CD pleasure, pure and simple, you want then the 830 makes a great buy. The £1,300 we saw one advertised for would leave enough in the kitty for a spare laser if needed.

The Wadia and McIntosh both provide pride of ownership and bass by the bucket load. The Fulcrum, although less well known, is a more refined-sounding machine. For a similar sound from a newer machine, the Digit has much to recommend it. It's an enviable choice to have to make! HFC

Dominic Todd Next month, headphone amplifiers.



The Pathos Digit includes features found in its big brother, the higher priced Endorphin CD player







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manual. CR224 remote £125 inc postage. 07768 081615. (Sheffield).

BENCHMARK DAC1 preamp. Ten months old. As new, all original packaging £900. 01237 479922 (Devon)

MICHELL Argo preamp £200, M&K V125 sub 12 inch £200, Pro-Ject Debut III, black £85, Cambridge Audio 640P, silver £60, MS Pageant Series II £60 NAD 3020 preamp £20. All good condition, Some boxed 01722 334694 (Wiltshire)

ROKSAN Kandy LIII integrated amplifier, 120 watts RMS, six months old, mint, 12 months unused warranty remaining, can demonstrate. £450. NAD C352 integrated amplifier, 80 watts RMS, two years old, mint, less than 50 hours use, can demonstrate. £185 01479 870261 (Inverness). ▶

#### **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!





#### **FOR SALE**

ARCAM A90, P90, CD 192, Monitor GS20 floorstanders, Chord Co. Chamelion, Chord Co. Odyssey, six-socket conditioner. Beautiful sound, mint condition. Manufacturers guarantees. Very little use. Boxed £2,500. 0121 602 8349 (Midlands).

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 (Famborough).

#### 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).

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**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

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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

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).

#### **BOWERS AND WILKINS**

CDM 1 NT, 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 loudpeaker (piano black) good condition: £440. 2x Cambridge P500 power

black) good condition: £440. 2x Cambridge P500 power amps, 50 watts: £150. lxos 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)

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**OPERA** Seconda loudspeaker,

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R valve tuner £575. Mint and
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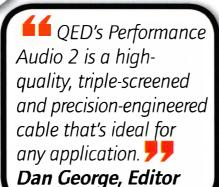
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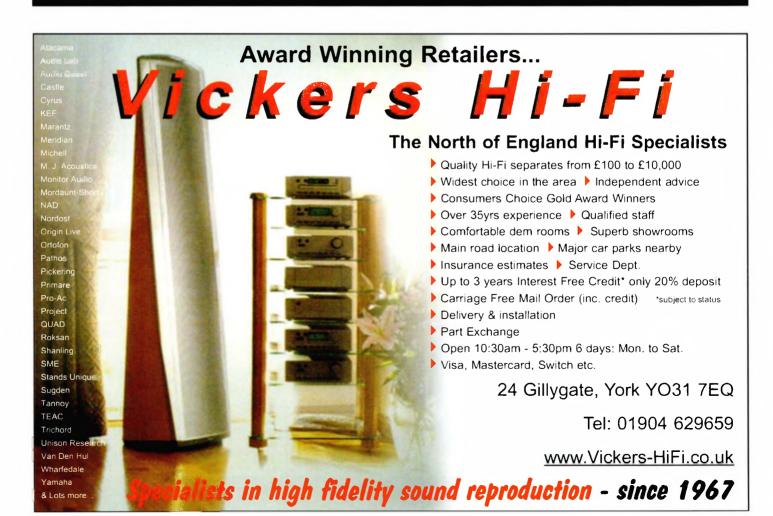
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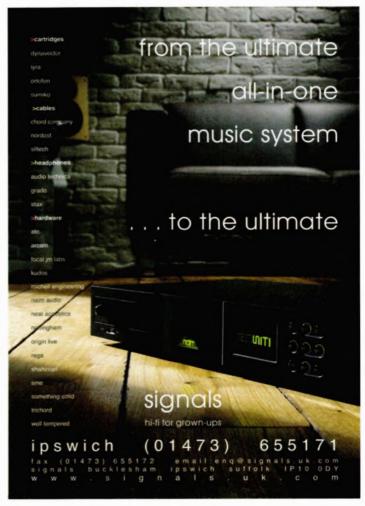


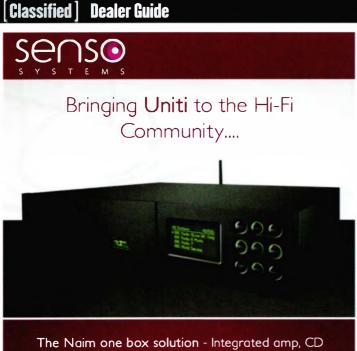
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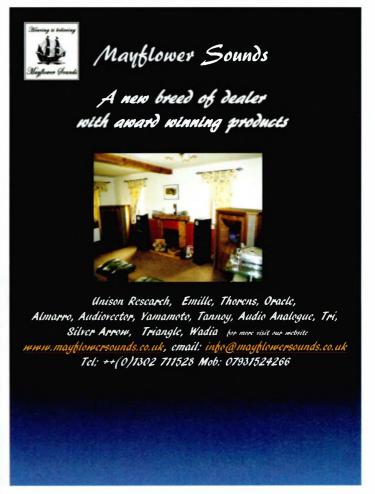




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