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Amphion's Hifi Choice Best Buy Awards



**Prio 520**

January 2008

"particularly inviting for long term listening" \*



**Ion L**

September 2008

"Rare and very welcome combination of open voicing that's free from any unwanted aggressive tendencies"



**Helium 520**

December 2008

"Sound is warm, neutral, lively and essentially neutral, with superior musical communication skills"



**Argon? 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"

All quotes by **Paul Messenger**, who is probably UK's foremost loudspeaker reviewer.

# WELCOME...

HI-FI CHOICE FEBRUARY 2010 ISSUE 329

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



So, Linn has officially pulled the plug on CD player manufacturing. It's a sad announcement from one of the UK's most respected and historically significant hi-fi companies, but one that simply reflects the marketplace and the changing buying habits of audio consumers.

In addition to our news story this month, Alvin Gold reflects on Linn's announcement and the implications for the audiophile on page 27.

The most surprising detail in Linn's press release, however, was in the language: "Linn's exit from the CD player market is testament to the supremacy of digital streaming technology". Linn has nailed its colours to the mast and put the writing on the wall for CD. Now we wait to see who follows suit in 2010...

*Dan*  
Dan George Editor

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

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

The Essential Guide To Audio Excellence In The Home



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



### PAUL MESSENGER

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



### JIMMY HUGHES

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



### RICHARD BLACK

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



### MALCOLM STEWARD

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



### ALVIN GOLD

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



### JASON KENNEDY

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



### ED SELLEY

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

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



Jordan Acoustics

freephone:

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e-mail:

**ask@jordanacoustics.co.uk**

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**www.jordanacoustics.co.uk**

AMS35i



AMS35p



AMS50



PRIMO



Musical Fidelity AMSCD

## (NEW) AMS Series from Musical Fidelity

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### **AMS35p: Pure Class A Power Amplifier**

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### **AMS50: Pure Class A Dual Mono Power Amplifier**

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### **Primo: Pre-amplifier**

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AVAILABLE**

**MUSICAL FIDELITY**

MXA60



## Full-blown McIntosh HIFI in-miniature

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

The new **MXA60 Integrated Audio System** from **McIntosh** challenges old notions about what constitutes serious audio hardware. Capable of true-to-life sound reproduction that belies its diminutive size (the product measures 22.5" long, 10.6" high, and 14.9" deep, including loudspeakers), the **MXA60 is a full-blown McIntosh HIFI in-miniature**. Now, perhaps for the first time, music aficionados need not trade performance for convenience. **Features include: Amplifier (75wpc) and Preamp, CD/SACD Player, AM/FM Tuner and specially designed 2-way loudspeakers (in high gloss piano black).**

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

McIntosh

0%\*

(NEW - HOT PRODUCT)

**MXA60: £6,995**

50% Deposit: £3,497.50

Term: 18 months

Monthly Payment: £194.30

\*subject to status/conditions

\*\*written details on request.

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**HI-FI WORLD**  
Award Winner 2009  
BEST LOUDSPEAKER



Dancer Be-10

## Dance with an Usher

Jordan Acoustics is very excited to introduce the reference range of Usher loudspeakers as part of its carefully selected portfolio of brands.

The amazing **Usher Dancer Be-10** has just won the **Hi-Fi World 'Best Loudspeaker' 2009 award**. Hi-Fi World wrote:

*"It is unremittingly dynamic too, making music sound 'live' in a way that nearly all hi-fi loudspeakers fail to do. Its massive visceral punch, allied to real silky smoothness and sophistication (when given the right ancillaries to work with) makes it an exceptional loudspeaker by any definition, and a worthy winner of its Hi-Fi World Award."* Hi-Fi World Awards 2009

We could not agree more. To find out more about the complete **Usher range**, call, e-mail, drop by or visit our web site today.

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**AVAILABLE**

**USHER**

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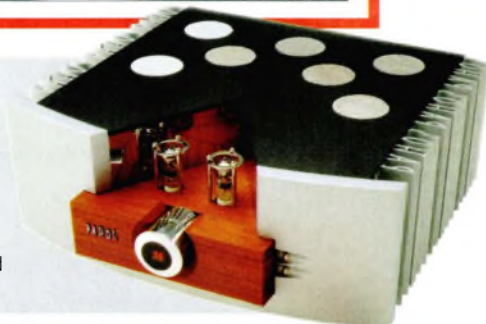
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# SET YOUR MUSIC FREE

  
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*'Seduces the listener with realism and a sense of scale...  
The Summit X will own your heart from its first notes'*

**Ken Kessler, Hi-Fi News** (November 2009)

*'Reference-grade performance that you'd struggle to match  
at double the price'*

**Alan Sircom, Hi-Fi+** (Issue 66)

*'The Summit X is just too addictive to live without. I'm putting  
my money where my mouth is and buying the review pair as  
my new reference loudspeakers'*

**Howard Kneller, SoundStage!** (September 2009)

**N**othing brings music to life like  
MartinLogan speakers. Unique  
technologies, seamlessly fused to  
create a sound so spacious, so open, it  
makes ordinary speakers seem hopelessly  
constrained.

26 years of electrostatic evolution has led to MartinLogan's latest creation: the mighty Summit X. Key to the new speaker's extraordinary performance are its advanced XStat™ electrostatic panel and perfectly integrated Controlled Dispersion Powered Force™ woofer section, effortlessly extending bass response to subterranean depths.

Yet the Summit X never sounds heavy. On the contrary, its performance is extraordinarily fast and open, painting an image that dances boldly before the listener, fully scaled and unconstrained, a sound that's natural, effortless and startlingly real.

The pinnacle of MartinLogan's hybrid electrostatic technology, the Summit X joins an extensive range of speakers encompassing freestanding, on-wall and in-wall models, from affordable hybrid designs and standalone subwoofers to the awesome CLX – the best full-range electrostatic speaker money can buy.

Set your music free with MartinLogan speakers, brought to you by Absolute Sounds – premier importer of the world's finest hi-fi.



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## JBL EVEREST DD66000

*JBL's £45,000 flagship seeks to redefine the high-end loudspeaker*

Tracing its roots back to 1985 and the original Everest DD55000, the new DD66000 is the result of a 20-year collaboration between JBL's Chief Engineer, Greg Timbers, and industrial designer Daniel Ashcraft. According to Timbers, "A properly designed two-way speaker is the ideal loudspeaker." Believing that this ideal is still beyond current loudspeaker technology, he and his team opted for 'an augmented two-way speaker system, a classic JBL design'.

Despite looking at first glance like a fairly standard three-way, the Everest has a single 476Be four-inch beryllium horn-loaded driver running all the way from 700Hz up to 20kHz, leaving the 700Hz to 150Hz region to one of the two 1501AL 15-inch woofers and their AlNiCo magnets. Extending frequency response at the extremes are the second 1501AL, and the 045Be-1 supertweeter, which rolls off at 50kHz. Like the 476Be, this is attached to a horn formed of SonoGlass – an extremely dense and mechanically inert compound made using high-temperature and pressure-moulding technology.

Commenting on the Everest's design, Timbers stated: "The choice of crossover points minimizes the sonic degradation that can be caused by even a high-quality dividing network. The woofers are phased to achieve uniform directivity across their entire operating range, greatly enhancing low-end realism. With unparalleled dynamic linearity and harmonic distortion

levels approaching those of a fine amplifier, we know of no loudspeaker system better able to realistically reproduce the subtlest nuances of any musical source."

As rigidity in enclosure construction and the prevention of standing wave build-up are key to reducing cabinet coloration, Ashcraft's design features multiple curves in 25-millimetre MDF, those on the front baffle forming part of the horn-loading for the 476Be driver. The angled woofer baffle consists of two sheets of MDF with a combined thickness of 45 millimetres and there are multiple horizontal and vertical braces.

In pursuit of flexibility, the crossover features a number of trimming options: high frequency (700Hz to 20kHz) +/- 0.5dB; LF1 and/or LF2 flat or +0.5dB; single-wire, bi-wire or bi-amp; and switchable woofer chirality (mirror-image), so each cabinet can be either a left or a right, to ensure proper imaging. In line with JBL's 'Charge-Couple Method' tradition in its range-topping loudspeakers, the polypropylene foil capacitors in the crossover are biased with nine-volt batteries to reduce distortion and are partnered with air-core inductors.

The sum of the Everest's parts is an eight-ohm reflex-loaded loudspeaker with a sensitivity of 96dB and a weight of 142 kilograms per cabinet.

**Price:** £44,000  
(Rosewood); £52,000  
(Maple, Cherry and Ebony)  
**Due:** now  
☎ 01423 359054  
🌐 www.jbl.com



## NEWS

### ARTORA ARTOAMP 150/ARTOPLAYER 1000

Danish company Artora's stated aim is to produce stylish hi-fi which sounds as good as it looks. Two of the firm's three founders are Bo Christensen, best known for his award-winning designs for Primare Systems and BOW Technologies, and Lars Moltke, co-designer with Bo of the first ZZ models for BOW Technologies back in the mid-1990s.

Their latest creations include the Artoamp 150, which outputs 75 watts into eight ohms and twice that into four. Its three RCA line inputs are complemented by Bluetooth functionality, which allows up to 16 devices to be connected simultaneously. The Artoplayer 1000 can be one of those devices, though its 24-bit/192kHz Burr-Brown DACs are likely to be of rather higher quality than those found in most Bluetooth equipment.

**Price:** £1,995 (Artoamp 150); £1,995 (Artoplayer 1000) **Due:** now ☎ 01562 731100 🌐 www.artora.com



### AMR AM-777

Abingdon Music Research has classified its latest amp as a pre-main rather than integrated, in the Japanese style. Contained within the aluminium and copper chassis are two stages of amplification – the first is a zero-feedback valve gain stage, the second a solid-state power buffer. While the former runs from a 32VA EI transformer, the latter has its own 380VA toroidal. The audio-grade component count includes silver foil and Sanyo Os-Con capacitors and Schottky rectifiers.

Keeping the amp at the forefront of source compatibility is the onboard USB DAC which can handle music as WAV, AAC, WMA, MP3, and other file types.

**Price:** £3,195 **Due:** now ☎ 01900 813064  
🌐 www.amr-audio.co.uk



### LINN MAJIK DS-I

Given that Linn has now ceased CD player production, expect to see more equipment like the Majik DS-I all-in-one network player.

In the DS-I, a pair of 100-watt Chakra power amps is combined with a preamplifier able to handle sources both digital (three optical and three electrical) and analogue (four line, one MM). The DAC can be fed FLAC, WAV, AAC, ALAC, AIFF and mp3 files at resolutions up to 24-bit/192kHz from sources including ethernet wired UPnP media servers.

**Price:** £2,500 **Due:** now ☎ 0141 307 7777 🌐 www.linn.co.uk



## GENEVASOUND S

➤ If your idea of a speaker dock for your iPod or iPhone is more than simply a bare bones system, then GenevaSound's S boasts PowerDock connections and TouchLight controls.

To keep the dock's lines clean, when the iPod or iPhone is removed, the motorised PowerDock spins closed and the connector disappears into the cabinet. The TouchLight operates on a similar basis; the backlit, touch-sensitive control panel is invisible until a hand reaches towards it. Behind the panel are two three-inch drivers, a pair of 15-watt power amps, an FM tuner and an alarm.

**Price:** £299 **Due:** now ☎ 01423 359054  
🌐 [www.swiss.genevalab.co.uk](http://www.swiss.genevalab.co.uk)



## NEAT PETITE SX

➤ The fourth Petite since the line's inception 20 years ago, the SX is a two-way standmount with a 6.5-inch doped-paper driver topped off by a one-inch tweeter. The two are linked via a carefully chosen three-element crossover constructed from air-core inductors and a polypropylene capacitor. Like the larger Elite SX, the Petite's mid/bass is reflex loaded by two ports tuned to staggered frequencies on the back of the MDF enclosure. Optional stands are available for £203 to position the speakers at the correct height.

**Price:** £1,250 **Due:** now ☎ 01833 631021 🌐 [www.neat.co.uk](http://www.neat.co.uk)



## BOULDER 1008

➤ Phono stage flexibility is on offer from Colorado's respected high-end manufacturer Boulder, but at a price. Now in its 25th year, the company has just brought out the 1008 Phono Preamplifier. In addition to its four equaliser settings (RIAA, FFRR, Columbia and EMI), the 1008 uses discrete and dual-mono 985 gain stages, each channel of which is potted inside its own aluminium enclosure. The two inputs have their own 'personality cards', allowing optimisation of the loading parameters for cartridges.

**Price:** £10,500 **Due:** now ☎ 01435 867438  
🌐 [www.boulderamp.com](http://www.boulderamp.com)



## JOLIDA FX10 AND FX-DAC MINI

➤ Jolida has long been known for its high-end valve equipment, but is now extending its range into affordable territory. The FX10 valve integrated uses two matched pairs of EL84 pentodes in ultra-linear working to give an output power of 10 watts per channel into four or eight-ohm loads. Two RCA line-level inputs sit alongside a 3.5-millimetre connector for MP3 players and iPods. The input to the FX-DAC Mini, which has a footprint little larger than a credit card, is by mini-USB, while the outputs are RCA phono.

**Price:** £450 (FX10); £150 (FX-DAC Mini) **Due:** now  
☎ 01494 858471 🌐 [www.jolida.com](http://www.jolida.com)



# ≈ COOL GALES

It's a breeze to buy high-end gear at [www.coolgales.com](http://www.coolgales.com).

Check out the **reviews and brochure downloads** on our website product listings. Read how the classic SME Model 10 "is the only turntable I've ever seen which makes me think it was produced by a watchmaker" (Ken Kessler, *Hi-Fi News*).



Give us a **free call on 0900 043 6710** if you need more info or prefer to order by phone.

We'll tell you about one of our reference cartridges, the fabulous Transfiguration Orpheus, which "deserves the highest praise for its totally natural rendition of music" (*Hi-Fi News*).



**Free delivery** on all orders over £100, including the magnificent Tannoy Prestige Kensington SEs, "capable of coming within a whisker of emulating that 'open window on the event' which is what high fidelity is all about" (Ivor Humphries, *Hi-Fi News*).



A **30-day money-back guarantee** on most products (details on our website), including the amazing Leema Pulse integrated, "a stunner with an organic and revealing sound alongside good power reserves and great features" (*Hi-Fi Choice*).

A huge selection of **hi-fi components with style**, like the gorgeous Scheu Laufwerk 1, a heavyweight reference-quality turntable at a mid-range price.



Cool Gales, hi-fi made easy.  
Give us a click. Give us a call.

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## ROTEL RDG-1520/ RCX-1500

As listeners' taste for hi-fi equipment capable of streaming music from the internet continues to grow and web-capable gear continues inexorably to wrest market share from the CD player, Rotel announces the RDG-1520 and RCX-1500.

These two latest models have a lot in common, as the RDG-1520 digital internet tuner (with its ability

to stream internet radio stations as well as music stored on a wi-fi or ethernet-connected PC or laptop) also forms the heart of its sibling, which adds 100 watts of two-channel power output and a CD player. Both machines support codecs including RealAudio, WMA, MP3, AAC & AAC+ (non DRM), WAV and others, all processed through 24-bit/192kHz Wolfson DACs.

**Price:** tbc **Due:** spring **☎** 01903 221500  
**🌐** www.rotel.com



## THE LOUDSPEAKER MOVES ON?

Back in April 2009, we revealed a new loudspeaker technology developed by Warwick Audio Technologies, a company founded in 2001 following successful research into a new type of audio transducer conducted at the University of Warwick's School of Engineering.

Intended primarily for public address usage, WAT's Flat Flexible Loudspeaker is a 0.25-millimetre thick laminate of three layers, consisting of two conducting surfaces (or 'membranes') separated by an insulating layer. By applying the electrical signal directly to the FFL, an electric (rather than magnetic) field forms over the laminate, which then functions in a manner similar to an electrostatic, but with greatly reduced drive voltages and far lower power requirements than standard drivers. Sheets between A3 and A5 can currently be produced and are claimed to produce a frequency response of around 500Hz to 20kHz.

Now, nine months on and having won the Most Innovative Product category at the Lord Stafford

Awards at Gaydon Heritage Motor Museum in November 2009, WAT's development work continues apace. Steve Couchman, Warwick Audio Technologies' CEO, told us: "We are just starting an improvement programme on the FFL technology and are in the midst of due diligence for £1.5m funding; they both go hand in hand. Within six months I believe there will be developments that may be of interest to your readers." Is it, perhaps, too much to hope that a thin, wallmountable and affordable new Quad-style panel with point-source array might emerge for WAT's OEM customers? Watch this space!



## PASS LABS SR-2 AND INT-30A

New from renowned American designer Nelson Pass are the SR-2 loudspeaker and INT-30A amplifier.

Conceived as the more compact offspring of the two-box SR-1, the new Son of Rushmore 2 again features SEAS Nextel drivers, in the form of a 29-millimetre Hexadym-magnet tweeter, 18-centimetre midrange and 26-centimetre long-excursion woofer, all linked with individually tested and hand-wired crossover components.

The INT-30A is Pass Labs' second integrated amplifier, a 30-watt class A version of its INT-150 integrated. Constructed around Pass's patented Super-Symmetry circuit, the 30-kilogram amp can accept either balanced (two sources) or unbalanced (four sources) inputs.

**Price:** SR-2, £15,995 INT-30A, £6,395 **Due:** now  
**☎** 01900 813064 **🌐** www.passlabs.com



## Soundbites

**CABASSE** has launched limited edition versions of its Antigua, Jersey, Minorca and Java models, available in piano-black finishes. The prices for the first two are £549 and £998 respectively, for the latter two, £899 and £1,598.  
**🌐** www.cabasse.com/en/



**ROBERTS** is expanding its internet streaming range with the STREAM 83i and STREAMTime wi-fi radios. The former sells for £150, can handle MP3/WMA/Real/FLAC/AAC formats, and has a 'Last FM' function which allows listeners to create their own virtual radio station. The latter also adds DAB reception to the £120 STREAMTime's feature set.  
**🌐** www.robertsradio.co.uk



**BANG & OLUFSEN'S** in-house designer Terri McConnell has collaborated with Hastings-based electrical products manufacturer Focus SB on the new £125 Chrome iPod dock, complete with remote control. The first 50 will be made available as a numbered limited edition, complete with the designer's signature.  
**🌐** www.bang-olufsen.com



**GOLDMUND** has just announced the fruits of seven years' research: the Proteus two-channel DSP software suite. Loaded into the Mimesis 16, Mimesis 32, or Mythos 2 preamps, Proteus provides an amplitude, phase and time correct output from the active versions of the Epilogue 1 and Epilogue 2 Signature speakers.  
**🌐** www.goldmund.com



**BIFROSTEC** was founded by Dr. Heitaro Nakajima (ex-research team leader at Sony and Aiwa) and Takao Ihashi (responsible for the majority of Sony's optical media technology research). Named after 'Bifrost', the Rainbow Bridge of Norse mythology, the company's new speakers are the single-driver TGA-1B1 and TGA-1W, plus the more expensive TGA-2R1 (almost £2,200 a pair).  
**🌐** www.bifrostec.co.jp/degg/



Staunch fans of FM transmissions who are as unimpressed as we are by heavily compressed DAB stations can find a petition to abandon the idea of an analogue switch-off on Number 10's web site;  
**🌐** www.petitions.number10.gov.uk/AM-FM Radio/



## StudioMaster

*Jason Kennedy moon walks in the footsteps of music legends like Michael Jackson when he tours the famous Metropolis Studios in West London...*

**T**he Metropolis Studios in Chiswick, West London inhabit an imposing stone building called the Power Station with a cavernous interior that has only partly been filled with recording and mastering studios. A former power station, the gigantic transformers of yore have been replaced with the massive loudspeakers of today.

Artists as diverse as Michael Jackson, Elton John and The Stone Roses have either recorded here or have had their albums mixed or mastered. In fact, 16 of *Q* magazine's 50 best albums of 2009 passed through Metropolis' hands for one reason or another.

*Hi-Fi Choice* was here to find out all about the mysterious art of mastering, the final stage in the production of a recording prior to the pressing plant.

### THE PROCESS

After an album or song has been recorded in a multi-track studio, it is mixed down by a producer, engineer and/or band to a stereo (or 5.1) mix. A process that may be done in a different studio to the one used to capture the original sound and not necessarily one that the engineer is overly familiar with. Miles Showell, who has been mastering at Metropolis for nearly fourteen years explains: "Often you'll have an engineer whose mixed it who doesn't know the studio; he's been from studio to studio and in an alien environment doesn't quite know what he's got."

The purpose of a mastering engineer is to make that final mix sound as good as it possibly can for CD and the reason they're better able to do this is that they work in the

same place from day to day, week to week.

They know what the room and the system they are using sound like because they have had time to familiarise themselves with its characteristics. Miles told us "I've changed rooms about four times in my career, it's horrible. Each change was totally disorientating and for the first four or five weeks you really don't know where you are."

It follows that mastering engineers often have the best monitoring system in the production chain. Miles uses PMC BB5XBD-A double-height towers, a bass cabinet sitting underneath a full-range speaker, with active drive courtesy of a rack of Bryston amplification per side. It sounds superb as you might imagine and serves the function of revealing what's on the master to a degree that can



**Masalec MAE-2 parametric equaliser on the stereo mixing desk**

sometimes be a surprise for some of his clients. Miles again: "They leave nothing to chance. With the PMC BB5XBD we get to hear everything that's on the tape. If it's not on the tape and the client believes that it was, they go away and remix. We've also had people leave, go away and remix because they've suddenly heard something that they never heard before and never want to hear again!"

This is partly down to the room which is heavily treated to be as free from reflections and resonances as possible, you can hear this when someone speaks – it's not totally dead

like an anechoic chamber but it is very quiet. As a result Miles doesn't have to listen at high levels to hear what's going on and to be able to make small changes to the balance.

He played a new song by The Magic Numbers which he had been working on recently and showed us how it's possible to change its sound with the parametric equaliser that's built into the desk. The equaliser is run in sum and difference mode, which allows for very narrow EQ adjustments. In this instance, he had added a little bit of bass at 40Hz to give it a bit of a reggae feel and, as requested by



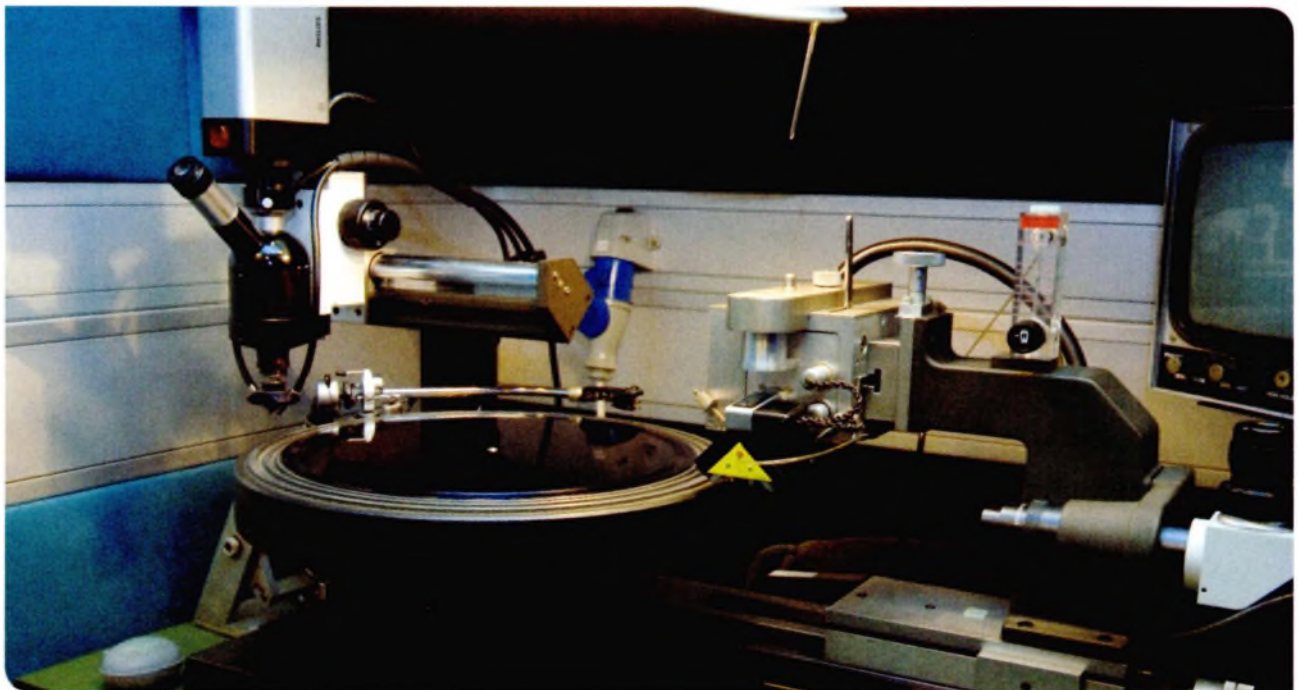
**Bryston 3B PMC, 4B PMC and 7B PMC amplifiers**

the band's singer, turned up the 500Hz dial a little which made the voice sound richer. Then he added "frequency on top at 21k, which makes the the room sound more open."

It's quite surprising that increasing energy at such a high-frequency should have a clear effect, but with the quality of monitoring available at Metropolis it's not hard to hear.

On top of the desk they run a pair of relatively compact, but still active, PMC TB2S monitors, which are used to give an idea ▶

**Neumann VMS80 vinyl-cutting lathe**





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*Jason Kennedy, Hi-Fi Choice, October 2009*



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## INSIDER VIEW



The stereo mixing desk features PMC TB25-A II nearfield monitors

of what a recording will sound like in the real world. But given that even this monitor is significantly more capable than your average sound system, this is a relative state of affairs. In truth, the engineer knows through experience how what he hears in the studio translates to everyday replay equipment.

### COMPRESSION

Mastering engineers often get the blame for the heavily compressed sound of contemporary recordings, especially those made for the pop market. But they can only work with what they are given – usually the original mix has already been compressed – and they only add compression when the client requests it. Miles told us “If I was to do everything as open and

version, but there's no client in the world who'd pay for me to do a different pass for vinyl, different pass for CD and a different pass for a high-quality download.”

But as Miles Showell knows only too well, there are some artists, like French composer Pascal Obispo, who dislike adding compression, because they know only too well that when you play music with dynamic range through the compression systems used on radio, it comes out sounding better.

### DITHER

When a track or album has been mastered to sound its best at the resolution it is delivered in – this is usually 24 and 48-bit, or sometimes 96kHz – it has to be dithered down (a description

engineer goes back to the full-resolution version to make the changes and then goes through the dithering process again.

We asked how long it takes to master a piece of music and discovered that it can take anything from 15 minutes to two days to get it right, apparently. “It really depends on the recording and the person coming in the room. Some people just want to sit here tinkering.”

### HALF-SPEED VINYL

Metropolis has a magnificent Neumann VMS80 lathe, which the engineers use to cut vinyl masters in real time and at half-speed, which involves playing the master at half-speed and running the lathe at the same rate. This is the process which was developed by Decca and used extensively by Stan Ricker, who founded Mobile Fidelity. The advantage is that you get extra high-frequency headroom which reduces distortion in the treble. It's this end of the spectrum that presents the greatest challenge with vinyl mastering, as it does with stylus-tracking at our end of the chain.

The reason for this improvement is that the cutting amplifiers do not have to work so hard – the VMS80 is driven by 600 watts of amplification in a so-called SAL rack, which also accommodates the RIAA equalisation that has been modified by the engineers at Metropolis. When it's run at half-speed the cutter head draws around a quarter to a third

**“In truth, the engineer knows through experience how what he hears in the studio translates to everyday replay equipment.”**

pure as possible I'd have no work and we'd have no business. I don't like the over-compressed FM sound but that's the world, that's what people in this business want.” We also wondered if he produced different versions for different applications, for example one for radio, one for download etc, his response was “I'd love to do a non-compressed

for the dithering algorithms employed in the process) to the 16-bit/44.1kHz of the CD format. They use high-pass, triangular dithering and listen to the results, because this process is not always totally consistent and the sound can vary from one pass to the next. If there is something that the client wants to change in the dithered version, then the mastering



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November 2008

## INSIDER VIEW



(Above) Bryston/PMC power amplification and the mighty PMC BB5 XBD double-height monitors

(Below:) Behind the mixing desk is the hardware for recording a PC with Pro Tools, DAT and CD-R



of the current required at full-speed, equally important is that the cutting stylus has twice as much time to carve the groove.

In order to audition the lacquers that they cut on the Neumann, they can either use the SME 3009 tonearm and Shure V15 cartridge that sits on the cutting lathe, or they have a Technics SL1210 with a Stanton cartridge in the same room. Neither are particularly aspirational, but they reveal any shortcomings in the cut. Hearing the half-speed cut of Genesis' *Foxtrot*, via the PMC BB5XBD active monitors in the mastering room, is an experience that is not easily forgotten and gives you something to strive for at home, albeit quite possibly in vain.

As PMC's man on the pro-audio scene put it "mastering engineers do much more than tinkering. Otherwise why would people pay so much money to build studios like this or have records mastered in them." At £200 an hour, he might just have a point. **HFC**

## METROPOLIS COMPETITION

**We have teamed up with our friends at Metropolis Studios in order for five lucky readers to win a limited edition Eleanor McEvoy 45rpm vinyl LP.**

Featuring two tracks from McEvoy's *Yo!a* album, the original analogue recording was mixed and mastered at Metropolis and then cut by Miles Showell, using the Metropolis Paradigm half-speed cutting process.

It is pressed on high-quality 180g vinyl using a 'single process' stamper, which produces the quietest pressings at the

expense of limited stamper life. This pressing is limited to 100 editions and we have five serial-numbered copies to give away to the first five entrants out of the hat, who can correctly answer the following question:

Which speakers does Miles Showell use in his studio?

- A. ATC SCM300ASL Pro
- B. Bowers and Wilkins 800D
- C. PMC BB5 XBD-A

To enter, text mcevoy A, B or C to 87474 or visit [www.futurecomps.co.uk/mcevoy](http://www.futurecomps.co.uk/mcevoy) and follow the instructions.

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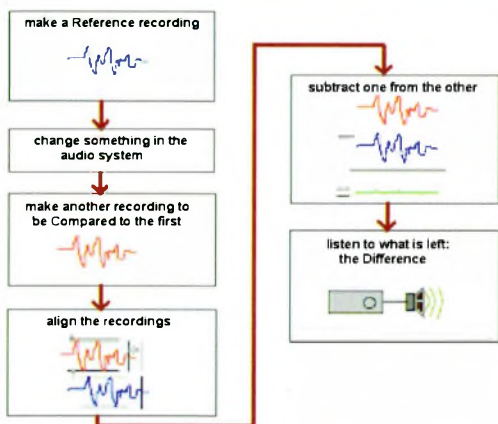


## Richard Black

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

### Technology

Can cables and mains conditioners make a difference?



Software Audio DiffMaker takes a lot of the legwork out of audio signal testing

"The usual way of testing audio systems and components is to apply a sinewave at the input and test the output using 'spectrum analysis'."

It's not that common for hi-fi manufacturers who are direct competitors, making similarly priced products in the same categories, to co-operate. Something that was recently announced by Nordost and Vertex AQ, when (together with Quantum Resonant Technology) they launched a 'Measurement Initiative' aimed at quantifying the benefits brought to the world by their products, namely cables (Nordost, Vertex), support products (Vertex) and mains improvement (Nordost and from a different angle, Quantum).

The public launch of this in the UK took place at the *National Audio Show* in September 2009, where it was revealed that the companies in question had challenged a signal processing team from Acuity Products Ltd to find hard evidence for changes in the output of an audio system, when it is treated with Vertex, Nordost or Quantum accessories.

The usual way of testing audio systems and components is to apply a sinewave at the input and test the output using 'spectrum analysis' which very quickly and simply shows if the signal contains frequencies that were not present at the input. If it does, the component is introducing distortion.

Acuity's approach is rather different and relies on 'time-domain analysis' – effectively looking at the actual signal rather than its spectrum equivalent. The point is, that this can be done with real music rather than test tones – which many regard as unrealistically simple.

There's not a huge amount of hard data currently available from the Measurement Initiative, but some can be found on the Quantum website at [www.quantumqrt.com](http://www.quantumqrt.com). There you can see graphs showing the signal output by a CD player before and after treatment with Quantum products, as well as a graph showing the difference between

these two. What's evident is that the difference signal is quite large, several percent of the original, which compares rather surprisingly with the kind of distortion figures CD players normally give – 0.01 per cent is typical.

Subtracting one signal from another is an obvious measurement technique, but a hard one to apply. Actually doing the subtraction is easy enough, but the problem is making sense of the answer, because harmless effects can show up as quite disproportionately large differences. In particular, a uniform time delay will completely upset the results. With digital signal capture and processing it's possible to compensate for effects like that, but it can be a bit time-consuming and tends to involve manual optimisation. A largely automatic bit of software called Audio DiffMaker, from Liberty Instruments, Inc., takes a lot of the legwork out of this.

A couple of years ago, I did rather a lot of difference testing, including testing cables (one against another) and managed to get a 'null' between two very different cables of 70dB, implying worst-case distortion of about 0.03 per cent. Hence my surprise at the magnitude of the Measurement Initiative findings. I exchanged a couple of emails about this with Acuity's main researcher, one Gareth Humphreys-Jones, without really getting to the bottom of it, but I can't entirely suppress a feeling that some measurement error is responsible for most (at least) of the difference signal. Humphreys-Jones mentioned that his latest work involves 'correlation' techniques rather than straight differencing, but the fact remains that a small difference is a small difference, however one examines it. **HFC**

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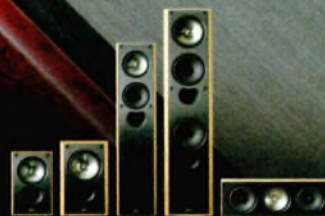
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## Ed Selley

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

# Input variables

Your system is going to change shape over the next few years

"...for those who really have moved beyond CD, they are paying for machinery that they are not using."

The widely reported news, that Linn has decided to cease CD player production (see page 27) was not a hugely surprising story, when you stop to consider that the source equipment to gain attention over the last few years has been its comprehensive range of upgrades to the apparently immortal LP12, plus the launch of the highly regarded streaming systems. Linn has, therefore, had a strong selling product that predates CD and some strong selling ones that might be considered the heir to it. Its decision to wind CD player production down as a consequence seems a logical one.

The decision, once again asks some questions about the nature of the boxes we may find ourselves enjoying our music on over the next few years. Is the streaming device going to slide into existing systems in place of a CD player? Or will the role previously filled by a CD player be broken up and split across other components? At the moment there is evidence that this could go either way. Certainly, Linn market its streamers as a replacement for its one box CD players. An Akurate or Klimax has the same connections as a Linn CD player and is essentially a straight swap in and out. Likewise, the Logitech Transporter is designed with a similar brief in mind. The number of boxes in a system remains unchanged, although the quantity of Ethernet cables may rise.

Elsewhere, the future does not look so clear-cut. Logitech's popular Squeezeboxes, whilst capable of working alone, are commonly connected via their digital output for increased performance. Indeed, the DAC category's move from near moribund sector to growth area is partly because of it. Many of the proposed successors to CD will be dependent on access to digital inputs to realise their full potential.

The excellent Onkyo ND-S1 tested in *HFC* 328, offers some startling performance possibilities, but solely via connection to a digital input. The question of where these digital inputs will be placed, asks the biggest question about system

design going forward. Digital inputs are, depending on the manufacturer, being fitted to CD players, standalone DACs and to amplifiers themselves. Each method has different pros and cons and changes the way a separates system functions.

Fitment to a CD player offers considerable flexibility. Playback of CDs remains a simple business, but the use of a streamer or iPod transport is still easily possible as well. The number of inputs required on an amplifier does not increase and as the CD player usually has a remote control, the input can be selected via remote. Of course, for those who really have moved beyond CD, they are paying for machinery they are not using. The standalone DAC removes this problem (and a CD user can still buy a transport for it). The choice of DACs is on the increase and many of them offer a huge number of digital inputs rather than the one or two usually found on a CD player. The DAC does not reduce the number of boxes in a system – indeed if you keep playing CDs it increases it – nor are they commonly equipped with remote controls making input selection a manual business.


Fitment of digital inputs to amplifiers is, perhaps, the option that most radically changes how a system will function. The idea that the amplifier should be able to handle all inputs, be they conventional analogue or digital, is one that has increasing appeal. The fact that we have positively reviewed models with this functionality from Bryston, Cyrus, Naim and Harman/Kardon as amplifiers in their own right, shows there are no intrinsic performance limitations to doing so.

Could the lion's share of the work undertaken by the CD player stand to be inherited by the amplifier, or will we decide on standalone sources for another generation?

The Linn announcement only serves to bring this question a little closer. **HFC**



The Onkyo ND-S1 iPod dock demonstrates the genuine audiophile potential of the iPod

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# Paul Messenger

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

## Coming home

UK market now competes for hi-fi manufacturing!

"...after working on its AV receivers with Chinese partners for around ten years, Arcam has decided to bring production of these back to Britain."

A hundred years ago, the phrase 'workshop of the world' would probably have been Birmingham. Today it would be much more appropriate to any one of a whole string of Chinese super-cities, many with names entirely unfamiliar to people living in the West.

Over the past decade or two, Far Eastern entrepreneurs have been busily collecting British hi-fi brands and, in order to reduce costs, have transferred much of production, especially of budget ranges, to overseas factories.

This is just one simplified example of the manufacturing globalisation that has accelerated rapidly since the 1980s, whereby brands have often lost their national identities. Although there are exceptions, amongst older brands in particular, ownership, product R&D and manufacturing are now frequently located on different continents.

Even British brands that continue to base most of their activities here in the UK, often outsource some elements of component-buying or manufacturing overseas, sometimes in order to reduce costs, but sometimes simply because the required components are no longer available at the requisite quality here in Britain. For example, British speaker makers have been buying drive units from Scandinavian OEM suppliers for many years and are increasingly looking overseas for high-quality enclosures.

But one recent piece of news that really did come as a surprise was that, after working on its good-sounding AV receivers with Chinese partners for around ten years, Arcam has decided to bring production of these back to Britain.

The reason is not because it has suddenly become cheaper to make things in Britain. In fact, UK manufacture does still cost more, but the gap has narrowed significantly since the credit crunch and the decline of sterling. Given the relatively modest production quantities that a specialist operation like Arcam requires, the extra cost of UK manufacturing is probably only about 10 per cent

today. And several other factors have tipped the balance in favour of the decision to bring AV receiver manufacture back to Britain.

Crucially, whereas stereo hi-fi is relatively simple, stable and changes only very slowly, multichannel AV is highly complex and in a constant state of flux and evolution. And it's this rapid rate of change that makes a separation of 5,000 miles between head office and the production base difficult to handle, both from the point of view of keeping products up to date with the latest specs and the delay caused by six weeks in transit on the water.

Furthermore, one accidental positive of globalisation is that the investments of Japanese TV makers had helped modernise UK electronics manufacturing, making the latest surface-mount techniques available in Britain.

Arcam had reasoned that it was not only practical to manufacture its AV receivers and processors in the UK, but that the extra flexibility this afforded would be very worthwhile.

It's clear enough that Chinese manufacturing still has a competitive edge, especially for mass-market items, but it's also obvious that its historic costs advantage is beginning to be eroded. I wouldn't be surprised to find the prices and the quality starting to creep upwards.

Although there are many obvious differences, one can maybe draw parallels with the way Japan developed some fifty years earlier. Back in the 1950s Japanese goods were bought because they were cheap, but they had a poor reputation for quality. As the years passed their reputation for good quality rose steadily, but so did the prices. Nowadays anything actually made in Japan tends to be hi-tech and expensive, whereas the major Japanese multinational brands use factories all round the world, especially in China and the Far East, to build mass-market consumer products for local and export markets. **HFC**



Is China still the manufacturing centre of the world for hi-fi?

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HI-FI PLUS. ISSUE 68,



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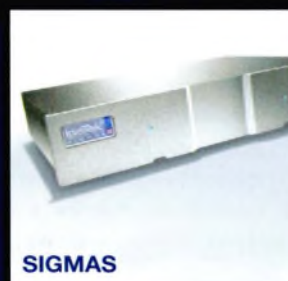
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## Alvin Gold

*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*

# Disc-tress

Is this the end of the line for the compact disc?

"...streaming audio is not just more convenient and flexible, it is an essential step to better sound quality"

There is a kind of glamour to the hi-fi business. New products are trumpeted to the heavens at press conferences, often with great razzmatazz, or in press releases full of extravagant hyperbole.

Old products die out eventually, of course, to make room for the newcomers, but it tends to happen invisibly: the discontinued products are rarely explicitly announced as being no more. More often, they just silently fade away, often marked by nothing more than their disappearance from the price lists. In over thirty years of attending press conferences, I cannot recall a single one that was devoted to the demise of last season's products.

This held true until a couple of weeks ago, when I accepted an invitation from Linn Products, a rare enough event in itself, at which there was no new product announcement. Instead Linn Products announced to a small, but startled gathering that, as of the beginning of 2010 it was withdrawing all its CD players and indeed closing the book on the CD player market as a whole. And the reason for this decision? Streaming audio in one iteration or another, primarily (but not exclusively) based around its DS range of streaming audio players which act as the interface between a computer, data storage and the end user. I felt impelled to ask at one point if the press release to follow would simply be a blank sheet of paper!

Streaming audio is not new, of course, but Linn has gone one step further than anyone else so far in suggesting that contrary to received wisdom, streaming audio is not just more convenient and flexible, it is an essential step to better sound quality – better, for example, than Linn's own CD12 according to Linn. And unlike Apple and acolytes, the company is calling for a completely open architecture, covering a hierarchy of standards, from low bitrate MP3 through to high resolution, an area that it already supports via its download service.

Its DS series players operate on a standard network infrastructure and with a completely open programming system to integrate with a potentially unlimited number of control devices and home automation systems. In other words, there is none of the exclusivity that Apple and iTunes try to impose on its buyers and thereby control the market.

The question that remains, of course, is whether Linn is right. Will CD disappear and will streaming audio unlock a world of better quality and higher resolution audio than is currently available to us?

The question of the CD's dubious longevity is easily addressed – of course the format will eventually disappear, the question is, over what timescale? For Linn the time has come, but as others have pointed out since, it is a long time since Linn was a major player in this market and the cynical point of view is that it's simply making the best of a bad job. But there is plenty of hard evidence that the CD market as a whole is shrinking.

As I pointed out in last month's column, which discussed the thinking underlying my own attempt at building an audio server, there is no reason I can think of why streaming audio should not be as good as the traditional formats. In principal, it can be even better. After all, there's no intrinsic reason why the data rates should be capped at 16-bit/44.1 kHz, or even at 24-bit/192kHz simply to squeeze an album's worth of data onto a 12 centimetre disc.

I am not suggesting that truly high-performance streaming audio is easy to achieve, indeed the whole area is characterised by some surprisingly intricate technologies, but it is one that is being driven by the computer industry – which the audio industry can tap into. There's a lot to learn of course, but it's not rocket science. [HFC](#)



Could CD players like the Micromega CD-10 be a thing of the past?



BEL CANTO CD-2 COMPACT DISC PLAYER | LAVARDIN IT INTEGRATED AMPLIFIER |  
LECONTOURE STABILE 160 REFERENCE LOUDSPEAKER | £11,168

# Pure and simple

*The truth and nothing but the truth...*

**T**he Truth, as Oscar Wilde famously said, is never Pure and rarely Simple. Sadly, Oscar never lived to hear this Bel Canto/Lavardin/LeContoure system. Had he done so, he might've agreed that it represents an exception to the rule. It gives something very close to the Truth – Pure and Simple – without frills or fripperies.

Simplicity is the key attribute here; simplicity and refinement. The simplicity is obvious – just look at the Bel Canto CD-2 and Lavardin IT – the concentration is on basics and essentials, nothing more. And refinement? Well, you only have to listen...

## PURELY FOR PURISTS

This is very much a purist music-lover's hi-fi system. It's for those who put music first and equipment second; those who prize refinement and naturalness above superficial brilliance and false impact. While the musical presentation doesn't

**“The CD-2 immediately displayed some impressive qualities; a silky-smooth sweetness – an effortless clarity. It sounds mellifluous and very refined”**

lack dynamics or detail, there's no sense of highlighting or exaggeration.

To get an idea of how each component sounds, we began by using the items individually, starting with the Bel Canto CD-2, instead of a Tube Tech Fusion CD-64 – a very clean natural-sounding CD player that features a tube output stage. First impressions are that the Bel Canto is clearly a bit special...

The CD-2 immediately displays some impressive qualities; a silky-smooth sweetness – an effortless clarity. It sounds unusually mellifluous and very refined. There is none of the tonal hardness one often experiences with CD. The tonal balance sounds incisive and detailed, yet very open and smooth.

## THE PUCK STOPS HERE

The CD-2 is based around a CD-Pro2LF transport and employs a heavy

magnetic puck to ensure superior disc stability for reduced jitter. You place a CD on the platform, then use the puck to hold it in place.

Care needs to be exercised when placing/removing the CD to avoid accidentally marking the disc – you have to sort of slide it between the disc platform and protective upper structure. You also need to cover the player when not in use, as the laser is open to the air and may (if left uncovered) get dusty given time.

Fixed/variable unbalanced/balanced analogue outputs are featured, plus digital outputs for an external DAC. The inbuilt DAC is a 24-bit-type sampling at 96kHz, with an 'ultra-clock' having a claimed accuracy of 0.0001% and a low Jitter level of just 1ps RMS. To lower noise, the power supply is contained in a separate box.

Lavardin's IT is a solid-state integrated amplifier with 50-watt output. It has

four unbalanced line inputs and a single set of loudspeaker outputs. There is no balanced input, so the amp is unable to capitalise on the CD-2's balanced output.

## NO THANKS FOR THE MEMORY

The maker claims the elimination of something it calls 'Memory Effect' – a form of distortion that afflicts solid-state electronics. According to Lavardin, silicon components retain a trace of electron flux as the signal passes through. This has an adverse effect on new signals when they arrive.

With tube amps, this problem cannot arise, because the signal passes through a vacuum – hence the reason that tubes often sound better than transistors, despite comparable specifications.

Lavardin claims the elimination of 'Memory Effect' results in superior sound quality, allowing the full ▶



**Bel Canto CD-2 CD player**  
£2,699

CD player/transport featuring Pro2M mechanism 24-bit/96kHz DAC with additional sampling rates of 48kHz and 192kHz. Digital output options: AES/EBU XLR, SP/DIF BNC; TOSLINK. Analogue outputs: single-ended RCA phonos; balanced XLR. External power supply.



**Lavardin IT integrated amplifier**  
£4,403

French-made integrated transistorised amplifier with four line-level inputs (380mV sensitivity) and one tape output. 50-watt output into eight ohms (75-watt into four ohms). Claimed frequency response; 0.1Hz to 45kHz. Harmonic distortion -90dB. Elimination of 'Memory effect'.



**LeContoure Stable 160 Reference loudspeaker**  
£4,066

French-made three-way floorstander with rear-mounted 210mm bass driver, 160mm multilayer Polymer midrange and 25mm double-ring soft-dome tweeter. Sensitivity: 87dB 1W/1m; power handling – 100 watts. Impedance: 7 ohms.



benefits of solid-state designs to be heard. Indeed, it claims their discovery is the biggest advance in transistor amplifier design for the past 20 years.

Certainly, the IT offers a very tube-like presentation. Not so much in the warm/euphonic sense, but more in terms of refined ease and fluidity. It produces a velvety effortless sort of sound. The IT enhances the impression of smoothness and refinement created by the CD-2.

While the sound does not lack attack or dynamics, the overall impression is one of silky-smoothness. There is an absence of strain. We immediately felt like increasing volume levels, subjectively, it felt as if the amp would retain its superb composure no matter how loudly it was played – though (being just 50 watts) there are limits.

The Lavardin is definitely one of those (rare) amplifiers that doesn't sound 'loud' even when it is. Because the sound lacks tonal hardness and aggressiveness, you don't find yourself reducing volume levels in self-defence. In that respect it's very much like good live unamplified music.

In regard to different sampling rates, we subsequently discovered that the CD-2 offers users the option of three variations. When received, the player was already set to 48kHz. This, we

found, gave the smoothest, plushest sound. The 96kHz and 192kHz options sounds sharper, increasing immediacy and producing crisper starting transients. The question is, which is best?

Bel Canto itself recommends 96kHz as optimum for most situations. But, much depends on personal taste and the disc being played. The 48kHz option is definitely the nicest, most relaxed-sounding. But the 192kHz setting seems to deliver more detail and greater dynamic contrast.

When making direct A/B comparisons, we tended to prefer the clarity of the highest sampling rate. But when listening long-term, the 48kHz base-rate proved extremely beguiling, the sound has a gorgeously rich liquid tonality that is most un-CD like. We eventually settled on 96kHz as a 'best compromise' option.

#### SPEAKER TIME

It was time to connect the speakers. LeContoure's Stabile 160 is an interesting and unusual design. It's a three-way floorstander with a rear-facing sub-bass unit. The cabinet is sealed and the bass and bass/mid drivers are acoustically coupled – they're not in separate chambers.

The rear bass unit is a proper driver – not a passive ABR.

We all know that hi-fi can take a period of time to run in and stabilise. Indeed, in the user manual that comes with the Stabile 160, LeContoure warns that a period of time (possibly several weeks) will be necessary for the speakers to fully settle and this definitely proved to be the case.

We initially felt the speakers sounded a bit closed-in and colored; there seemed to be a slight lack of openness and transparency. However, with use, these characteristics became less and less apparent. After four or five days, the tonal balance eventually opened out, becoming more natural and real.

True, the Stabile 160 retains a certain laid-back quality. It gives a fairly smooth 'rounded' sort of tonal balance – it's not up-front or in yer face. The bass proved surprisingly full and deep. Yet, if anything, the speaker initially struck us as being a tiny bit bass-shy – the bottom end didn't seem particularly full or weighty.

#### HOW LOW CAN YOU GO?

However, the specifications indicate a response down to about 18Hz (-6dB) – pretty deep by any standards. We still had doubts, but trying a 20Hz test tone





## “Lavardin claims its discovery (the elimination of ‘Memory Effect’) is the biggest advance in transistor amplifier design for the past 20 years.”

proved that the maker’s claims were justified – a clear, clean result was produced. Yet, for all this, the bottom end isn’t thick or heavy – it proves surprisingly nimble and clean.

The low notes are there, but only when the music demands it – you don’t get a constant upper bass ‘drone’ that masquerades as bass. Impulse H1s give a bigger ‘airier’ bass, with greater weight, yet (paradoxically) do not go down quite as far – they’re good to about 25Hz and start to chuff a bit at 20Hz.

On the back of the speaker there’s a two-way switch that allows you to trim the bass output – cutting back frequencies around 40Hz, while boosting the output slightly below 20Hz. The Stabile 160’s sensitivity is 87dB. The Lavardin’s 50-watt output means sufficient power for most rooms and types of music, but there isn’t power to waste.

We mention this, because the amp’s smooth effortless refinement

encourages you to play music at fairly generous volume levels. Played at middle or low-volume levels, the sound can sometimes seem a bit cramped and recessed. But things certainly blossomed impressively when played louder.

### SISTER COMPANIES

Lavardin and LeContoure are sister companies and the speakers were developed using its amplifiers. This ensures compatibility; both products aim for the same goals – naturalness and refinement. The only possible area of concern is power output; there might be times when you need more than the 50 watts offered by the IT.

As mentioned, the Stabile 160 has adjustment switches for bass. The tweeter output can also be varied – it’s possible to lift the output of the tweeter by either +2dB or +3dB. Internally, the speakers are wired with thin solid-core cables and damped with thick slabs of foam.

The removable speaker grilles are interesting, too. They’re unique-looking and have been deliberately designed to narrow the dispersion of the mid/bass and tweeter and have the effect of ‘focusing’ the sound. You get a sweeter more open tonal balance with the grilles removed, but superior detail and more solid imaging with them in place.

This month’s *Beautiful System* proved to be natural-sounding and very easy to listen to. Given this, it’s perhaps best suited to miked recordings of jazz, folk and classical music, where its truthful, unexaggerated presentation can be heard to full advantage.

But it proves excellent on rock and pop too, producing clarity and focus without sounding messy or harsh. It’s a system for those wanting to hear the music without additives. It delivers the unadorned Truth – Pure and Simple. Which is where we came in... **HFC**

Jimmy Hughes



# BRENNAN JB7

Small enough to pick up with one hand.  
Big enough for a lifetime of music.

## What's the point owning CDs you don't Play?

What's the point in owning hundreds of CDs worth thousands of pounds if you never listen to them? The problem with CDs is that it's quicker to make a cup of coffee than dip into a CD. Try timing how long it takes to pick a CD, load it in the CD player, play a snippet from a track or two, eject it and put it back where it came from. Then there is the problem of finding music. The print on a CD spine is tiny. What if the track is on a compilation CD? What if the CD is in the car? Then there is the clutter. You need to keep your CDs near the player or you won't play them. So you are forced to share your living space with hundreds of cheap plastic boxes. CDs are great but they are also inconvenient, inaccessible and a bit of a chore - that's why Martin Brennan designed the Brennan JB7.

## Good news for CD owners

### British company re-invents the HiFi

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

When Martin Brennan designed the Brennan JB7 he threw out the rule book.

The Brennan is a CD player with a hard disk that stores up to 5,000 CDs. It saves space and clutter and delivers near immediate access to an entire music collection. Customers rediscover/fall in love with their music again simply because the Brennan makes it so accessible.

The Brennan also records from vinyl and cassette so you can enjoy your entire music collection but keep it out of the way in another room or retire it to the attic. You can use the JB7 in two ways. You can use it with

loudspeakers or you can play it through your existing HiFi. The Brennan gives names to tracks and albums from a database of 2.6 million CDs as you load each CD. It takes a few minutes to load a CD.

The Brennan has a unique text search facility that shows a reducing number of matches as you press successive letters on the remote control. Once you get the hang of it you can find one track or album out of your entire music collection in a few seconds. So to find "Nessun Dorma" you would press letters "NES" or "DOR" and scroll through the shortlist of matches.

## The face behind Brennan



Martin Brennan

**Martin is a physicist and computer engineer. He has around twenty silicon chips to his name, written over a million lines of computer code and co-designed the world's first 64 bit games computer.**

"I always liked the promise of CDs. It wasn't so much the quality but the quick access to a given track. After vinyl and cassette that was a real plus. My first CD player was a five CD multi changer. My second was a ten CD changer for the car. I liked the idea of quick access to more than one CD and music that didn't repeat after 40 minutes. These players were fine but a bit clunky - there were several seconds of silence between CDs and in the car I could

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



## Key Points

### Three sizes - up to 5000 CDs

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

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

- dentists, schools
- Sold to more than 30 Countries
- Backup music to external USB hard disk for safe keeping
- "Superb" - Gramophone
- "Best Buy" - HiFi Choice
- "Huge fun to use... a great talking point" - Daily Mail
- Choice of colours Navy Blue or Gun Metal
- Optional matching loudspeakers
- Prices from £329

**"Huge fun to use... a great talking point"**

Daily Mail



To get the whole story and order visit [www.brennan.co.uk](http://www.brennan.co.uk)



# REVIEWS

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



## EQUIPMENT REVIEWS

- 34** Rega Isis CD player and Osiris amplifier
- 40** Pioneer PD-D6 Mk2 CD/SACD player/A-A6 Mk2 amp
- 44** Adam Audio Tensor Delta loudspeaker
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- 53** Arcam irDock iPod dock
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- 58** Onix XCD-50 CD player
- 63** Alto-Extremo NeoFlex isolation feet



## ULTIMATE GROUP TEST

**LOUDSPEAKERS £2,100-£3,000**

- 67** Audioplan Kontrapunkt IVB
- 69** Cabasse Egea 3
- 71** DeVore Gibbon 3XL
- 73** Magneplanar MGI.6
- 75** PMC FB1i
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## ROUND-UP

**LOUDSPEAKER CABLES £142-£190**

- 80** The Chord Co. Rumour 2
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- 81** Merlin C12 Mk2
- 81** QED XT 400



## OUR RATINGS EXPLAINED

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

Our overall conclusion is that the Siemens-equipped player has an snappier sound with better timing that es with dense material with remarkable confidence and ease. It even seems to be

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

**VERDICT**

<b>SOUND</b> ★★★★☆	<b>PRO</b> Good build and open, lively sound from a valve DAC with plenty of inputs. Transport is also great value for money.
<b>FEATURES</b> ★★★★☆	<b>CON</b> DAC doesn't engage as well as the transport with loss of weight and power through the bass unless you price-match.
<b>BUILD</b> ★★★★☆	<b>PRICE</b> Cables cost extra and competition from single-chassis designs won't help.
<b>VALUE</b> ★★★★☆	<b>CONCLUSION</b> Siemens Acoustic is being very ambitious producing a two-box player of this build quality and price. Something just has to give and it is the DAC, which can't do justice to the transport's efforts.

**HI-FI CHOICE OVERALL SCORE** ★★★★★

The things we like most about the product

The things we think could be better

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

## OUR AWARD BADGES EXPLAINED



**Best Buy**

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



**Editor's Choice**

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

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



CD  
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EDITOR'S CHOICE  
**HI-FI CHOICE**  
magazine  
★

DIRECT

00:00

# Rega's finest?

*The Isis CD player and Osiris integrated amplifier represent Rega's first move into the high end*

**PRODUCT** Rega Isis and Osiris

**TYPE** CD player and integrated amplifier

**PRICE** £5,998 (each)

**KEY FEATURES** (Isis) Size (WxHxD):

43.4x11 2x35cms ◊ Weight: 19kg ◊ Outputs: Balanced or single-ended audio (digital), Toslink, S/PDIF ◊ Inputs: USB ◊ Simple display and controls  
 (Osiris) Size (WxHxD): 43.4x12 2x35cms ◊ Weight: 25.6kg ◊ 2x 6 line inputs ◊ 2x162 watts into 8 ohms ◊ 2x250 watts into 4 ohms ◊ Heatsinks enclosed to avoid sharp edges

**CONTACT** ☎ 01702 333071 🌐 www.rega.co.uk

**R**ega has long been the doyen of British budget hi-fi. From the early 1970s, as maker of the superb-sounding Planar series turntables, to subsequent forays into tonearms, cartridges, loudspeakers, CD players and amplifiers, its products have always been British-made, competitively priced and clearly fine 'sonic' value for money.

Rega has long been hostile towards any form of hi-fi shenanigans and is proud of the fact that it has never taken any advertising in the hi-fi press. This probably explains why it has tended to operate a little outside the industry mainstream, rather keeping itself to itself while pressing on regardless and following an agenda that's often at variance with the industry as a whole.

There are those who would sympathise with Rega's view of the hi-fi world, but whatever

one's personal opinions, there's no denying that Rega has shown impressive engineering innovation over many years and across a number of different product categories.

Hitherto, the company has always held the 'high end' in scant regard, believing very much in the law of diminishing returns and pursuing policies which place value for money high up the agenda. Even where a specific product did break through the £1,000 barrier, it would tend to offer performance comparable with competitors at more than twice the price.

The news that Rega was introducing two new products, each with pricetags close to £6,000, therefore came as quite a surprise. But it's presumably a reflection of the way the

As their names suggest, Isis and Osiris are twin components: a CD player and an integrated amplifier respectively. Although each carries a £5,998 pricetag, a healthy £998 discount is available to anyone buying the pair together.

Although that's undoubtedly very expensive by historic Rega standards, it's by no means unduly so across the world of high-end audio. The question must be whether Rega actually knows how to make a high-end component.

The units themselves definitely have the look and feel of good-quality, high-end units. The build is appropriately massive – 19 kilograms for the Isis CD player, 25.6 kilograms for the Osiris amplifier and significantly more than that when packed in their wooden shipping crates.

**“High-quality components are used at every stage and more than ample power is delivered via eight Sanken output transistors.”**

market has been evolving: the traditionally youth-fuelled budget end being iPods and PCs and the mid-market shared with AV and costly flatscreen TVs. Good news then, that the more enthusiast-oriented upmarket sector is the healthiest right now. Certainly the findings seem to fit in with current market feedback.

Presentation is not only very substantial, it's also tasteful and interesting, yet discreet. The casework is constructed from machined-alloy sections, with different textures and mostly gunmetal grey, while care has been taken to smooth over any unwelcome sharp edges and corners. ▶



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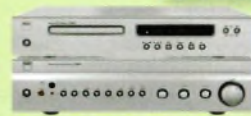
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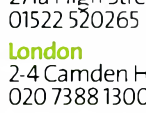
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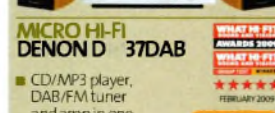


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## Q&A

We talked to Terry Bateman, Rega's electronics R&D engineer



**HFC:** Can you outline the engineering changes that make Isis superior to Saturn?

**TB:** There are significant improvements to the digital 'CD spinner' part of the circuit and I would go so far as to say the Isis design methodology is a 'blueprint' approach. Separate transformers are used for the digital and analogue power supplies, while the CD mechanism and the optical part of the circuit undergoes a far more extensive test procedure to ascertain it's working at its optimum. The DACs and their I-to-V amplifiers are a completely different design, while the filter and output amplifiers are an advanced balanced version of the Saturn circuit. We have re-written the control code to help the user interface and playability. The mechanical support and screening of the mechanism have been improved by using CNC-machined parts.

**HFC:** Isis has a USB digital input, but no Toslink or S/PDIF inputs. Can you explain this decision?

**TB:** The original Isis was a minimalist (P3-like) product for just playing CDs. Towards the end of the design process we became aware of the qualities of uncompressed WAV media files, ripped using high-performance ripping software, which utilized powerful error-correction algorithms (not dissimilar to that of Isis itself) and played back via a high-performance DAC from the hard drive on an audio optimised computer. Nearly all the computers I used had only a USB output, so by default we only included the USB input. Maybe an S/PDIF should go on the wish list, as it could be useful?

**HFC:** Why does Isis have digital outputs?

**TB:** This is included so the Isis can be part of a digital system and provide a digital source for general use. It could also be used to drive an external DAC to help demonstrate just how good the inbuilt DAC in the Isis really is!

**HFC:** Osiris' power amp has so much gain its direct input might have a problem interfacing with an AV processor. Have you tried this?

**TB:** Personally, I see this as a power amplifier input for use with external units made with the same ideals and direction as the Osiris. Given the system the Osiris will form a part of, it is less likely to be connected to an AV processor but it has to be there if required. If the output of the processor is high and can't be adjusted down, I suggest using an attenuator. If this attenuator was fitted to the unit it would compromise the use of this input for more audiophile uses or expansion.

❑ Gloss-black sections inset into the front panels accommodate minimal controls and simple, but usefully informative, red LED displays. Both have neatly disguised on/off bars; Isis has 'play' 'stop' and 'skip'; Osiris has volume and up/down input selection.

In practice, of course, the real controlling will be carried out on and by the remote handsets. In complete contrast to the units themselves, these are rather overburdened with buttons (and small difficult-to-read legends). Based on Rega's normal plastic handsets, they're nice and slim for easy one-hand operation, but cast alloy casework makes them rather thick and heavy. Paradoxically, whereas the Osiris handset will also control basic Isis functions, the reverse isn't the case, which is a mite confusing. Frankly a smaller, simpler, lighter handset able to perform just the basic functions of both would have been welcome.

The top-loading Isis' prime function is simply to play CDs. It does have balanced XLR, as well as single-ended phono stereo audio outputs. And several digital signal options are available: a USB input switches the DACs to decode computer audio, while S/PDIF (electrical) and Toslink (optical) outputs are also provided.

Osiris is simple too, even to the point of omitting potentially useful functions like channel balance and mono mode. One balanced XLR input pair is intended for Isis connection, while seven single-ended pairs provide four regular inputs, tape in/out and a 'direct' input that feeds the power amp section directly (for use with a multichannel AV processor). Stereo speakers are fed from two pairs of socket/binder terminals.

The Isis is essentially a 'no cost spared' development of Rega's justly popular Apollo and Saturn players. It features numerous refinements, with all three models extracting the disc data via a relatively, recently developed chip set with much greater memory than its predecessors and to which Rega now has exclusive access.

Osiris also follows established Rega practice in combining a high-gain power amp with a passive preamp section, here using an Alps Blue Velvet motorised potentiometer. The power section is strictly twin-mono, even down to using two separate 400VA toroidal transformers and is strictly symmetrical in layout, too. High-quality components are used at every stage and more than ample power (2x162 watts/eight ohms, 2x250 watts/four ohms) is delivered via eight Sanken output transistors. A neat touch, is that the heatsinks on both flanks are incorporated into the casework, so there are no sharp edges.

After lifting the clever parallel-hinged lid, clipping a CD onto the low-inertia three-ball chuck and closing the lid, the first thing we noticed is that the Isis carried out the initialisation process much more quickly than the Saturn, so someone's clearly been busily improving the software.

## SOUND QUALITY

Irrespective of whether Osiris or Naim NAC552/NAP500 amplification was being used, the second thing that is very noticeable is just how un-CD-like Isis' music-making is. The character of CD replay has always seemed to have a degree of largely subliminal artifice, which is why many enthusiasts have retained affection and loyalty for the vinyl medium. One crucial observation is that these elements of artificiality seem somehow to have been suppressed in the Isis and the result is unusually natural and somewhat sweeter than usual.

Previously obscure and barely audible musical details become clear and make sense, in a way that hasn't been previously noticeable with other costly CD players, including the Naim CDS3/555PS, which was also on hand as a reference point. There are a number of current contenders for the high-end CD player crown, most of which haven't been tried out here and all of which cost ▶





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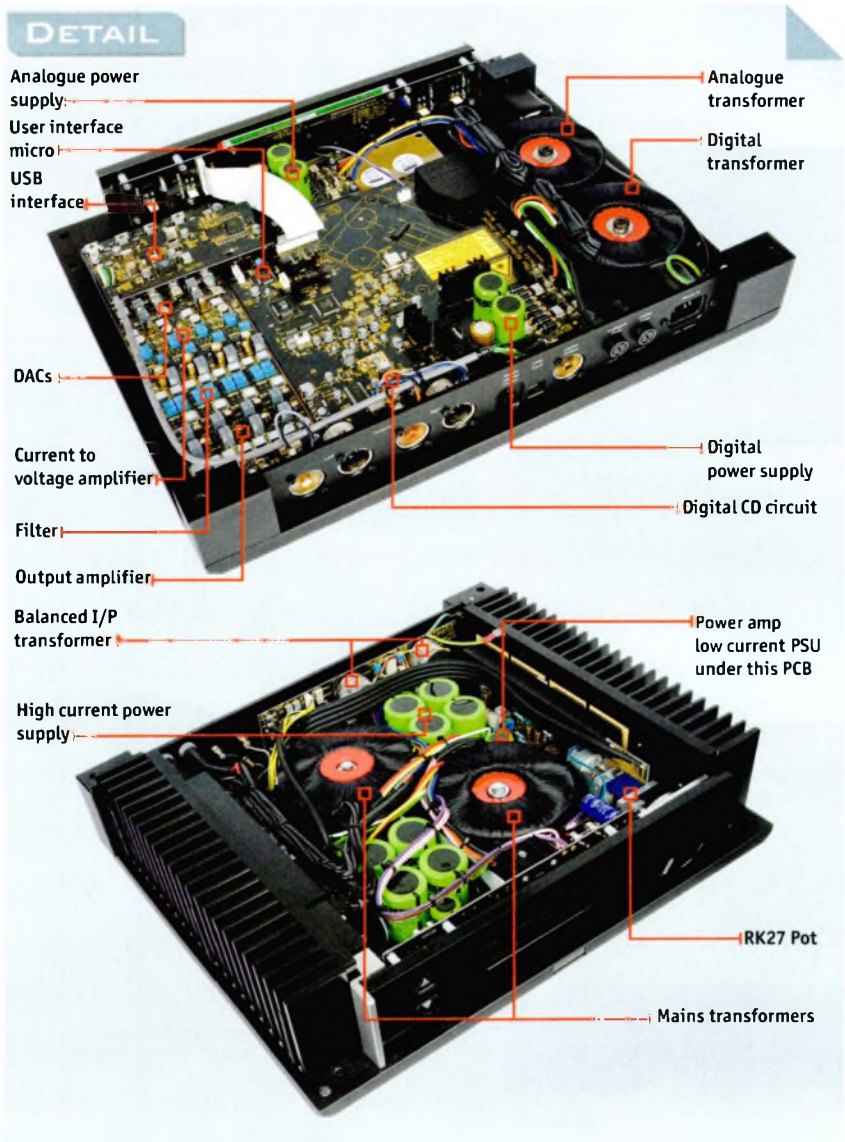
more than the Isis – some a great deal more. The Meridian 808.2 Reference was one notable example that set an enviable standard, but that was eighteen months ago, so it's impossible to make a meaningful comparison after such a long interval. Certainly the Isis must be amongst the very best and that surely helps justify its substantial pricetag.

It wasn't possible to do much listening via the USB input, as the Isis simply refused to recognise our MacBook Pro (which normally operates happily enough into a Firestone Audio USB DAC). Leicester dealer Cymbiosis had no such problem with its Isis/Mac interface and our Isis happily recognised and locked onto the lap-top that Rega's Paul Darwin brought along to try when he was collecting the units, so the problem remains entirely mysterious.

The Osiris is rather harder to evaluate, simply because comparably priced kit doesn't crop up for review everyday of the week. So, in this case, our reference point is a far more elaborate four-box Naim NAC552/NAP500 pre/power combination, which was certainly superior to the Osiris – but then so it should be at five times the price!

Osiris is certainly a lovely unit to use and like the Isis, it always sounds notably unflustered and easy on the ears, erring a little on the polite and well-mannered side for some tastes. Transient dynamics might, perhaps, be a bit more obvious and assertive, but it has marvellously tight and precise image focus, giving pin-sharp central images, yet also resolving stereo depth very well.

This amplifier clearly has massive power reserves, even into quite difficult loads and never seems to get more than faintly warm to the touch. For the most part, operation is very straightforward, though the remote volume only has a single rotational speed,



## PREAMP EVOLUTION

The preamplifier – whether integrated or separated – is a component that is always evolving. Before CD became established in the late 1980s, preamps invariably incorporated phono stages, but as vinyl's popularity went down, amplifier makers happily left out this complex and costly specialist stage and made amplifiers with 'line only' inputs. However, as vinyl regained popularity during the current decade that specialist stage tended to be packaged as a separate item and regular preamps remained 'line only' types.

The latest source of music is the PC, more perhaps for convenience than quality. For many hi-fi people, it's better to feed a digital output from the PC's USB output to an outboard DAC. Rega's Isis has high-quality on-board DACs and a USB input, so in effect it can operate as a rather simple digital preamp.

which makes fine adjustment for late-night listening tricky. Push the 'direct' button on the handset and you access the power amp's direct input, but the only way to get back to the regular preamp inputs is by pressing the 'direct' button again – hardly intuitive and not explained in an otherwise fully comprehensive manual.

Attempts to drive the Osiris' high-gain power amp section from a regular separate (active) preamplifier were frustrated, as the combination had far too much gain. A similar problem might arise if the Osiris is integrated within an AV system, so anyone planning to do this should first check its compatibility with the AV processor.

The suspicion that the Osiris' ultimate sound quality might be mildly limited by its passive preamp arrangement is a niggle. But, what we actually have here is an impressive double-act from Rega; an outstanding CD player – featuring a very useful USB input – and a partnering amplifier, which is a suitably capable performer. **HFC**

Paul Messenger

## VERDICT - ISIS

### SOUND



### FEATURES



### BUILD



### VALUE



### CONCLUSION

A magnificently musical CD player at a realistic price, with the addition of a USB input that many will find useful. Only the remote handset gives rise to criticism.

**HI-FI CHOICE**  
OVERALL SCORE



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## VERDICT - OSIRIS

### SOUND



### FEATURES



### BUILD



### VALUE



### CONCLUSION

Beautifully built and finished, this very solid all-round performer has massive power reserves, splendid stereo imaging and a smooth, well controlled sound.

**HI-FI CHOICE**  
OVERALL SCORE



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# Double act

*This dynamic duo won't break the bank, but can it score on performance?*

**PRODUCT** Pioneer PD-D6 Mk2/A-A6 Mk2

**TYPE** CD/SACD player and integrated amplifier

**PRICE** £350 (each)

**KEY FEATURES** (PD-D6 Mk2) Size (WxHxD): 42x10x34cm ◊ Weight: 4.5kg ◊ Outputs: analogue (phono), electrical, optical digital ◊ Compatibility: CD (inc. CD-RW), SACD, MP3, WMA (A-A6 Mk2) Size (WxHxD): 42x10x36cm ◊ Weight: 10kg ◊ Inputs: 4x line, 1x phono (MM) ◊ Outputs: record, speaker (one set), headphone ◊ Output power: 45 watts per channel (8 ohms)

**CONTACT** ☎ 0870 600 1539 🌐 www.pioneer.co.uk

**W**e originally reviewed Pioneer's D6 and A6, part of the company's 'G-clef' range, in *HFC 294*. At the time, Pioneer had just decided to re-enter the hi-fi separates market, which it had largely abandoned for a while to concentrate on AV products. Although we had some minor quibbles, we were largely complimentary and it seems we weren't alone in liking them. For they have stood the test of time and are now available in Mk2 guise, with a few detail improvements to enhance their appeal.

There are certainly cheaper amps and CD players available – if not many cheaper SACD players – but £350 isn't a frightening price tag and material value for money looks high, especially with the amplifier. For a start, it's a full dual-mono design, or at least the power amplifier section is. The preamp functions are carried out on a single stereo board, but beyond that there is a completely separate circuit board and power supply, including mains transformer, for each channel. Each of those boards is mounted on its own internal heatsink, with a single pair of output transistors handling the loudspeaker load.

Even here Pioneer has been generous, for those output transistors are, in fact, effectively integrated circuits, behaving like multiple parallel transistors which should, in principle, give better speed and linearity than conventional devices. The rest of the power amp section is constructed with discrete transistors and decent-quality passive components: nothing fancy, but it would be quite unreasonable to expect it at this price.

The power supply uses Schottky rectifier diodes, which cost more than the usual parts, but create less switching noise. You even get a quadruplet of power-supply capacitors instead of the usual pair and yes, this is per channel.

On the features front, the amp offers just four line inputs and a phono input for moving-magnet cartridges, plus a 'tape' output (that's starting to sound a bit quaint!). Plenty of amps these days have seven or eight inputs, but realistically four should suffice for the great majority of stereo systems. Selection between inputs and volume control are both electronic, the neat front-panel display (much easier to read, especially off-axis, than the one on the Mk1 amp and CD player) giving a clear indication of what's selected.

**“Plenty of amps these days have seven or eight inputs, but realistically four should suffice for the great majority of systems.”**

Turning to the CD player, clearly its main distinguishing feature from most of its competitors is the ability to play SACDs. If you don't intend to play any of the latter there's no quality implication for regular CD, at least not in principle, since the DAC chips used are perfectly happy with either kind of data. It also plays data discs loaded with MP3 or WMA files if you want quantity at the expense of quality – useful for non-stop party music now and then. In practical terms it's not our favourite player to use, being (in common with every SACD-capable player we know) rather slow to load discs and requiring the remote control for every function except open/close, play and stop, which is disappointing.

Pioneer made great play when this range was launched on the fact that sound-quality tuning was carried out at Air Studios, the facility in Hampstead, north London, run by George

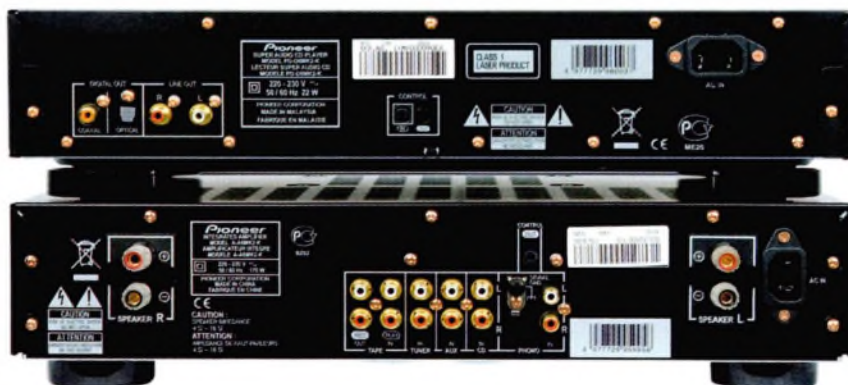
Martin. We understand this was done for the Mk2 variations too, which are mostly quite small details: for instance, the CD player has a new design of master clock and re-configured software for the servo control, the former giving more accurate frequency control and the latter better rejection of mechanical vibration. It's clear throughout both products that considerable thought has been given to details and features like the honeycomb base (to combat resonance) and fully symmetric power-amp boards are all

good stuff. But what's really important is what it all sounds like...

## SOUND QUALITY

We found the original A6 a lively performer, but expressed some reservations about its detail retrieval. It's perhaps a pity that we didn't have an original available for comparison with the Mk2, but we did have a couple of consistent reference products to hand and so are confident when we say that Pioneer's tweaks seem to have paid off in this area. We were in fact, rather impressed by specifically this aspect of performance.

We lined up a selection of tricky discs to play through these units, together and also in partnership with other components. Comparing notes with those we took three years ago from the Mk1 units, it's clear that the sound now has a good deal more insight. ▶





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For instance, in one of our very favourite test discs, a superbly recorded operatic CD, we found that the precision with which each section of the orchestra was laid out in front of us was considerably improved, while the image depth of the chorus was both greater and better defined. Among the solo singers, it was easier to recognise the timbre of each one and also to place them across the stereo spread.

Taking some very different material, we found that rhythmic performance seems rather less altered – but that’s fine as we were impressed with that in the first place. A good bit of rock’n’roll drumming played through these units can get the foot tapping and the head nodding in no time. It’s also worth mentioning that our first session with these Pioneers was conducted with some speakers not especially noted for their timing properties (and also well out of the league financially).

## DUAL MONO

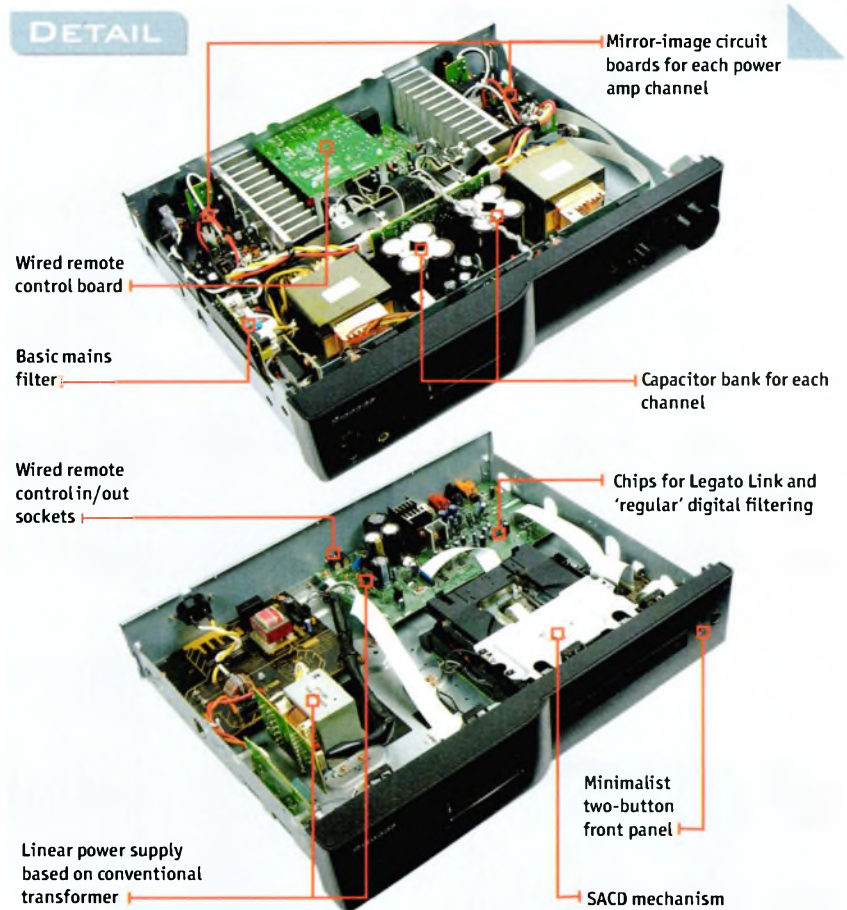
Pioneer is proud of the fact that the A6 amp is dual-mono from after the mains switch – or at least the power amplifier segment is. The fact that the preamp board uses regular two-channel construction slightly undermines this, but keeping the high-current bits fully separate can still be useful.

The point is not so much that direct crosstalk is kept low (that’s easy to do and it’s not terribly critical anyway), rather that high current drain on one channel will not interfere in a nonlinear, i.e. distorted, way with the other. When two channels share a power supply, it may happen that one channel draws a lot of current due to some transient and causes the supply voltage to dip. This can affect the other channel in unexpected ways, though the sonic effects are not likely to be vast. By keeping supplies, including transformers, separate, this is almost entirely avoided.

## DIFFERENCES FROM THE 6 SERIES

Differences between the A9 and A6 amps are clear enough, the former offering more power, a USB digital input and moving-coil cartridge compatibility.

In the case of the disc players, of particular significance is the choice of DAC chip: the D9 uses a Wolfson part, while the D6 uses one from Burr-Brown. In principle, both are more than capable of performing to a very high standard and anecdotal evidence from all sorts of sources points to the DAC being quite critical. The D9’s more specialised ‘audio-grade’ components is likely to help matters.



A result of that calibre is very impressive for any products, especially amps, costing under £500.

When we separated the variables and tried the CD player with our regular amps, we found that it seems to resemble the Mk1 version more closely than is the case with the amp. As usual with Pioneer’s disc-spinners, we preferred ‘regular’ digital filtering to the optional ‘Legato Link’, but in either case found that the bass is better than the treble, which has just a touch of grain to it.

Detail is excellent in the midrange, but up at the top it is just a little compromised, which slightly reduces the amount of ‘air’ around delicate sounds. This is being picky, though, and we’re not sure we could think off-hand of any similarly priced CD/SACD players that do better on that particular score. Bass is extended and surprisingly detailed and tuneful, these being traditionally hard aspects for budget players to get right.

On the whole, we feel that the Mk2 improvements have brought CD player and amp to roughly the same standard of attainment, and that’s a very fine level. We’re generally impressed with the features, including the phono stage, which seems rather more precise and lively than those often found within integrated amps. Our brief technical investigation suggests that performance is above average in important areas like distortion, while output power comfortably

better the 45-watt rating at a shade under 60 watts. Both units are generally neutral tonally and seem broadly compatible. In short, if this is the current state of the budget art, we aren’t complaining! **HFC**

*Richard Black*

VERDICT - PD-D6 MK2	
<b>SOUND</b> ★★★★★	<b>CONCLUSION</b> Bass is very impressive in its class, with real weight and also plenty of insight. Treble can be a little grainy at times, but across the midrange the sound is very detailed.
<b>FEATURES</b> ★★★★★	<b>HI-FI CHOICE</b> <b>OVERALL SCORE</b> ★★★★★
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	
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VERDICT - A-A6 MK2	
<b>SOUND</b> ★★★★★	<b>CONCLUSION</b> Mk2 tweaks seem to have improved detail notably over Mk1, while the lively rhythmic qualities have been maintained, making this an impressive all-round amp.
<b>FEATURES</b> ★★★★★	<b>HI-FI CHOICE</b> <b>OVERALL SCORE</b> ★★★★★
<b>BUILD</b> ★★★★★	
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EDITOR'S CHOICE

HI-FI CHOICE  
magazine



# Adam and Ease

Germany's Adam Audio brings its first product to HFC's scrutineers

**PRODUCT** Adam Audio Tensor Delta

**TYPE** Active standmount loudspeaker

**PRICE** £8,400 per pair

**KEY FEATURES** Size (WxHxD): 33x56x 34cm

◉ Weight: 29kg ◉ Drivers: X-ART tweeter, midrange, 230mm HexaCone bass driver ◉ Frequency response 32Hz – 50kHz ◉ Balanced XLR input ◉ Finishes: Black piano gloss, silver, black and silver

**CONTACT** ☎ 01992 525 670 🌐 www.adam-audio.com

Until recently, Adam Audio hadn't figured heavily in the UK's domestic hi-fi market. Yet, in reality, the company is far from being an insignificant player – especially in the studio and professional markets for active monitoring speakers and can be found in places like the Abbey Road Studios, as well as the BBC and Fox Digital.

Not all its speakers are aimed at the pro market, however, and they're not all active designs by any means. This test model, the Tensor Delta, is active and although it looks rather like a studio monitor, Adam Audio describes it as a domestic hi-fi speaker.

Apart from all the other qualities that active speakers bring to the party, they simplify system configuration. Less wiring, hence less boxes. You may not appreciate the relevance of this, but your wife certainly will.

The black gloss finish – there's an all-silver and a black/silver option too – tends to reinforce the impression that the speaker really does lean towards the world of home audio, though almost everything else about the Delta suggests that it could have started life as a compact mid-field monitor.

The Tensor Delta is not particularly large by domestic standards. Its shape is also unfashionably short and squat – dumpy even – although it's well-finished and attractive when viewed at close quarters. More importantly, it fits snugly in a mid-size living room without danger of visually dominating its surroundings. Our test speaker might even have a special relevance as a kind of crossover design for those who have built their own home studios. The clumsy term 'prosumer' having already been coined for ranges like this.

Adam Audio doesn't have a particularly long history, but it does have a strong

technology base and has engineered some excellent drive units. The company is based in Germany and only a year ago moved into a new manufacturing facility in Berlin, which includes design, testing, production control and distribution, all under one roof.

Tensor is the upmarket range, the Delta being one of the smaller models, though it doesn't lack ambition. It is a full-on, fully active three-way design intended for standmounting. Tensor Delta is really not big enough to be stood directly on the floor, which would affect the both LF and HF balance adversely. But you'll need fairly hefty stands, not so much to handle the

**“The Tensor Delta is not particularly large by domestic standards and it would certainly fit in a mid-size living room.”**

weight, which at 29kg is not unexpected for a speaker this size, but to ensure stability.

A bass reflex design, the TD (a more palatable product name than the real one, so we'll call it that for now) uses proprietary X-ART (eXtended frequency response) drivers and is the smallest speaker in the Adam Audio range to use this technology. The tweeter uses an air-motion transformer (AMT), which involves a pleated diaphragm, moving like an accordion's bellows, though the diaphragm displacement is very small and power handling is correspondingly large.

There are a number of other benefits to this technology, for example in the area of heat dissipation, better air-coupling and improved cooling. And that's not forgetting superior phase response, a flatter impedance curve and more dynamic behaviour.

The midrange driver is essentially a scaled-up version of the same thing. The bass driver is also a high-tech unit, with a sophisticated sandwich cone, though it at least looks conventional enough. It's key feature is a honeycomb Kevlar sandwich Nomex cone and the system is powered by PWM (Pulse Width Modulation) ICEpower modules from Bang and Olufsen.

A control panel on the back of the speaker has various functions, including by-passable auto power off/on switching, a level control unit and a similar control to adjust bass gain

by up to +/-10dB. Finally, a Room EQ control varies the tuning in the up to 150Hz region.

## SOUND QUALITY

We were impressed and surprised with the Tensor Delta. Surprised because we expected a big, slightly unsophisticated sound, which handled high-power levels well, but which might be a little lacking in some of the niceties that a thoroughbred speaker brings to the party. In fact the TD does handle power well, but it is also refined and well-behaved.

The speaker sounds solid, but within reason it does so over a very broad range

of volume levels. Part of this sophistication clearly comes from the tweeters, which pay a debt to the excellent Heil Air Motion transformer and the midrange units that are scaled-up versions of the same thing – which means they have a natural synergy and common voicing. They're fast, assured, refined and finely detailed. ▶





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❑ The frequency response appears to shelve upwards slightly in the treble at the nominal settings, but not so much that it makes everything sound brittle and edgy, which is an obvious danger. Remember you can have a reasonable stab at correcting this using the tweeter control on the back panel. The bass

## ADAM AUDIO'S PRODUCT RANGE

Adam Audio manufactures a wide array of loudspeakers, for studio and for domestic use, most of which are listed at prices ranging from £640-£3,600 per pair, though the OSS Olympus Sound System costs £220,000!

The range includes several passive designs, which are intended primarily for domestic applications, which cost up to £5,200 a pair, though they are also available at somewhat higher prices in active (self-powered) form for use in studios.

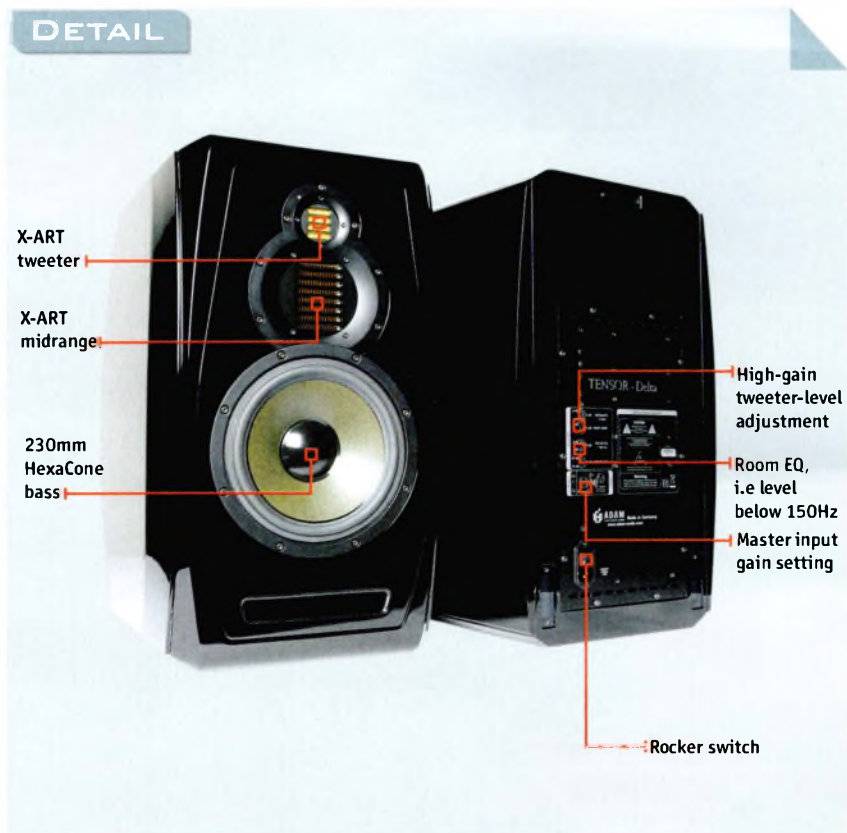
The company also makes many of its models available in a choice of active and semi-active form, a category almost unheard of outside Adam Audio.

Last, but not least, the range includes a number of special-application models, including subwoofers.

## ADAM AUDIO ACTIVE SYSTEM/ DRIVER CONFIGURATION

The system is available in two forms: as a fully active speaker, which is the version tested here, in which each drive unit is coupled to its own dedicated amplifier and the so-called semi-active version, which has a single-channel amplifier. There are three drivers, including a high-tech reflex-loaded bass unit, a dedicated midrange unit and a tweeter, the last two using pleated diaphragms, which are derived from the Heil Air Motion transformer and which, in practice, have much of the speed associated with ribbons. But there are some advantages, including greater power handling and efficiency.

The benefit to the user in the active approach, is that the drivers and power amplifier should be fully matched (ie optimised) to each other. The Tensor Delta is simple to connect. It required a single-balanced input from the preamplifier, though it is possible to connect a single-ended preamplifier feed via a single-ended to balanced adaptor, which are readily available.



works well too, when allowances are made for the relatively compact nature of the design. The bass driver is, at least, partly responsible for this, but the well-controlled cabinet is just as likely to be responsible. The bass has reasonable depth, good stability and fine control, the latter a welcome finding.

Put it all together and you have a speaker that can sound a little bright at times, but which images precisely. It has a decent sense of depth and is even better laterally. It always sounds stable and well-anchored in space and, for once, it hangs together better than many other three-way speakers.

The TD manages to straddle two often mutually incompatible worlds, that of the domestic hi-fi speaker and that of professional studio monitors. But, unlike some in its class, which could be described as taking a stab at all the bases, while being master of none, this speaker actually lives up to most of the stereotypes. It has the refinement and finesse of a good home loudspeaker, but one with all the panache and guts of its studio equivalent.

One system-matching issue concerns the stands, which because of the unusual form factor of the speakers, should have a large platform to sit them on and a base with a broad enough footprint to ensure stability. Blu-Tack between the TD and its stand is mildly beneficial sonically and provides some rudimentary protection when brushing against the speaker. But we'd be concerned about leaving this model

in a room with small children, if the speakers are not anchored in place.

This is a very likeable and very effective loudspeaker with a broad range of applications. Being active and self-contained means that it is easy to deploy. But the nature of the beast means there is no ready upgrade path, for example, if you don't get along with the amplifier. There is a certain something, a residual character that is fundamentally slightly flat and mechanical sounding when compared to the very best of the more conventional designs. But the rear panel adjustment means you can go at least some of the way to fine tuning its output to its environment. And that's all to the good. **HFC**

*Alvin Gold*

## VERDICT

### SOUND



**PRO**  
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### FEATURES



**CON**  
Good as it is, the bass doesn't have quite the muscle or depth of other loudspeakers in its class.

### BUILD



### VALUE



This could be partly due to the relatively compact enclosure.

### CONCLUSION

It is not perfect and it is certainly not cheap, but the Delta Tensor brings a powerful range of capabilities to its performance and is a fine wedding of professional and domestic hi-fi technologies.

**HI-FI CHOICE**  
OVERALL SCORE



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TRACK 17  
TOTAL TIME 59:49

INTEGRATED AMPLIFIER



# Audio finds

High-value, Italian-made solid-state CD player and amplifier with valve-like qualities

**PRODUCT** Audio Analogue Armonia Crescendo

**TYPE** CD player and amplifier

**PRICE** £599 (each)

**KEY FEATURES** (CD) Size (WxHxD): 44.5x8.1x35cm  
 ◉ Weight: 6.8kg ◉ Outputs: 1x S/PDIF electrical digital, stereo line out (phono) ◉ Mechanism: TEAC CD-5010A ◉ (Amp) Size (WxHxD): 44.5x8.1x38cm  
 ◉ Weight: 10.5kg ◉ Inputs: 5 x line, 1x tape (rear panel), 1x line (front panel) ◉ Output: headphone  
 ◉ Power output: 50 watts per channel (8 ohms), 80 watts per channel (4 Ohms)

**CONTACT** ☎ +35 0572 954513 # www.audioanalogue.com

From a reviewer's perspective, hi-fi components can be a tad opaque, metaphorically, if not literally. It can be hard to tell where they come from, or what they're intended to achieve that is not already available, perhaps from a multiplicity of sources. Or it may be that the products are so literal in the way they 'interpret' music, that it is hard to tell where the notes stop and their musical meaning begins. The other side of this coin is that there are components which are so obvious in what they are attempting to achieve, that they present the reviewer few, if any, problems in understanding them. Here we have two components that have just this quality.

The complete range is called Armonia (the word translates as Harmony), which is the new entry-level offering from the house of Audio Analogue. While the Crescendo CD player appears to have no direct predecessor, the amplifier is in a direct line of descent from a much earlier and well-liked model called the Puccini.

Audio Analogue is better known for more ambitious and more costly designs, but the Crescendo amplifier and CD player seem purpose-designed for our strained economic circumstances and cost just £599 apiece. Surprisingly, perhaps, unlike most other components around this price level, they are made in Italy and not under contract in the Far East. In fact they come from a factory between Pisa and Florence in Tuscany. We should add that there is nothing wrong with being made in the Far East – which these days is where the majority of the best known names source their mainstream products – but this doesn't alter the fact that there is a certain cachet in bearing the 'Made in Italy' badge.

The first tranche of models under the Armonia banner include the two products tested here, a CD player and an integrated amplifier, as well as a slightly offbeat component called the Crescendo tuner/USB DAC, which started life as an FM/AM tuner and which also includes a USB digital to analogue converter stage designed to be connected to a PC.

There is nothing special about the presentation of either component. They're neatly built from alloy panels, with aluminium fascias, but neither could be described as heavyweights. The amplifier is rated at 50 watts into eight ohms and 80 watts into four ohms, so it's no power house either, but on paper and in practice, it is adequate for use with medium sensitivity

**“Of the two, it is the amplifier that dominates, here, the CD player also works impressively, but it is clearly the less distinctive.”**

speakers (86dB/watt or more) in relatively compact surroundings. The five identical rear panel inputs are all at line level, but in addition there is a front input (via a 3.5mm mini-jack socket), which can be used to make temporary connections from the line or earphone output of an iPod or other personal player. A tape deck is also accommodated. Adjacent to the front panel input is also a standard 6.3mm headphone socket.

The CD player is designed for CD and the familiar recordable variants – CD-R and CD-RW – and the decoded audio is available at line-level from a standard phono pair on the back panel, though the unit will also supply digital audio from an S/PDIF output.

## SOUND QUALITY

It took little time, other than the obligatory hour or so powered-up, for the character of the two components to clearly assert themselves. Of the two, it is the amplifier that dominates here. As expected, the CD player also works impressively well, but it is clearly the less distinctive.

A fluid, valve-like sound is a key part of the Audio Analogue ethos, but the price precludes use of thermionic valves in a mainstream unit like the Crescendo amplifier. This is the reason why it is solid-state, but it is no surprise that it has more than a hint of the aural qualities of a valve amplifier. To put it at its simplest, the Crescendo is warm, expansive and, at times, even a bit luxuriant, which with many types of music material

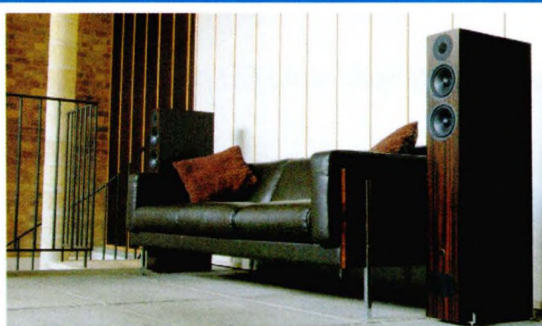
works really well. It is capable of going moderately loud, but not excessively so. Pushing the volume up in a largish room through Mordaunt-Short Performance 6LEs shows that, while the sound has real composure up to a point, the treble is brittle and edgy above 92dB SPL and the sound eventually becomes edgy through the midband too, as the overall volume level is raised further. The bass always sounds generous, but it is not completely even as the volume is wound up high. The upper bass becomes excessively warm under pressure, and although bass depth is quite impressive, there is never the feeling of even power delivery and authority that a bigger



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**REGA** - the first outing for the Isis and Osiris reference CD player and amplifier. Also, bring along your Rega turntable and get it serviced by Rega's trained staff, visit the website to book your turntable in!

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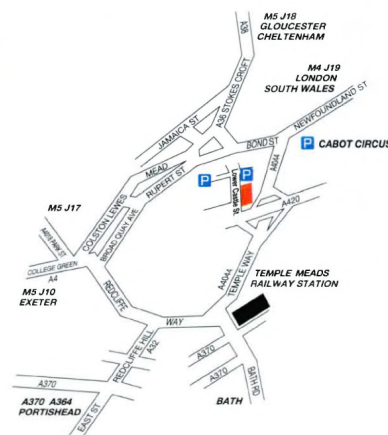
### GETTING TO THE SHOW

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**BY CAR:** From the M4 take J19 (M32 - Bristol). Follow signs for City Centre and RAC signs to the Show. For those using satellite navigation systems the hotel post code is BS1 3AD.

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more ambitious amplifier can deliver. But somehow it remains relaxed and easy on the ear.

We even found some ideal examples of source material to show the Crescendo amplifier's real strength: one particularly strong example being an SACD recording of Bruckner's 7th Symphony (specifically Mariss Jansons/Symphonieorchester on the BR Klassik label), which sounds nothing less than glorious; the richly melodic strings and woodwind being particularly impressive. The Crescendo renders the architecture of the music with real swagger and passion.

The effect was less convincing with some

## CD PLAYER ARCHITECTURE

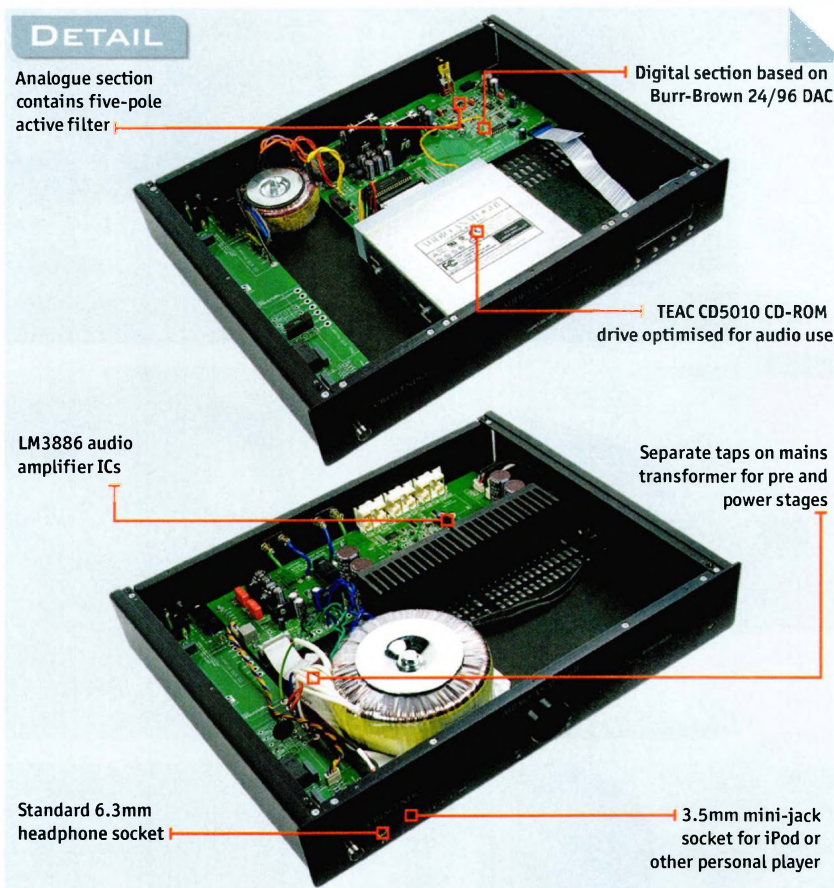
The CD mechanism is from TEAC, the CD5010, which is primarily a CD-ROM mech, but also optimised for audio applications, in which Audio Analogue was involved with some of the design work – specifically software control and optimisation from the mechanical and vibration points of view. The mechanism is said to have a very low jitter output, and had been matched to a Burr-Brown 24 bit/96kHz Delta Sigma DAC, with a dedicated power supply and a voltage regulator for the receiver.

The output stage is built around a comparatively elaborate five-pole active output filter, which gives a high cut-off frequency, increased precision of the listening stage and the 'phase' of the different musical instruments. There is a danger in this kind of design of added noise and distortion due to the complexity of the signal path, but some careful design work, with a double opamp for each channel and the design of the opamp power supplies help to mitigate this problem.

## INTERNAL AMPLIFIER

The amplifier is based around National Semiconductor LM3886 ICs, which is described in the maker's application note as a high-performance audio power amplifier. Voltage gain is mainly attributable to the power stage, but there is 6dB of gain in the preamplifier, which defines the required impedance, and helps reduce pre-/power stage distortion. Internal power is supplied by a toroidal transformer with two taps: one for the power amplifier, the other for the preamplifier. The sound character of the design of the amplifier as a whole has been fine-tuned to that of the CD player.

Other features include a volume bypass function (if the amplifier is to be controlled by an external AV receiver) effectively turning the Crescendo into a stereo power amplifier.



other types of music, not least (to pick another example from the listening sessions) some of the exquisite orchestral miniatures from Takemitsu, which are very rich in high-frequency fundamentals. Harmonics still sound good, but where the amplifier appeared to 'sit' on the sound, it was certainly denied, full expression. On the other hand, vocal material generally works very well.

The two Crescendo components have what can best be described as great singing voices and are more than capable of expressing the passion of great choral and solo writing, such as Verdi's *Requiem* (Orchestra e Coro dell'Accademia Nazionale di Santa Cecilia, conductor Antonio Pappano) which is brought to life in a sometimes startlingly and vivid way.

Despite the earlier comment to the effect that the Crescendo amplifier is the more obviously distinctive component of the two, the CD player turns out to be surprisingly strong. Although it lacks the obvious tonal warmth of the amplifier, it has much of the same sense of grace, which is something of a house quality.

The only obvious negative we could detect, is that the pairing isn't completely compelling when reproducing the more popular and mainstream music available for this test. The two products seem almost purpose-designed for orchestral, chamber, jazz and vocal music, while mainstream rock and pop material played at high levels sounded slightly flat

and short-changed. The two components do little to disguise inadequate recordings.

But our enthusiasm for these two remains undimmed and, subject to the system and music-related caveats expressed above, I can think of no similarly priced pairing which is as musically persuasive and convincing. **HFC**

*Alvin Gold*

VERDICT - CD PLAYER	
<b>SOUND</b> ★★★★☆	<b>CONCLUSION</b> Plain and simple player that with the right kind of music and with appropriate partnering equipment, is clean, open and communicative.
<b>FEATURES</b> ★★★★☆	<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★
<b>BUILD</b> ★★★★☆	
<b>VALUE</b> ★★★★★	
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VERDICT - AMPLIFIER	
<b>SOUND</b> ★★★★★	<b>CONCLUSION</b> Overall warmth and grace predispose this amplifier to acoustic music and in a room of appropriate dimensions, this very impressive amplifier has real musical presence.
<b>FEATURES</b> ★★★★★	<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	
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# Solo companion

Arcam's new £150 irDock is recommended for classical and jazz fans

**PRODUCT** Arcam irDock

**TYPE** iPod dock

**PRICE** £150

**CONTACT** ☎ 01223 203200 🌐 www.arcam.co.uk

These days few hi-fi manufacturers want to be caught without an iPod dock or two in the catalogue. This is one of a pair in Arcam's current range, both notionally part of the 'Solo' range and, as such, twinned with the Solo and Solo Mini all-in-one systems. There's absolutely no reason, however, to discount the possibility of using it on its own with any amp and speakers – and indeed TV or monitor, since it has video outputs. You can watch your favourite flick from a suitable iPod or just relay the cover art from the iPod's tiny screen. You do get slightly more integrated functionality by connecting to a Solo with the supplied RS232 cable, but as a standalone unit, with its little dedicated remote control, it does just fine.

Arcam is pitching this product squarely at the high-quality end of the dock market, but as you'd hope at this price the construction is better than most too. The body is made of metal and that, plus the soft synthetic base, gives the unit a welcome degree of stability that's denied many cheap docks – some of

them will be dragged off a shelf by the most modest pair of interconnects. Another thoughtful feature is the ability to turn off battery-charging while the unit is in use: Arcam claims that this improves sound quality (we didn't notice, admittedly) and also that it will improve battery life, a point well made since few batteries enjoy being charged excessively and battery replacement in an iPod is notoriously not for the faint-hearted. That

**“Arcam is pitching this product squarely at the high-quality end of the dock market, but the construction is better than most.”**

apart, the functions are much the same as most docks. Output level is about 0.8V, well, below the typical CD player level of 2V, so you'll learn to advance your amp's volume control a little.

## SOUND QUALITY

After the initial surprise of finding just how good iPod sound can be, we've learned to listen out for the sort of differences that can exist between different docks. Typically these aren't vast, but the better ones give a shade more detail and transparency in the sound.

On the whole we would rank this among the better ones. We do have some slight reservations, however, in two particular areas. First, the bass seems a little on the loose side compared with the best we've heard. Second, there's a little harshness at high levels.

We were puzzled by the latter, not least because when we did some measurements to see if anything showed up we found distortion that didn't go away as the volume was

decreased, even though the iPod's display was indicating lower volume. But, of course, the volume is actually attenuated in the dock, so it seems that the interface between iPod and dock is just slightly overloaded by full-level output. Unfortunately, with so many commercial releases mastered right up to 'peak bit', that's going to affect quite a lot of recordings.

That apart, though, the sound is generally very fluid and natural-sounding, with very good detail in the treble and notably clear and communicative voices, both male and female. There's a nice sense of solidity to the lower midrange, which is mostly evident in bassy rock and similar stuff. Rhythm, as you might expect, is decent, rather than amazing, but it's still perfectly possible to find oneself indulging in a little involuntary foot-tapping now and then.

Yet the irDock seems most at home with classical and jazz tracks, where its shortcomings are least intrusive. Here, it is precise and very persuasive all round. **HFC**

Richard Black



VERDICT	
<b>SOUND</b> ★★★★★	<b>CONCLUSION</b> A well-made iPod dock that offers good sound in many areas, though with a little harshness in loud passages. It's most at home with music that's rhythmic in its focus.
<b>FEATURES</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	
<b>HI-FI CHOICE</b> <b>OVERALL SCORE</b> ★★★★★	
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EDITOR'S CHOICE

HI-FI CHOICE  
magazine



# Headmaster

Grado's £1,795 PS1000 headphone

**PRODUCT** Grado PS1000

**TYPE** Headphone

**PRICE** £1,795

**KEY FEATURES** ◉ Weight: 500g ◉ Dynamic, circumaural, open-back ◉ Cable length: 1.8 metres ◉ Impedance: 32 ohm ◉ Sensitivity: 98dB for 1mW

**CONTACT** ☎ 01279 501111 🌐 www.gradolabs.com

For some time now, headphones having been getting some really good press.

When we reviewed the Grado GS1000 just over three years ago in *HFC 288*, we hailed it as possibly the finest headphone we'd ever tested. Last year, we had the pleasure of listening to the Sennheiser HD800 (*HFC 324*) and Grado's revision of the GS1000, the GS1000i (*HFC 325*), both of which arguably surpass the original '1000.

Now Grado is back in the spotlight with its new top model, part of (in fact, currently all of) the 'Professional Series'. Apart from anything else, this seriously raises the current maximum price for dynamic headphones (Sony once made an even more expensive model), but given our recent experiences with upmarket cans, we're happy to accept that it similarly raises the bar in performance terms. So, what unknown delights might be waiting for us in our familiar recordings?

Before we answer that question, we should look at what's new with this model. It's clear that its design owes at least something to the GS1000, as the overall shape is very similar. Most obvious is the change from the wooden housing of the earpieces to metal, an unspecified alloy – it's described merely as 'a special non-resonant, very hard alloy'. Actually it's not entirely non-resonant and if you tap it it's possible to hear a small amount of ringing, but we might be splitting hairs here because we weren't able to convince ourselves that any hint of that resonance was colouring the sound when we played music.

No, our reservation regarding the alloy is much more prosaic and concerns its weight. The GS1000 is towards the heavier end of the headphone market at something in the region of 300g, but the PS1000 surpasses anything we've ever encountered at 500g. That's a lot of headphone to wear and, in all honesty, we did find it somewhat oppressive. For one thing, it's enough to make the headphones slide off if one tilts one's head forward or back and for

another it makes the headband (always a Grado weakness in our experience) feel quite a burden after a while. We would really have liked a more generous thickness in the padding.

Inside each earpiece there is still some wood- selected mahogany, which supports the drive unit. The latter uses a large diaphragm which is vented and de-stressed, all in the interest of reducing resonance. Just like loudspeakers, however, headphones are prone to such pesky side-effects as breakup at high frequencies, but with care, these factors can be reduced considerably, which helps maintain neutral and clear sound.

**“Even in areas where headphones tend to play second fiddle to speakers, the PS1000 manages a more than passable performance.”**

Grado tells us that this diaphragm is different from that in the GS1000 and apparently, it is driven by a re-configured voice coil too, so there's every reason to expect some sonic differences from the GS1000. One feature that is the same is the distinctive earcups; large foam-rubber affairs which are comfortable in terms of both pressure on the head and 'aural claustrophobia' – there is very little sensation of the ears being closed in.

Among the few technical details released by Grado, is the fact that both the voice coils and the cable from the jack plug are made of ultra-high-purity, long-crystal (UHPLC) copper.

In terms of basic specifications, the headphone has an impedance of 32 ohms, which is low enough to work with portable music players (don't laugh, we found just such a use, as you'll read below) and should be compatible with pretty much any headphone amp or output. The cable is quite short and has a 6.35mm jack plug fitted, but Grado supplies an adaptor to 3.5mm and also a generous extension cable.

## SOUND QUALITY

As well as playing familiar CDs through these headphones, we were lucky to be able to give them some serious use at a recording session, where it was possible to compare live sound with reproduced (recorded using a superb Royer stereo ribbon microphone, carefully positioned) with only a few seconds between the two. This kind of comparison may not be the most demanding in terms of detail, ▶



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but will show up tonal imbalance like anything. Now we're not about to say that we couldn't tell the difference between live and recorded, but the tonal similarity was remarkably close.

We've commented before in these pages that, up to a point, one can easily live with a degree of coloration in sound because one gets accustomed to it and filters it out. It's usually pretty obvious at the outset, though, as swapping quickly between live and recorded sound gives the ear no chance to perform its 'inverse filtering' trick.

What impressed us with the PS1000 was that the tone of the instruments (piano, violin and

## STAX VS GRADO VS SENNHEISER

For at least a quarter of a century, the name Stax has been considered by many to be synonymous with the highest quality headphones – or 'earspeakers', a description Stax uses for its unusual electrostatic transducers.

There are several models in the Stax range which differ considerably, but we were fortunate to be able to try comparisons between the PS1000 and a Stax Lambda model of fairly recent vintage. The latter is magical in its way, but we were surprised, coming back to it after a gap of over a decade, how coloured it sounds tonally alongside modern upmarket dynamic models. On the other hand, it's enormously dynamic and exciting and gives the impression of even greater extension at both frequency extremes than any other headphone we can think of.

The PS1000 is probably more honest, but the Lambda certainly has a lot to offer. As for Sennheiser's HD800, we'd place it just a fraction behind the PS1000 for detail and neutrality – but it is a not-inconsequential £800 cheaper!

## WHICH HEAD AMP?

At this sort of level, few owners will drive their headphones from a CD player's, or integrated amp's, output jack. Actually, even if you do that you'll get some mighty impressive results, but an investment in a dedicated headphone amp will still be worthwhile. Grado makes one, but it's not available through UK importer Armour, so we were unable to try it.

Grado seemed very relaxed when we asked, simply recommending that customers should see what their dealer has available and try it – sounds like good advice to us! So we conducted quite a lot of our listening with our own custom-made amp, which is generically quite similar to models from Creek and others in the £200-£500 ballpark, but a brief spell with the jaw-droppingly expensive (£3,000-ish) EAR HP4 valve headphone amp was also very exciting.

### DETAIL



cello) was clearly very accurate right from the first note, which means that the headphone's contribution was unusually small. Having frequently used the GS1000 (original) in such a situation, we're in no doubt that the PS1000 beats it on grounds of neutrality. The GS is already very good, but the PS really steps up a gear.

At the same time, it seems to transcend an obvious limitation of headphones in the bass – they can't make you feel low notes the way loudspeakers can. In a few cases, though, they can make one believe that one has felt something. We found this with the Sennheiser HD800, as well as the GS1000 and the PS1000 might just be the best yet in this department. Human perception can be tricked in all sorts of ways and evidently if the frequency balance is good, the bass extension just right and the distortion low, the ears and brain will between them create the illusion of real bass impact. The bottom few notes on a concert grand piano can be pretty visceral and that's what we heard – experienced – via the PS1000.

Returning to the world of familiar CDs, we were more than a little impressed with the amount of detail that was being brought out, even from recordings of no remarkable sonic merit. In this respect, we would place this headphone as roughly an equal to the HD800, which on the other hand we rated better than the GS1000. Such rankings aside, however, we are in general terms talking about the sort of detail that the best loudspeakers on the planet will only give if fed by the finest ancillaries in a carefully optimised set-up – in

other words, the kind of thing you just don't hear every day.

Even in areas where headphones tend to play second fiddle to speakers, notably imaging, the PS1000 manages a more than passable performance. As for dynamics, they wonderfully combine the shock factor of sudden changes in level, which makes for excitingly rhythmic music-making, with the subtle, maybe almost imperceptible, swell of a gradual crescendo, which grows from quiet to deafening without the slightest sense of effort, but with spine-tingling final effect.

In any type of music, at any level, this is music reproduction of the highest order which convinces both instinctively and analytically. Hats off to Grado! **HFC**

Richard Black

## VERDICT

### SOUND



### PRO

Tonally neutral to an extent most headphones and speakers only dream of, with detail to die for and effortless dynamics: revealing and involving in equal, large, measure.

### FEATURES



### BUILD



### CON

The combination of weight and rather hard headband can make long-term wearer comfort a serious issue.

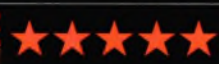
### VALUE



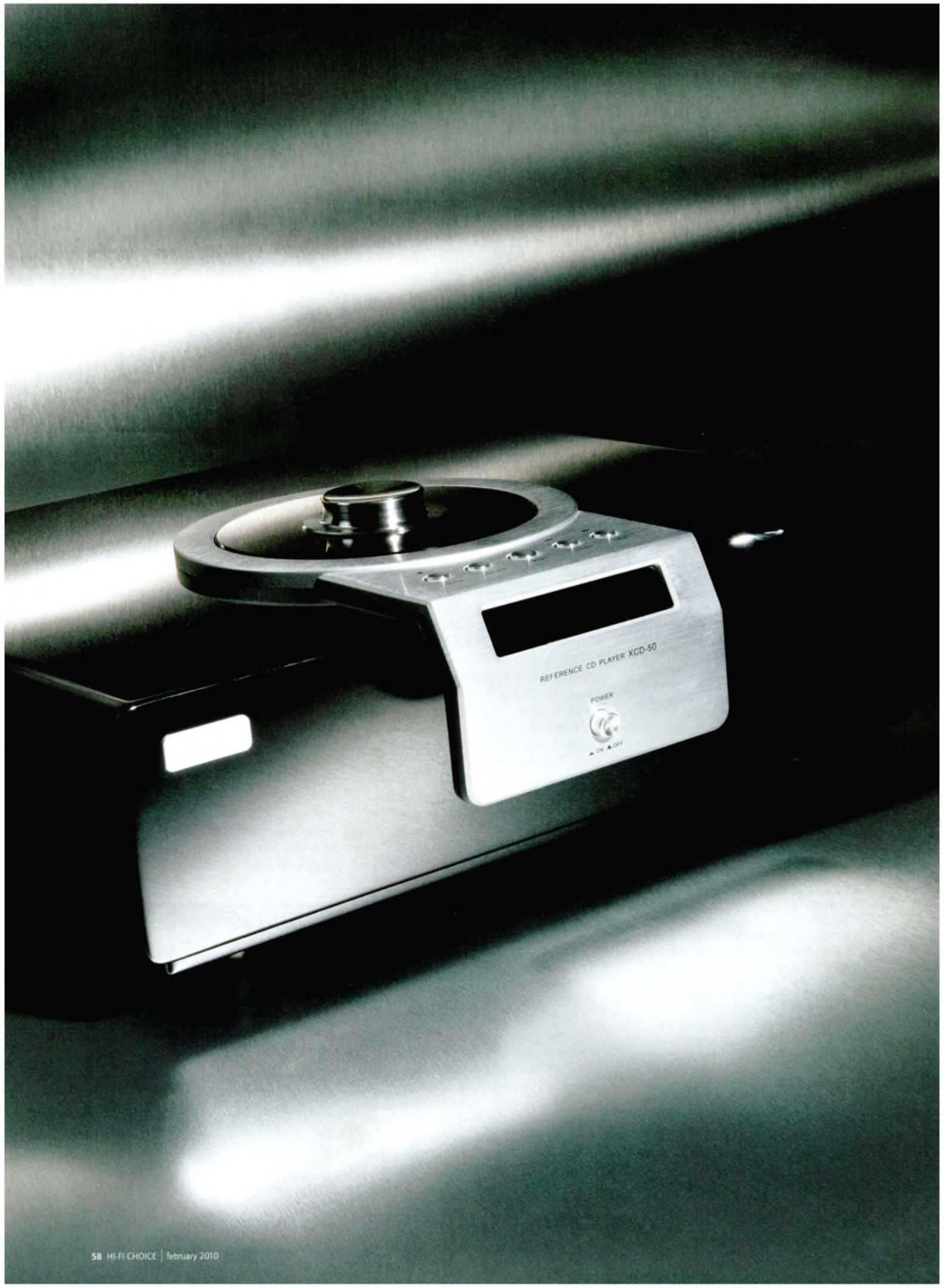
### CONCLUSION

Differences between this model and other top headphones are really more a question of taste than of quality, which is undeniably high. Strongly recommended for audition: be prepared for a shock!

## HI-FI CHOICE OVERALL SCORE



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# Smooth operator

Onix is back in the UK with a new range of hi-fi products including this striking XCD-50 CD player

**PRODUCT** Onix XCD-50

**TYPE** CD player

**PRICE** £3,250

**KEY FEATURES** Size (WxHxD): 46x16.1x41cm

Weight: 14kg Digital outputs: 1x AES/EBU, 1x S/PDIF Analogue outputs: 1x RCA, 1x XLR  
Burr-Brown PCM1796 DAC

**CONTACT** 01257 473175 www.onix-audio.co.uk

Among the many exotic brands we found at the *National Audio Show* last September (*HFC 327*), was a name that has not been seen on these shores since the nineties. Onix started in Brighton way back in the late seventies and went on to become a respected name in audio electronics, with amplifiers like the OA21 making an impression, thanks to solid sound and a particularly clean design in a half-width case.

The company disappeared towards the end of the last century, but according to the current owners, lived on in the far east and America, where it expanded its activities into loudspeakers. And it's these speakers that are now available in the UK, alongside a range of electronics. Manufacture is by Shanling, which is why the two companies share Real Hi-Fi as their UK distributor.

The Onix range consists of: two CD players (from £535) and an SACD player (£1,175); three integrated amplifiers (from £725); and a DAC with selectable upsampling. There are four loudspeakers including a heavyweight standmount (Monitor-1 £2,265) and two high-end models, the XCD-50 (£3,250) and the XIA160 (£3,625), plus a matching integrated amplifier that's built as a dual-mono device with no-holds barred.

Having made its name producing components that competed with the likes of Arcam and latterly Cyrus, it's intriguing to see such a lustrous and heavyweight CD player sporting the Onix badge. The finish on this player is so good that you get the impression that it's acrylic, but further inspection of the unit and the accompanying literature reveals it to be piano-lacquered wood.

Playing a CD is a simple matter of lifting the lid, which is acrylic with a metal handle and then taking off the large puck that holds the disc onto the transport mechanism. Place a disc over the spindle, put the two elements

**“There is no shortage of power in the nether regions, the bass having weight and depth beyond the norm at this price point.”**

back on and off you go. Not as straightforward as pressing a load button twice, but quite a nice tactile way of doing things. In fact, one that's reminiscent of changing a vinyl LP on a turntable with a clamp. What reinforces this effect is that you can remove the lid, whilst the disc is playing and so can change discs without touching a button.

It's a process made more pleasurable by the CNC-machined nature of the disc clamp which is rather larger than is normally the case, but presumably the Philips CD Pro2 drive can take the weight. Inside the box there are re-clocking and jitter-reducing systems and a Cirrus Logic CS4396 DAC that produces a dual-differential or balanced output. It has separate R-type transformers for the digital and analogue circuits and the player is supplied with a heavy-

gauge Shanling mains cable, with which to power it.

Operationally it's pretty straightforward, the aluminium-faced remote works well and sits comfortably in the hand, but don't expect much response from the eject button! The display sits at an angle, which means you can read it from above and the side which will be convenient for many. However, the top-loading aspect means that this player will always have to be on top of a rack rather than inside it. Build quality would appear to be as good as the finish suggests, with high-quality RCA phono and XLR sockets on the recessed back panel.

We asked whether there was anything unusual about this player's design and were told that "There is nothing 'ground-breaking' about the player. Just solid engineering." Onix ascribes its sound to "very low jitter levels due to re-clocking and overall design, circuitry and components chosen with low measurable distortion."

## SOUND QUALITY

The XCD-50's dark, smooth exterior is something of an allegory for its sound, this is one of the most relaxed and smooth players we've encountered for some time. It's the sort of balance that will appeal to those who find many modern CD players to be too upbeat and lively, it trades this for a sense of refinement and calm that suits a lot of material well. ▶



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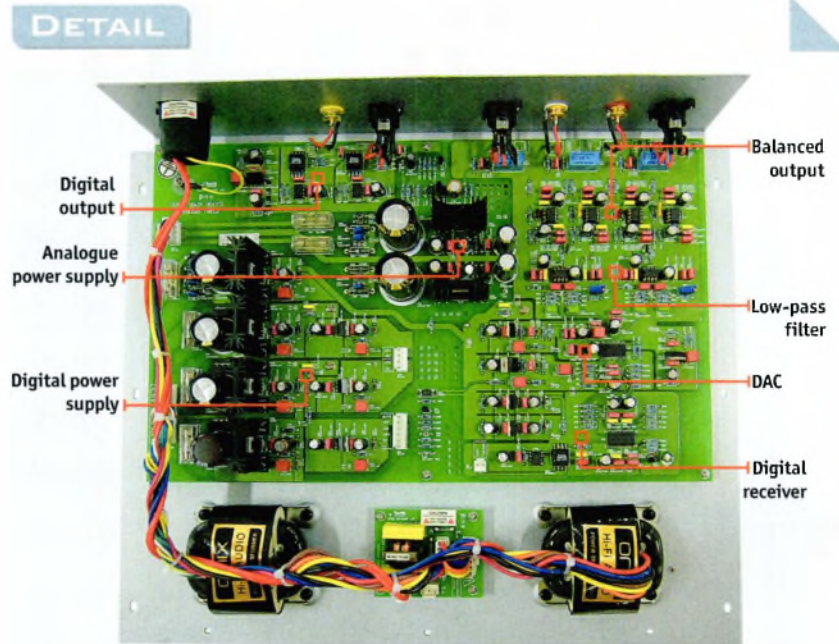
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It's not slow, but it is relaxed and those who value pace will find more suitable alternatives elsewhere, but it times surprisingly well – a Saafi Brothers track of laid-back dub-style material picking up a good groove when the action got going. There is also no shortage of power in the nether regions, the bass having weight and depth beyond the norm at this price point.

With smoother/cleaner recordings such as the John Abercrombie disc *Wait Till You See Her* (on ECM), this chilled-out quality can get a bit much, the lack of sparkle from percussion and guitar robbing the music of its subtlety. It does quite a good job of instrumental and vocal timbre, but lacks the fine detail or more obviously open designs like the Leema Antila II. A player that brings quite a bit more of the acoustic of the studio or venue to the result, along with more of the energy of the performance. Having said that, the Onix's relaxed mien does lend itself to high-energy music because it never sounds like it's having



## ONIX HISTORY

**Onix has an interesting past. Tony Brady started the company in 1979, in order to build integrated amplifiers that had better power supplies than were generally found in other products at the time. He was also one of the first to use half-width cases, offering separate outboard power supplies that could sit alongside the amp in a style not dissimilar to Naim. The company remained active throughout the eighties and into the nineties, launching its first CD player (the CD33) in 1993, a product that is said to have helped the company's export sales and established it in Asia and America.**

**Rogers Loudspeakers, which was by then a Taiwanese company itself, acquired Onix at the turn of the millennium and it solely became a loudspeaker brand whose products garnered critical success in the US. The new owners acquired the brand in 2008 and have been working to bring the new range to market since that time.**

to try to hard, it lets the material provide the excitement. The Dan and the Electros disc of fifties style tunes works very well, the glorious saxophone parps and rich sonority of the keyboard combining to produce a big beat sound that is highly entertaining when you turn the wick up.

It also works well with artists like Gillian Welch whose *Time (The Revelator)* song sounds positively open and spacious compared to less dedicated sources such as the Pinnacle Audio Folio server (reviewed next issue). And while it doesn't have the energy of many in its price bracket, it does have an ease and expressiveness that reveals low-level details quite effectively. There's something quite engaging about its considered approach, something that begins to get under your skin, but you do have to turn it up to get a sense of power – dynamics are not its forte.

Playing the opening track from Fink's *Distance and Time* album, it's easy to hear what the strings in the background are doing, the Onix makes time for everything to fit in. On this occasion, the Resolution Audio Opus

21 has more kick in the bass drum and stronger vocal presence. It delivers each section of the mix in a coherent and timely fashion that does the music justice. It's the sort of player that will suit more up-front amplifiers and loudspeakers. In fact, if you find that your CDs sound a little bit up front and in yer face, a player like this is the perfect antidote. Its style goes against the prevailing fashion these days, but there's no denying its potential appeal in a revealing system.

While Onix's owners are concerned that they need British input to give the company credence, this route could end up with them creating another 'me too' product, for the UK market, at least. By taking the route that they have, the new Onix deserves to carve out a niche, based on its own rather appealing products and qualities. **HFC**

Jason Kennedy



## VERDICT

### SOUND



### PRO

A relaxed and refined sound that takes its time to tell a fuller story than many. It's also a striking-looking player and a good example of when performance matches aesthetics.

### FEATURES



### BUILD



### CON

A bit too restrained for some tastes, it requires more careful system matching than most.

### VALUE



### CONCLUSION

While it won't have universal appeal, this player has a relaxed sound that will bring a welcome respite to over-energetic systems. This combined with a good sense of timing and low level resolution make it a real contender

## HI-FI CHOICE OVERALL SCORE

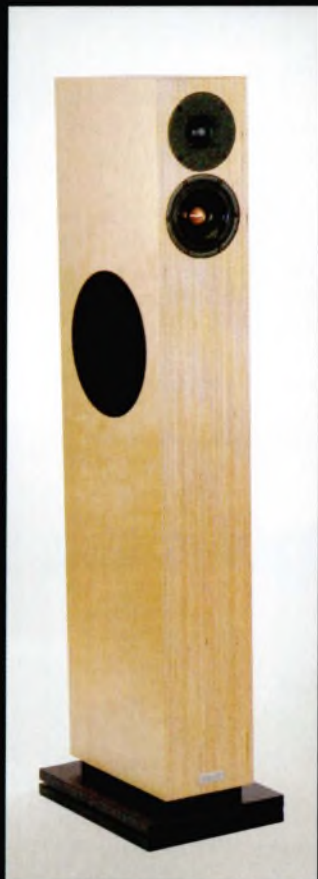


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# Ultimate isolation

*They're expensive, but the NeoFlex feet work wonders with high-end hi-fi*

**PRODUCT** Alto-Extremo NeoFlex

**TYPE** Isolation feet

**PRICE** £799 (set of two)

**CONTACT** ☎ 07932 355276 🌐 www.alto-extremo.com

It's not hard to find expensive accessories in the hi-fi world, but even by the standards of the most esoteric tweaks, a set of NeoFlex isolation feet looks like a bit of an indulgence. Back in *HFC* 327, we looked at some much cheaper isolation devices which seemed to work pretty well, so these will have some convincing to do.

The headline attraction of these feet is that they use opposing magnets to support the weight of the equipment placed on them. High-strength neodymium magnets are used, built inside a robust stainless-steel housing, which stands eight centimetres high and weighs 4.5 kilograms, with the central piston pushed upward by the magnets. It is restrained from popping out at the top, while at the bottom an adjusting screw allows setting for a range of loads from 0.5 to 15 kilograms, so that the foot operates with the piston slightly depressed under normal conditions. Side-to-side stability is provided by two internal sealing rings which also give a useful degree of air damping.

Interestingly, Alto-Extremo's other (cheaper) feet do not use magnetic or spring isolation, relying instead on point contact on an internal hard ball. Magnetic levitation is a very useful technique, though, giving a low resonant frequency of just a few hertz, which means there will be useful attenuation of vibration across the whole audio band. This isn't the first time the technique has been used in audio support components, but it's certainly a rarity

**“The headline attraction of these feet is that they use opposing magnets to support the weight of the equipment placed on them.”**

and will always involve both very strong magnets and some precision engineering, hence the high price. Incidentally, Alto-Extremo has built in very efficient magnetic screening, so those worried about the effects of stray magnetic fields on their audio components can rest assured. Even an inch or two away, the field is barely detectable.

#### SOUND QUALITY

Bearing in mind the considerable cost of a set of these feet (effectively £1,598, since a pair won't support much!), it's unlikely they will be

used beneath anything less than upmarket kit.

We tried them with a Meridian 808 CD player, a couple of turntables and some amplifiers, both solid-state and thermionic. Perhaps, not surprisingly, their greatest effect was with the turntables, which as a breed absolutely require isolation from structure-borne vibration to work well. What did surprise us was how much of an effect they had on a Pink Triangle turntable, which has highly effective suspension already

built in. Supported on four NeoFlex feet, it seemed distinctly more precise and detailed.

With electronics, both sources and amps, the effect was less, but we still heard a small improvement in precision. The Meridian CD player was, to our ears, the least affected piece of kit and we're not sure we would bother, but a vintage Mark Levinson preamp benefitted quite noticeably, with some extra clarity in the high treble and just a shade more definition in the (already excellent) bass.

Overall, our most successful experiment with these feet came when we supported an entire system rack on them. Having the turntable on the top makes the assembly feel a little perilous, but the damping offered by the feet makes wobble highly unlikely, unless someone is walking very heavily nearby.

Set up like this, we obtained very good results, compared with the same system floor-bound and consider that a suitable recommendation. Any other way and they are truly an alarming proposition financially! **HFC**

*Richard Black*



#### VERDICT

##### SOUND



##### FEATURES



##### BUILD



##### VALUE



##### CONCLUSION

Even with high-end equipment, this is a lot to pay for 'just' feet, but used as an isolation solution for a complete system they do bring worthwhile benefits.

#### HI-FI CHOICE OVERALL SCORE



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GROUP TEST & LAB REPORTS: PAUL MESSENGER

# LOUDSPEAKERS

*This month, six loudspeakers that are eclectic, expensive and very high-end*

In total and average price, this month's loudspeaker *Ultimate Group Test* is probably the most costly we've ever undertaken, the prices per pair ranging from £2,100 up to £3,000. We've reviewed plenty of speakers that are considerably more expensive than any of these of course, especially in our annual *The Collection* magazine, but never in a comparative group test context.

Besides reflecting what's actually going on in today's marketplace, where the more upmarket sector seems to be relatively healthy in these troubled times, moving up the price ladder also allows for greater design flexibility. On this occasion we've quite deliberately chosen a group that's as diverse and disparate as possible, so the overall purpose is more to contrast than compare.

Just one model – the PMC FB1i – has been reviewed in our pages before. (HFC 311). This popular transmission line-loaded, two-way floorstander provides a useful context for evaluating the others and is incidentally the least expensive of the six.

It's one of just two conventional floorstanders in the group, the other being the rather more complex three-way Cabasse Egea 3, bigger brother to the MC40 Java that we reviewed in HFC 325, with a similar radical mid/treble co-axial drive unit.

The Audioplan Kontrapunkt, from Germany and the American DeVore Gibbon 3XL are both brands that are new to us and both are examples of costly two-way standmounts. The Kontrapunkt is a tiny, but massive affair, because it comes complete with a very substantial sand-filled plinth.

The Gibbon 3XL is particularly unusual in featuring an exquisitely finished enclosure in bamboo ply, as well as high-class drive units.

Revolver's model is called Screen 3, because it's one of three models designed primarily to be mounted on the wall either side of a large flat-screen TV. Though large and visually far from discreet, it won't take up any floor space.

Though seldom seen in Britain, Magneplanar's Magneplanar dipole panel speakers have been a US loudspeaker

legend for more than 40 years, making unique designs based on planar and quasi-ribbon drive units. **HFC**

## EQUIPMENT USED

- Ⓢ Naim CDS 3/555PS, Rega Isis CD players
- Ⓢ Linn Sondek LP12 (modified)/Rega RB1000/SoundSmith Strain Gauge turntable/arm/cartridge
- Ⓢ Magnum Dynalab MD 106T tuner
- Ⓢ Naim NAC552 preamp
- Ⓢ Naim NAP500 power amp
- Ⓢ Rega Osiris integrated amp
- Ⓢ Cables from The Chord Company, Vertex AQ, Phonosophie and Naim.
- Ⓢ Equipment supports from Mana, Vertex AQ, Naim, Townshend

## MUSIC USED

- Ⓢ Hello Love Be Good Tanyas
- Ⓢ The Soundtracks Ennio Morricone
- Ⓢ Heartworn Highways various artists
- Ⓢ Mr Heartbreak Laurie Anderson
- Ⓢ Sibelius Symphonies VPO Maazel

BBC Radios 3 and 4 were also used extensively

## ON TEST



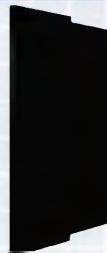
Audioplan Kontrapunkt IVB  
£2,898



Cabasse Egea 3  
£2,700



DeVore Gibbon 3XL  
£2,995



Magneplanar Magneplanar MG1.6  
£2,500



PMC FB1i  
£2,100



Revolver Screen 3  
£2,799



## LISTENING TESTS

Loudspeaker listening poses an altogether more complex set of problems from those involved in assessing components further up the hi-fi chain. Loudspeakers vary dramatically in size, type and tonal balance and also interact strongly and often unpredictably with the room, according to where they're placed. The difficulty facing sequential unsighted loudspeaker presentations, is the strong tendency to judge each example according to how its balance differs from the model that preceded it. Accordingly, extended hands-on listening sessions were adopted, giving proper scope to adjust to the inevitable changes in balance and also to experiment with the positioning of different models.

## LAB TESTS

The speakers were tested under in-room conditions, in order to be as representative as possible of real-world operating conditions. The test equipment used was a Neutrik Audiograph analogue signal generator, with synchronised pen recorder and this was used to plot the far-field in-room averaged response traces, as well as the impedance plots, which provide the core of the measurement work. Pair-matching was also checked at one metre.

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

## LAB REPORTS: THE BAR GRAPH

Our 3D bar graphs are a simple way of showing how the various loudspeakers compare across a range of quantitative and qualitative measurement-based parameters. In each case, the individual parameters are assessed and shown as better than, or poorer than the group average.

**1] Sensitivity:** Sensitivity is a measure of how loud a speaker will go for a given voltage from the amplifier. It's scaled to 2.83V at one metre (corresponding to one-watt of power for an eight ohm load). This figure, can be misleading, as loudspeaker sensitivity can vary quite significantly across the audio range, as well as the fact that lower impedance speakers extract more current and hence power from an amplifier than higher impedance examples.

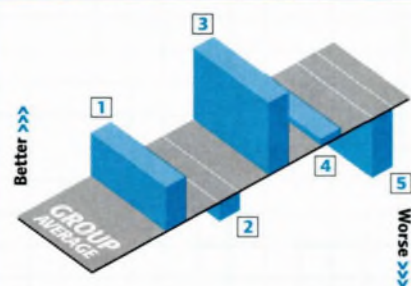
**2] Bass extension:** The bass behaviour of loudspeakers is heavily modified by the room in which they are used. To replicate 'real world' conditions, our figure represents the averaged bass roll-off frequency at -6dB ref the broad midband, measured across the far field for a stereo pair in a 4.3x2.6x5.5m room

**3] Ease of drive:** The lower the impedance of a speaker, the more current it will extract from the driving amplifier for a given voltage (volume) setting. Lower impedance designs are, therefore, theoretically harder to drive, especially at low and midband frequencies – but they also tend to have higher sensitivities, which reduces their voltage requirement for a given level of loudness.

**4] Overall frequency balance:** The overall broad frequency response trends do much to define the character of a speaker, although true neutrality is the obvious goal

**5] Response smoothness:** Beyond the overall tonal balance of the speaker, the small scale smoothness has much to do with the delicacy of the sound and its ability to deliver subtle harmonic shading. It's also a factor that separates more costly speakers from their cheaper rivals.

### OUR BAR GRAPHS: AN EXAMPLE



# WELCOME TO THE NORTH EAST

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 ATACAMA  
 AV INTERNATIONAL  
 CHORD COMPANY  
 CHORD ELECTRONICS  
 CLEARAUDIO  
 DYNAVECTOR  
 EAR YOSHINO  
 GOLDRING  
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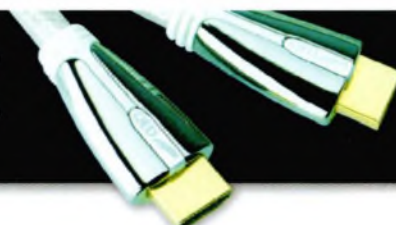
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# AUDIOPLAN KONTRAPUNKT IVB

A classy German miniature in development for more than 25 years

**£2,898** ☎ 07956 476299 🌐 www.audioplan.eu

**A**udioplan is a German operation that has been around for nearly 30 years. While its prime activity has long been the creation of a small, but highly refined range of speakers, it has also played a major role in emphasising the importance that accessories in the broadest sense have in the final performance of a hi-fi system.

A two-way miniature invariably supplied with matching stands, the original Kontrapunkt was launched way back in 1984 and claims to have been: "the first serial production loudspeaker with spikes and sand filling". That's as may be; the little Kontrapunkt has gone through several distinct stages of evolution, as its IVB suffix clearly shows, for example abandoning spikes in favour of Sicomin AntiSpikes when the first MkIV model appeared in 1997.

Ten years on, Audioplan introduced this £2,898 per pair Kontrapunkt IVB. It's still a tiny two-way miniature, but an exceptionally solid and refined one. The speaker itself weighs a surprisingly hefty 9.4 kilograms, but that pales into insignificance when you try to lift

the matching pedestal stand, which totals 29 kilograms (including 20 kilograms of sand fill). It's almost as though the pedestal 'raises the floor' to support the speaker proper, although it's apparently possible to adjust the tonality by varying the amount of sand.

It's a very pretty loudspeaker (and pedestal), with a choice of four real-wood veneers – cherry, beech, maple and apricot – or four paint finishes (grey, white and black enamel, and black high gloss). It's also very heavily built, with walls up to 65 millimetres thick.

Heavy duty twin terminal pairs, plus substantial silver-plated links, feed an encapsulated crossover. The small main driver has an 80-millimetre doped paper cone and is mounted above a mechanically decoupled 25-millimetre fabric dome tweeter and below a slot-shaped port.

The AntiSpoke coupling consists of small discs, about three centimetres in diameter and a few millimetres thick, which sit on three similar looking discs recessed into the top surface of the pedestal. The base of the pedestal has a small plinth which extends the stability footprint and again sits on AntiSpikes – four in this case.

## SOUND QUALITY

Tiny loudspeakers are bound to lack bass weight and loudness capability, but they also have significant advantages in several areas. Small enclosures are bound to produce similarly small cabinet coloration, and their wide dispersion promotes good imaging; small main drivers operate higher into the upper midrange without difficulty and integrate better with a tweeter.

And it's the quite wonderful stereo image, precision and focus that really sets this small speaker apart from the herd. The above reasons do indeed contribute, but such advantages can only be as good as the specific implementation. It's abundantly clear that this model's painstaking long-term development, and its consequent excellent coherence and very low levels of coloration, make a major contribution to its superior imaging.

Although deep bass isn't on the agenda here, and the lower mid sounds a little lean, there's sufficient port-assisted midbass to keep the speaker well clear of walls and thus add air and spaciousness to the imaging. There's also a touch of chestiness through the lower registers, but the mid and presence voicing and coherence are about as good as it gets and are more than fair compensation. **HFC**



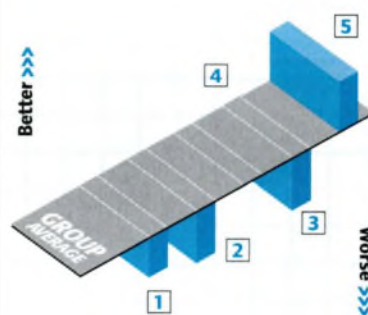
## LAB REPORT

The tiny main driver and small enclosure used here will inevitably compromise both sensitivity and bass extension. Audioplan claims just 85dB efficiency, which is reassuringly conservative – we'd give it 86dB. The port, tuned to about 56Hz, gives a welcome boost to the midbass output, indicating that free space siting is likely to work best.

There's very little output below 45Hz and although there's some unevenness through the bass region, essentially due to room-mode interaction, the Kontrapunkt still held within +/-5dB, 45Hz-20kHz under in-room far-field averaged conditions.

The amplifier load looks very easy to drive, though we did find a significant impedance discrepancy between our two samples. Although the shape was the same, one had a 5.5ohm minimum, the other 6ohms.

## HOW IT COMPARES



- 1] Sensitivity >> -20%
- 2] Bass extension >> -30%
- 3] Ease of drive >> 0%
- 4] Overall frequency balance >> -30%
- 5] Response smoothness >> +25%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	85 dB	86dB
Impedance (nominal/minimum)	6/ns	8/5.5 ohms
Estimated bass extension (6dB)	ns	45Hz

## VERDICT

<b>SOUND</b> ★★★★★	Costly for something so small, but very persuasive nonetheless, thanks to exceptional stereo imaging and mid-through-treble coherence. Bar some mild chestiness, colorations are very well controlled.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	<b>HI-FI CHOICE</b> OVERALL SCORE ★★★★★

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# CABASSE EGEA 3

Proprietary co-axial drive unit is part of this muscular speaker

**£2,700** ☎ 01684 593085 🌐 www.cabasse.com

France's longest established speaker company, Cabasse, has an illustrious history that stretches back long before hi-fi became fashionable (and before it went out of fashion again). Based in Brittany, on the North West coast of France, it was owned and run by two generations of the Cabasse family until its 2006 acquisition by Japanese multinational (and near neighbour) Canon.

Although it has been a major force in French hi-fi loudspeakers for decades, Cabasse has always found the UK scene tough going, having made more than one short-lived appearance here, less through any technical shortcomings than inadequate marketing.

The total product portfolio is dauntingly large and peppered with AV and sub/sat variations. The simple version is that the speakers are organised into three distinct ranges, Oceo, Idea and Artis, which seem to translate broadly into 'standard', 'premium' and 'style/high end'.



In a recent group test (HFC 325) we were well impressed by the £1,358 per pair Oceo MC40 Java. This review looks at the Egea 3, which is part of the Altura MC sub-group of the main Idea range: it shares a broadly similar configuration, but at £2,700 per pair, it also costs roughly twice as much as the Oceo model. Although the similarity between the two models is unmistakable, examining the detail shows that not only the enclosure, but also the drive units and crossover points are different and the total weight is considerably greater.

Egea 3 is a three-way design: twin 170-millimetre bass drivers with 125-millimetre diameter Duocell cones are loaded by a downward-firing port that exits between the base and the plinth. This crosses over around 1.12kHz to one of Cabasse's special co-axial drive units, which has an annular ('ring doughnut') shaped diaphragm, surrounding a small horn-loaded dome tweeter. The annulus has visible inside and outside diameters of 55 millimetres and 97 millimetres respectively (determining the inside one is difficult because the tweeter horn overlaps the inside edge). The tweeter itself has a 19-millimetre diaphragm.

The speaker as a whole comes in high-gloss black or a couple of real-wood veneer options. The sides are convex – the speaker is wider at the middle than the front or the narrower back, avoiding horizontal standing wave focusing – and the oversize plinth ensures good physical stability. A single terminal pair is mounted through a solid metal plate, and the grille is held by magnets.

### SOUND QUALITY

Clearly intended to be positioned well clear of walls, the Egea 3 has a rich, full and laid-back overall character, but it can also sound a little thick and heavy with some material.

It's certainly as lively as its high sensitivity would lead one to expect, and the bass goes deep with reasonable smoothness and plenty of energy, power and weight. Timing is pretty good, and the 'point source' coherence of that mid/treble co-axial drive unit does help deliver decent quality stereo imaging.

But there's no escaping the combination of a little too much restraint through the broad midband, alongside a lack of smoothness that's probably responsible for a degree of audible coloration. The Egea 3 might have the edge over the MC40 Java, but it's hard to see how it can justify its very hefty price premium. **HFC**

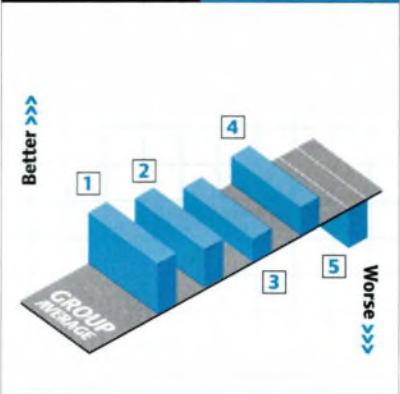


### LAB REPORT

Cabasse's claim for 90dB sensitivity is actually quite conservative – sub-300Hz it's more like 92-93dB under our in-room conditions and about 91dB in the midband, indicating that a warm, rich character is likely. The port here is tuned to around 35-38Hz (there was a slight discrepancy between our two samples here), so decent in-room bass extension is maintained right down to around 22Hz. However, the amplifier load is reasonably demanding, with much of the sub-300Hz bass region around 4ohms and also a sharp dip at 5kHz.

The similarity between the Egea 3 and the MC40 Java is unmistakable; trouble is, most of the advantage, at least in measurement terms, lies with the junior model. Above 1kHz, this more costly example simply lacks the smooth progression of its sibling, with an obvious dip at 4.5kHz and peaks at 5.5kHz and 13kHz.

### HOW IT COMPARES



- 1] Sensitivity >> +30%
- 2] Bass extension >> +20%
- 3] Ease of drive >> +10%
- 4] Overall frequency balance >> +15%
- 5] Response smoothness >> -20%

### SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	90dB	91dB
Impedance (nominal/minimum)	8/3 ohms	6/4 ohms
Estimated bass extension (-6dB)	ns	22Hz

### VERDICT

<b>SOUND</b> ★ ★ ★	Fine luxury build and finish, generous sensitivity and bass weight, but the 'point source' coherence doesn't really compensate for a lack of smoothness and rather laid-back tonality through the mid and top.
<b>PRACTICALITY</b> ★ ★ ★ ★	
<b>BUILD</b> ★ ★ ★ ★ ★	
<b>VALUE</b> ★ ★ ★	<b>HI-FI CHOICE</b> OVERALL SCORE ★ ★ ★ ★ ★

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# DEVORE GIBBON 3XL

New to the UK is the relatively young US brand DeVore Fidelity

£2,995 ☎ 01727 893928 🌐 www.devorefidelity.com

**E**stablished relatively recently at the beginning of this century, American company DeVore Fidelity has picked up plenty of plaudits on its home turf, while proprietor John DeVore – himself something of a youngster by hi-fi industry standards – brings a welcome breath of fresh air to our sometimes rather stuffy industry.

He presumably also has a thing about apes. Of the four loudspeaker models in the current DeVore portfolio, three make up the Gibbon series while the top model is a Silverback and 'gibbon' also seems to be the name applied to the company's proprietary crossover design technique.

That said, though very entertaining for browsers, the website did seem rather weak on hard facts. The four-line specification and additional information is very sparse, and doesn't discuss how this 3XL has evolved from earlier Gibbon 3s, or provide any real and useful information at all.

This Gibbon 3XL is the smallest model in the range and the only standmount. It also costs £3,000, give or take a fiver, which seems rather expensive for a compact two-way stand mount, though the price does include an attractive pair of wooden stands. Due to a long-term accumulation of numerous display stands, we elected instead to use our regular reference 600-millimetre Kudos S100s, with Blu-Tac coupling between speakers and stands.



It should be pointed out that this is unquestionably one of the most beautifully finished and presented speakers we have ever seen. A quite deliciously figured, high-gloss polished real-wood veneer forms the wrap, with nicely rounded edges front and back. The inset front and back panels are both finished in high-gloss black, and an optional mini-grille is held in place by hidden magnets. The whole thing feels extremely solid, possibly helped by the fact that the carcass is made from bamboo ply.

The two drivers are nicely rebated and held by shiny screws. The main driver here has a cast frame and a 100-millimetre doped paper cone. The tweeter is apparently the same as that used in the top-of-the-line Silverback model and has a 19-millimetre dome diaphragm.

## SOUND QUALITY

The Gibbon 3XL's sound quality turns out to be a bit of a mixed bag. It certainly has considerable charm and good vocal expression, thanks to a fine midband, but above and below that most important part of the audio band things are rather less satisfactory.

In the way that it majors on a good sensitivity upper midband, the Gibbon 3XL is somewhat reminiscent of a speaker system based on a single full-range driver. It has fine coherence with good timing and some dynamic expression, but the top end is a bit dull and restrained, so the sound and soundstage lack some airiness and openness.

The bass drives along purposefully, helped by low box coloration and a fine dynamic range, but with limited ultimate weight and some lack of warmth and harmonic richness through the upper bass and lower midband.

The speaker sounds attractively informative, when operating quietly, but when the volume is turned up, the voice band can become a little uncomfortable and too forceful, and the frequency imbalances are a bit too obvious – cymbals and other

percussion tend to jump out.

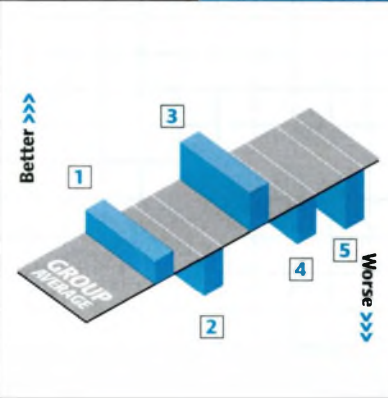
While the Gibbon 3XL will undoubtedly win many friends, it does lack strict neutrality. **HFC**

## LAB REPORT

The claim that such a small loudspeaker can achieve a sensitivity of 90dB alongside an 8ohm impedance is bold indeed. Certainly the impedance only dips fractionally below 6ohms at very high frequencies, so this speaker is clearly an easy amplifier load. And there's also a little peaking up at around 900Hz that might reach 90dB without adding too much imagination, though realistically 88dB is closer to the broad midband average – a healthy enough figure in itself.

The 65Hz port tuning ensures limited ultimate bass extension but ample mid-bass output, so the 3XL is best kept well clear of walls. While the upper midband (500Hz-3kHz) is very well ordered, there's a distinct lack of energy through the upper bass and lower midband (80-400Hz). Surprisingly, the extreme top end, above 10kHz, also looks somewhat depressed, though happily free from resonances.

## HOW IT COMPARES



- 1] Sensitivity >> +10%
- 2] Bass extension >> -20%
- 3] Ease of drive >> +20%
- 4] Overall frequency balance >> -20%
- 5] Response smoothness >> -30%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	90 dB	88 dB
Impedance (nominal / minimum)	8 / ns ohms	8 / 6 ohms
Estimated bass extension ( 6dB)	ns	40Hz

## VERDICT

<b>SOUND</b> ★★★★	This speaker has its good points, no question, but also a hefty pricetag and while its well projected midband brings great charm to voice reproduction, the top end lacks airy openness and some warmth.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★	
<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★	

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# MAGNEPAN MAGNEPLANAR MG1.6

A unique US panel speaker makes its Hi-Fi Choice debut

**£2,500** ☎ 0845 6019390 🌐 www.magnepan.com

The Minnesota-based US Magnepan Corporation has been making its various Magneplanar speakers for more than 40 years, though the range has rarely found its way to the UK during that time. The good news is that HiFiSound of Stockton-on-Tees is taking on the agency.

Maggies are uniquely different. The fact that they're full-range dipole panel designs means that their closest relatives, technologically speaking, are Quad's electrostatic designs. But they have the obvious added advantage of offering some models at a much lower cost than Quads, while still possessing some of the same unique attributes of the type.

Such is the case with this £2,500 per pair MG1.6. Because it's a panel speaker, it's tall and wide with a large frontal area but minimal depth, and it operates as a dipole, radiating equally from the front and the back. The back radiation is out of phase with the front radiation of course, so when the wavelength of the reproduced sound is larger than the width (ie at low frequencies), the two

cancel each other out. Physics therefore dictates that the 48-centimetre width here will, in practice, restrict bass extension to 50Hz.

Available with different colour wood frames and fabric coverings, it's actually a two-way design, using 'quasi-ribbon' drivers with large area, low mass diaphragms which combine a conductive ribbon or wire with an ultra-light plastic film, held close to permanent magnets and a perforated panel polepiece. Both drivers run side-by-side the full height of the unit, the larger bass/mid driver crossing over via very gentle slopes to the narrow mid/treble unit at around 600Hz (a big advantage over conventional speakers that cross over around 3kHz, where the hearing is more sensitive).

Brackets are supplied and support the panels effectively and with good stability, though without particular floor-coupling arrangements. Each speaker has three pairs of rather awkward terminals, enabling not just single- or bi-wiring but also usefully allowing resistors to be optionally added to reduce relative treble level if desired.

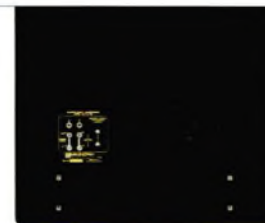
## SOUND QUALITY

Our first and well run-in pair were damaged in transit, so we had to review a brand new pair. This meant that the overall tonal balance was a bit too bright and it therefore proved helpful to put the supplied 1.2ohm resistors in series with the treble quasi-ribbons.

The MG1.6 does have limitations, especially in deep bass extension and sensitivity, so in practice loudness capability is almost certainly limited. This is, therefore, not the speaker for those who like their music heavy and loud. The Chemical Brothers tended to sound quite scratchy.

But for those of more moderate tastes, this Magneplanar is a revelation for its fabulous neutrality, wonderfully even tonality and lack of coloration, as well as magnificent freedom from boxiness. It sounds wonderful when working at very low levels, and exceptionally fine with acoustic and classical material.

As the speaker comes as mirror-image pairs, there's the option to have the treble ribbons on the inside (better focus) or the outside (wider image). On balance the former was preferred under our conditions. Imaging is excellent in either case, the shifts noted with head movement attesting to the essential phase accuracy. And although it measures bass-rich, it actually doesn't sound it – agile, crisp and clean are the adjectives that come to mind. **HFC**



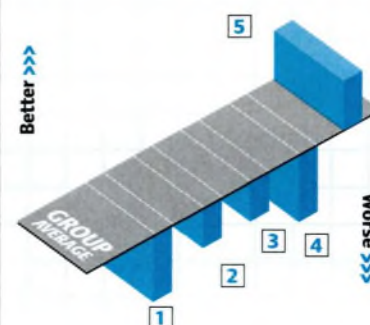
## LAB REPORT

The physics of wavelengths and front-to-back cancellation determines that the bass extension of any dipole speaker is essentially limited by the width of the panel, and since this speaker isn't unduly wide (especially by panel speaker standards), the bass end cuts off quite rapidly below 50Hz.

Although Magnepan claims a sensitivity of 86dB, under our in-room far-field averaged regime it's more like 84dB. This very low figure isn't helped by an impedance that falls to around four ohms at low and high frequencies.

Apart from a room-related 180Hz dip, the measured far-field frequency response is flat and smooth, holding within a quite remarkably flat +/-2dB from 200Hz right up to 15kHz. However, there's some resonance activity above 10kHz, and bass output 45-100Hz is a little strong, but those are minor criticisms in context.

## HOW IT COMPARES



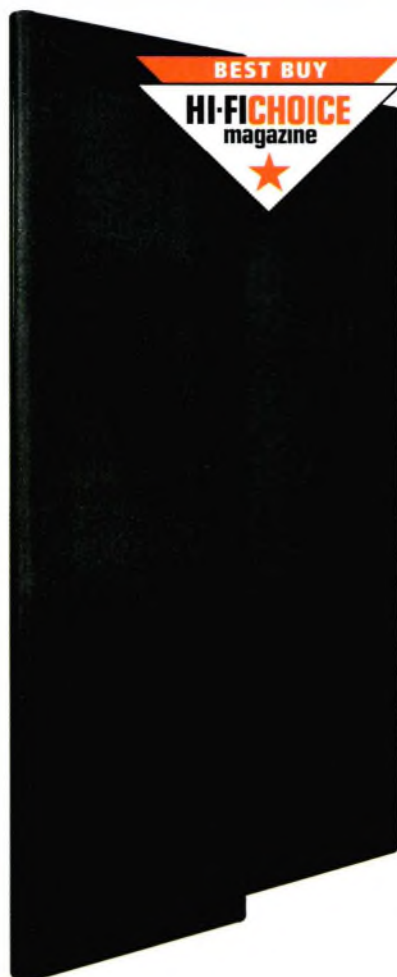
- 1] Sensitivity >>> -40%
- 2] Bass extension >>> -20%
- 3] Ease of drive >>> -20%
- 4] Overall frequency balance >>> -40%
- 5] Response smoothness >>> +30%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	86dB	83dB
Impedance (nominal/minimum)	6/ns ohms	6/4 ohms
Estimated bass extension (-6dB)	40	43 Hz

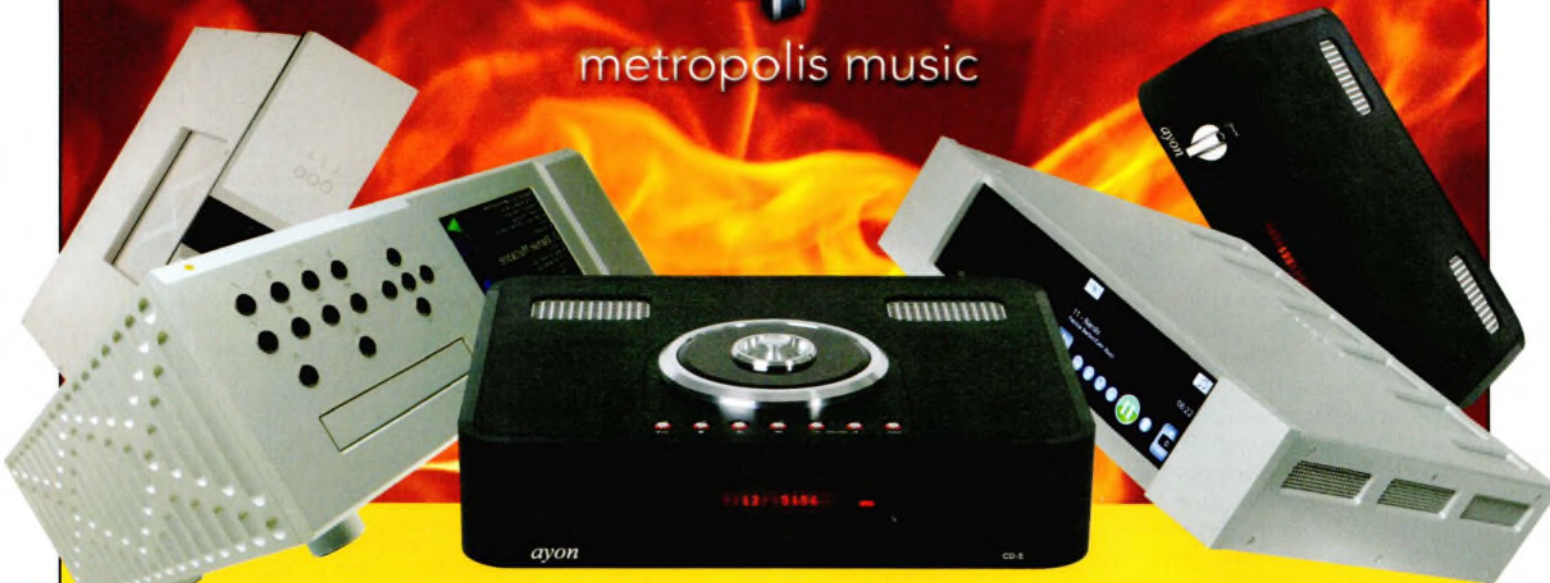
## VERDICT

<b>SOUND</b> ★★★★★	Although limited in loudness and deep bass, its sound quality has fabulous neutrality, even tonality, low coloration and magnificent freedom from boxiness. It's great with acoustic and classical material.
<b>PRACTICALITY</b> ★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	
<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★	





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# PMC FB11

This popular floorstander holds its own against the competition

**£2,100** ☎ 01582 405694 🌐 www.pmc-speakers.com

**W**ith a heritage which takes the BBC tradition and laces it with a healthy obsession for transmission line bass loading, PMC is one of surprisingly few specialist hi-fi companies founded in the last 20 years to get themselves properly established. Furthermore, it's one of remarkably few loudspeaker brands to have achieved similar success with both hi-fi and pro audio sectors.

The original FB1 first appeared about a decade ago. It was the first floorstander introduced by the company and its outline design has remained exactly the same throughout. However, it has been the subject of several detail refinements along the way and it's no longer possible to upgrade those early examples to the current specification.

This latest £2,100 FB11 version – made in the UK from European components – first appeared in 2008. It featured a new 27-millimetre soft fabric dome tweeter which PMC co-developed with OEM manufacturer SEAS and included substantial improvements to crossover components, in cabinet and plinth fit

and finish, as well as in the bass/mid drive unit with its 125-millimetre doped paper cone.

The transmission line is a full three metres long here, so this speaker stands one metre tall, while the width is largely determined by the 170-millimetre diameter of the bass/mid driver frame. The baffle edges are nicely rounded, and the enclosure is finished in real wood veneers – oak, walnut, black ash or cherry. A black MDF plinth also has rounded edges (perhaps to avoid accidental toe damage). It extends the footprint, and securely accommodates the chunky floor spikes giving good stability. Twin terminal pairs, conveniently placed close to the floor, provide the option to bi-wire or bi-amp.

The folded, tapered transmission line might make cabinet construction complex and costly, but it does provide considerable stiffening for the enclosure side panels. Exactly how such loading differs from the almost ubiquitous reflex, or indeed the tuned column, has long been debated, since all have similar impedance characteristics. However, it seems likely that the transmission line approach has superior main driver rear-radiation absorption.

## SOUND QUALITY

When undertaking a group test which includes a previously well-rated favourite, there's always that moment of doubt when the listening tests begin. In this case, the question was whether the FB11 would still measure up, sonically speaking, to a generally somewhat more costly group of alternatives.

Happily, this speaker is still a class act, fully able to hold its head high, even though the competition is exceptionally varied and usually rather more expensive.

The slight presence restraint and mild associated congestion remains obvious enough, but that's the only significant real source of criticism, and this gives the overall sound a rather 'laid back' character.

In other respects, the FB11 is a very fine all-rounder, the good enclosure control and impressive freedom from boxiness – in a real sense it sounds more like a standmount than a floorstander in this respect – perhaps being its most obvious strengths.

The bass is powerful and goes deep without any tendency to 'thump', lending the music an impressive sense of scale. Stereo images are slightly distant, but have fine focus and the attractively sweet top end is nicely judged and avoids drawing unnecessary attention to itself. **HFC**

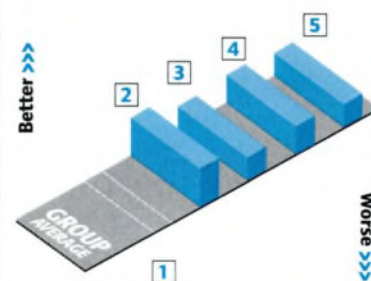


## LAB REPORT

Although there are subtle differences between the samples reviewed here and those we tested just seven months earlier, the close similarities are not unexpectedly very obvious. The impedance is exactly the same, and as the transmission line is tuned to a low 31Hz, fine ultimate bass extension is to be expected. This fact, along with an easy-to-drive load which always stays above six ohms throughout, explains the fact that on our measurement the sensitivity is just an average 87dB – comfortably below the rather optimistic 90dB that PMC claims.

These latest samples have a less obvious and rather better judged relative treble level than last time around. The midrange still shows a little restraint, especially through the presence zone (1.7-4kHz), while the bass is strong, quite even and does indeed go impressively deep.

## HOW IT COMPARES



- 1] Sensitivity >>> 0%
- 2] Bass extension >>> +20%
- 3] Ease of drive >>> +10%
- 4] Overall frequency balance >>> +15%
- 5] Response smoothness >>> +10%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	90dB	87dB
Impedance (nominal/minimum)	8/4Ω	8/6Ω
Estimated bass extension (-6dB)	ns	20Hz

## VERDICT

### SOUND



This fine all-round performer has firm, deep and clean bass, a slightly laid-back midband with little coloration but a hint of congestion, and a sweet, well judged top end. It's competitively priced too.

### PRACTICALITY



### BUILD



### VALUE



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VIVID audio

# REVOLVER SCREEN 3

A serious hi-fi speaker that hangs on the wall

£2,799 ☎ 01752 424777 🌐 www.revolveraudio.co.uk

The Revolver brand started out 30 years ago, logically enough making turntables. After several changes in ownership, current owners The Acoustic Partnership took over in 2002, recently launching its first turntable, christened Replay. The main stock-in-trade during the current regime, however, has been a well received collection of loudspeakers.

The Screen range is new and very different from the run of the hi-fi loudspeaker mill. The three Screen speakers (logically designated 1, 2 and 3) are designed to look just like a flatscreen TV and hang on the wall like the latter, albeit rotated through 90 degrees.

In fact the £2,800 per pair Screen 3, with its picture frame finished in high-gloss black and a matt black grille, does indeed look remarkably like the large Pioneer display which took up residence here some nine months ago. The world rushed out to buy flatscreen TVs because it didn't like large glass 'n' plastic



boxes cluttering up the lounge. Revolver hopes it can be persuaded to do the same in order to avoid taking up floor space with loudspeakers too.

Although it flies in the face of normal practice, there's no reason why a skilled designer can't make a flat-against-the-wall speaker work very well. At least the room reflection boundaries are pretty well set in stone. The Screen 3 is a full three-way design, using a 240-millimetre bass driver plus twin 165-millimetre midrange drivers (125-millimetre cones) above and below a 25-millimetre soft dome tweeter.

Sealed box loading should help keep the bass under control and the modest 11-centimetre depth is achieved by using a rather special 'inside out' bass unit, with the voice-coil and a compact neodymium magnet arrangement mounted in front of the 180-millimetre paper cone.

Build is impressive. Our samples came in gloss and matt black, but a wide range of alternative finishes is also available. Twin-terminal pairs are fitted on the rear panel. Wall brackets are normally supplied (though we had to make do with the floor), and a freestanding stand is under development.

## SOUND QUALITY

From a traditionalist perspective, the Screen 3 might seem an unlikely prospect, but in fact it worked rather well, with a fine overall tonal balance and very believably stereo images.

There is a bit of mid-bass excess, giving the sound a tendency to thump at times, depending on the material, but we guess this is likely to be considered a plus by movie enthusiasts, so the hi-fi enthusiast shouldn't complain too much. (Perhaps music lovers might prefer the slightly smaller Screen 2, with its 200-millimetre bass unit?)

Although it does err a little on the warm 'n' heavy side of strict neutrality, cabinet coloration is very low, the midband voicing is excellent and the top end seemed very well judged. True, the presence zone might be a little too restrained for some tastes and this does reduce the degree of openness somewhat, but makes some sense from an AV perspective where 'loud' is usually high on the agenda.

Used purely in stereo for a mixture of music and radio, the Screen 3 is remarkably effective and impressive, as well as competitive with its more conventional rivals in almost every way, while the wall-hung positioning somehow made TV sound even more coherent. **HFC**

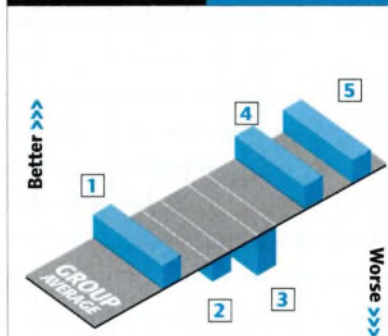


## LAB REPORT

Designing a thin loudspeaker to operate flat against a wall indicates sealed-box loading, though the slight impedance dip around 32Hz, just as it was trying to rise to a sealed-box peak, is presumably due to leakage around the voice coil of that unusual 'inside out' bass driver.

Sensitivity is a decent enough 89dB, though the impedance does dip down briefly below four ohms around 80-100Hz, while the bass rolls off fairly rapidly below 40Hz. Apart from a 50Hz peak (which will probably be welcomed by movie fans, though it could make subwoofer integration difficult), the in-room far-field averaged frequency response is pretty well ordered, holding within +/-4dB above 55Hz. The broad bass and midrange is impressive for a wall-mount, though the presence and lower treble (2.5-7kHz) is rather obviously restrained, and the top end peaks up at 15kHz.

## HOW IT COMPARES



- 1] Sensitivity >> +10%
- 2] Bass extension >> -10%
- 3] Ease of drive >> -20%
- 4] Overall frequency balance >> +10%
- 5] Response smoothness >> +10%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	90dB	89dB
Impedance (nominal/minimum)	6 ohms	5/3.3 ohms
Estimated bass extension (-6dB)	ns	35Hz

## VERDICT

### SOUND



### PRACTICALITY



### BUILD



### VALUE



The Screen 3 might be visually dramatic, but it's very successful in delivering genuine high-quality hi-fi sound without physically intruding into the room. There is a slight tendency towards bass 'thump'.

**HI-FI CHOICE**  
OVERALL SCORE

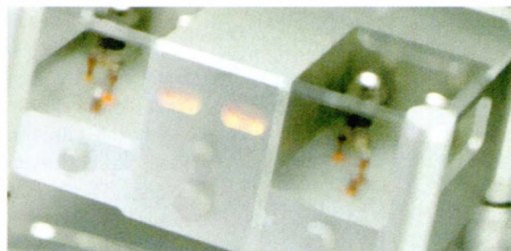


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# CONCLUSIONS

Among our speaker selection are four standout options for audiophiles

**W**hen we last reviewed a reasonably costly group of loudspeakers in *HFC* 322, the similarities between the different models were much greater than the differences. This group is the exact opposite. We've brought back the PMC FB1i to supply a representative and relatively conventional context, but the others cover just about the widest possible range of alternatives.

Moving steadily up the price ladder, the £2,100 per pair PMC

can still hold its head high, as it remains a fine all-round performer at a realistic price, with impressive bass weight and power.

Altogether different, the £2,500 per pair Magneplanar MG1.6 isn't the prettiest or most discreet speaker around. While it does have very real limitations in loudness capability towards the very top and bottom of the audio range, its neutrality, coherence and lack of boxiness are unequalled in this group and fully vindicate

this venerable design's panel/dipole approach.

Although the £2,699 per pair Cabasse Egea 3 seems like plenty of speaker for the money, it's not all that smooth and didn't seem to offer any real advantage over the MC40 Java we reviewed in *HFC* 322.

While clearly designed to match a large flat screen TV and with a 'hang on the wall' approach that will be a plus for most users, Revolver's £2,799 per pair Screen 3 operates negligible compromise,

and is, therefore, equally well-suited to stereo hi-fi music.

For such a tiny loudspeaker, the £2,800 per pair Audioplan Kontrapunkt IVB looks expensive, but it does use the finest ingredients to deliver a smooth sound with wonderful stereo imaging.

The £2,995 per pair DeVore Gibbon 3XL is another costly design, partly due to its exquisitely finished enclosure, but its mid-forward character has its own particular charm. **HFC**

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#### BRYSTON BCD-1 £2,050

Could sound a little more 'open', but demonstrates superior dynamic grip and fine timing

#### REGA SATURN £1,298

Top-end sweetness and transparency are its greatest strength, but the Saturn delivers a stunning performance.

## HINTS AND TIPS

➤ Floor-coupling spikes should have tight lock-nuts, but don't over-tighten these or you'll strip the socket threads

➤ Finding the right place to put the loudspeakers acoustically is very important. Do take time and trouble experimenting.

➤ Moving a speaker from a free space location to close to a wall will substantially boost the mid-bass

➤ Expect speakers to improve steadily over the first 100 hours or so.

➤ Use decent cables, if you want your system to perform at its best

## LOUDSPEAKERS AT A GLANCE



MAKE	Audioplan Kontrapunkt IVB	Cabasse Egea 3	DeVore Gibbon 3XL	Magneplanar Magneplanar MG1.6	PMC FB1i	Revolver Screen 3
PRICE	£2,898	£2,700	£2,995	£2,500	£2,100	£2,799
SOUND	★★★★★	★★★★☆	★★★★☆	★★★★★	★★★★★	★★★★☆
PRACTICALITY	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★★
BUILD	★★★★★	★★★★★	★★★★★	★★★★☆	★★★★★	★★★★★
VALUE	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★★★	★★★★☆
OVERALL	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★★★	★★★★☆
CONCLUSION	Superb imaging and fine, open neutrality and clarity, though bass is inevitably limited	Solid, warm, rich and full-blooded sound, but also a bit dull and lacks a certain smoothness	Fine coherence and some dynamic expression but very mid-oriented with a dull top end	Not pretty, but panel approach is wonderfully free from boxiness; neutral but sometimes untidy	A fine all round performer, with good deep bass, a little boxiness and a sweet top end	Hang-on-wall design has heavy and movie-oriented sound, but fine voicing and low coloration
<b>KEY FEATURES</b>						
SIZE (WxHxD)	16x35x26	28x111x41	18.5x39x27.5	48x165x5	20x100x30	50x140x11
DRIVER CONFIG	2-way	3-way	2-way	2-way	2-way	3-way
MAIN DRIVER SIZE(S)	1x100mm	2x170+1x120mm	1x130mm	1x2850cm <sup>2</sup>	1x170mm	1x240+2x165mm
STAND/ FLOOR	Stand (integral)	Floor	Stand	Floor	Floor	Wall
CABINET FINISH	Paint or real wood veneer	Real wood veneer or gloss black	Real wood veneer	Various fabrics	Real wood veneer	Gloss black
BI-WIRE	Yes	No	No	Yes	Yes	Yes
<b>LAB CONCLUSIONS</b> E = EXCELLENT • G = GOOD • A = AVERAGE • P = POOR						
SENSITIVITY	86dB <b>A-</b>	91dB <b>G</b>	88dB <b>A</b>	83dB <b>P</b>	87dB <b>A</b>	89dB <b>A</b>
EST. BASS EXTENSION	45Hz <b>P</b>	22Hz <b>G</b>	40Hz <b>P</b>	43Hz <b>P</b>	20Hz <b>G</b>	35Hz <b>A</b>
IMPEDANCE (NOM/ MIN)	8/5.5ohms <b>G</b>	6/4ohms <b>A</b>	8/6ohms <b>G</b>	6/4ohms <b>A</b>	8/6ohms <b>G</b>	5/3.3ohms <b>A</b>
FREQUENCY BALANCE	-30% <b>P</b>	+15% <b>G</b>	-20% <b>P</b>	-40% <b>P</b>	+15% <b>G</b>	+10% <b>A</b>
RESPONSE SMOOTHNESS	+25% <b>G</b>	-20% <b>G</b>	-30% <b>P</b>	+30% <b>G</b>	+10% <b>A</b>	+10% <b>P</b>

# Round-up

Four sets of the latest high-quality speaker cables go head-to-head

It's long since ceased to be news that cables make a difference to how a hi-fi system can sound. Yet some listeners rate cables as absolutely critical, others as snake oil. We prefer to take a balanced view: they

are worth taking some trouble over, but maybe not remortgaging the house for. In this group we examine four mid-priced cables which could sensibly grace a system in the low thousands of pounds.

## The Chord Co. Rumour 2

**TYPE** Loudspeaker cables

**PRICE** £142 (3m terminated pair)

**CONTACT** ☎ 01980 625700 @ www.chord.co.uk

Long-standing manufacturer The Chord Company, describes the Rumour 2 as its first loudspeaker cable. We've never had a problem with the 'Not broken-don't fix it' school of thought, though and the basic recipe is simple, but well-known and effective in many guises. This is, in fact, a simple twisted pair of conductors, each one made up of several strands of silver-plated copper and insulated with Teflon. In the case of Rumour 2, after twisting together, the conductors are further sheathed in a soft silicone-rubber compound, which gives the cable a round profile and a diameter of some six millimetres. It is usefully flexible and easy to terminate (the review pair came with simple, but good-quality four millimetre plugs fitted), but it is available off the reel if you prefer (£22 per metre). There's also an installation version that lacks the rubber sheath and a bi-wire version with four conductors. Resistance is moderate and capacitance is low, which should ease compatibility issues.

### VERDICT

Not a complete all rounder but a cable that is easy to like, with good rhythm and timing. Detail and tonality are good, too.



While we wouldn't call this the most extended-sounding cable we've ever heard in the deep bass, it has a very strong sense of rhythmic drive in the lower midrange and upper bass, which makes it a fine choice for anyone who likes their music energetic. There's also a good sense of control. Midrange is mostly neutral and we thought we heard a little coloration now and then on female vocals, which seemed to have just a touch more presence than we are used to. High treble is clear and extended, with natural decay on transients and imaging is precise and moderately deep. **HFC**



## Kimber 4VS

**TYPE** Loudspeaker cables

**PRICE** £155 (2.5m terminated pair)

**CONTACT** ☎ 0845 345 1550 @ www.kimber.com

Like The Chord Company, Kimber has been around a while – in audio cable terms – and its designs are all grounded in the same woven construction. This imparts various properties, including lower inductance (and hence higher capacitance) than most speaker cables, though it's still less extreme in these regards than Townshend's flat cables, for instance. There's also good rejection of interference and good handling properties, plus excellent reliability. Differences between the models are down to numbers of conductors, materials used, their purity and the size of the individual strands in each conductor.

This is the cheapest Kimber cable to employ 'Vari-Strand' construction, in which each of the seven strands in a conductor is of a slightly different size. Kimber's justification for this is that it spreads the 'skin effect', making the overall properties of the conductors less dependent on frequency. The conductors are described as 'ultra-pure copper' and the insulation is polythene.

We've found quite consistent results across the Kimber range over the years and this cable seems to us to continue the theme of very good bass extension, allied with a neutral and unforced balance.

### VERDICT

The effortless balance may strike some as sounding too free and easy, but in the right system this cable is a good choice.



As a result, the overall sound is quite relaxed and may in some circumstances seem shy on the timing front, but our experience is that this cable will pass a coherently timed recording intact. It won't, however, do anything to tighten up a loose or imprecise recording and it isn't necessarily the grippiest cable with enthusiastic loudspeakers. In other words, don't look to it for a quick fix to a slack system. With well-balanced speakers and amps, however, it gives results which are both convincing and beguiling. **HFC**

**BEST BUY**

**HI-FI CHOICE**  
magazine





# Merlin C12 Mk 2

**TYPE** Loudspeaker cables

**PRICE** £190 (3m terminated pair)

**CONTACT** ☎ 0870 321 0215 🌐 www.merlincables.com

**C**ompared with the other brands in this *Round-up*, Merlin is something of a newcomer, but its range of handmade cables is both broad and deep and we've had some good results from the company in the past. This particular model is not quite what it may appear and is, in fact, quite a complex construction. The leadout tails do not simply lead one to each of the large (ten-millimetre) cores in the pair, but instead connect to half of the solid-core conductors in each large core. In effect, it seems the overall construction is what's technically called a 'Litz': an assembly of multiple, individually insulated conductors which are twisted together. This gives the cable an unusually high capacitance, something that on the odd occasion can upset amplifiers. It also lowers inductance proportionally, which in principle gives a flatter frequency response, by minute fractions of a percent, than most normal cable constructions. Passive noise absorbers are fitted near one end of each cable.

We found the sound of this cable quite clearly differentiated from

## VERDICT

Different, in a constructive way, from the run of the mill and certainly worth considering if considerations of bass quality appeal.



the others in the group. Its most obvious feature is the magnificently extended, but rather 'dark' bass, which not only has reach but also very good control. On first listening, this can seem a bit too much of a good thing, but we definitely took to it and after only a few minutes' listening found it highly convincing in a range of recordings. Treble is also extended and midrange seems neutral, but at times just a little dry, with rather less convincing imaging than the Kimber, for instance. **HFC**



# QED XT400

**TYPE** Loudspeaker cables

**PRICE** £167 (3m terminated pair)

**CONTACT** ☎ 01279 501111 🌐 www.qed.co.uk

**T**he XT 400 is a simple figure-8 construction – two insulated, stranded conductors laid side by side and joined by a web of insulation, except that the conductors are effectively hollow tubes made up of woven-copper strands. In principle, this should give a slightly more even frequency response than conductors that are copper all the way to the centre, as the significance of skin-effect will be less. But in this particular design, normal inductance will swamp skin-effect at audio frequencies. Despite the relatively close spacing of the conductors, this is quite a high-inductance cable, but the upside of that is low-capacitance that aids amplifier stability. Resistance is particularly low as there's a lot of copper in each of the conductors. Our review sample was terminated with QED's own 'AirLoc' plugs, which are cold-welded to the wire, arguably the best way to do it.

We found that the best aspect of this cable's sound is the midrange, which is neutral and detailed. There's a real sense of stability and if image depth isn't always quite as definite, it is still good. The bass is a shade on the dry side, with good detail and attack, but a lack of some of the rounded-quality that we found with the Kimber and Merlin cables. On the other hand, with slightly bassy

## VERDICT

Timing is good, but the frequency extremes seem a little less assured than some cables can offer. Plenty of detail and good imaging.



speakers the dryness is far from unpleasant and does nothing to undermine the fine pacing that this cable invariably provides. Treble is extended, but again can be just a little dry now and then. **HFC**

*Richard Black*



**I**n describing the performance of cables such as these, the implied reference would be the sort of thing many dealers will give away with a complete system purchase, some basic figure-8 cable costing a quid or so per metre. In such company, any of these four will give a very noticeable leg-up to the overall performance, with better frequency

extension at both ends, greater resolution of detail and more distinct imaging. Each has its own character, though. We've rated the Kimber highest as it seems to us the most confident all-round, but the bass of the Merlin and the timing of the QED and The Chord Company are also worthy of praise.

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Jason Kennedy - HiFi+ : Issue 65 (June 09)

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Leema Acoustic's founding partners, Lee Taylor and Mallory Nicholls, originally established the company in 1998 to create a cutting-edge micro monitor for the professional market, but their product range has since expanded into the world of domestic audio equipment. Consistently well reviewed, their CD players, amplifiers, speakers and phono stage have gained a solid reputation for quality sound and build, gaining no less than three *Hi-Fi Choice* Best Buy and two *Hi-Fi Choice* Editor's Choice tags in these very pages.

One award winner is the excellent Pulse integrated amp. In *HFC 327's Ultimate Group Test*, this 80-watt design wowed our panel with its solid build and life-like sound, as well as a fast, clear bottom-end with real extension that underpinned a crisp, transparent midrange and treble. A genuine bonus for vinylphiles is the MM/MC phono stage included as standard, which punches well above the average at the price.

For your chance to win this class-leading amplifier please answer the following question:

### QUESTION

**What is the Pulse's power output?**

**A: 250 watts B: 80 watts C: 693mW**

### HOW TO ENTER

For your chance to win the Leema Pulse, text LEEMA A, B or C to 87474 or visit [www.futurecomps.co.uk/leema](http://www.futurecomps.co.uk/leema) and follow the instructions, leaving your selected answer and details where prompted.



### Terms and conditions

To enter the Leema competition, you can either (a) text your answer to 87474 at any time between 7 January 2010 and 3 February, 2010, or (b) enter online at [www.futurecomps.co.uk/leema](http://www.futurecomps.co.uk/leema) with your entry being received between 7 January 2010, and 3 February 2010. By sending your entry you agree to these competition rules and you confirm you are happy to receive details of future offers and promotions from Future Publishing Limited and carefully selected third parties. If you do not want to receive information relating to future offers and promotions, please include the word STOP at the end of your text message or at the end of your postal entry. Texts will be charged at £1.00 plus your standard network tariff rate.

By taking part in a Competition, you agree to be bound by the Competition Rules, which are summarised below but can be viewed in full at [www.futurenet.com/futureonline/competitionrules.asp](http://www.futurenet.com/futureonline/competitionrules.asp). Late or incomplete entries will be disqualified. Proof of posting (if relevant) shall not be deemed proof of delivery. Entries must be submitted by an individual (not via any agency or similar) and, unless otherwise stated, are limited to one per household. The Company reserves the right in its sole discretion to substitute any prize with cash or a prize of comparable value. Unless otherwise stated, the Competition is open to all GB residents of 18 years and over, except employees of Future Publishing and any party involved in the competition or their households.

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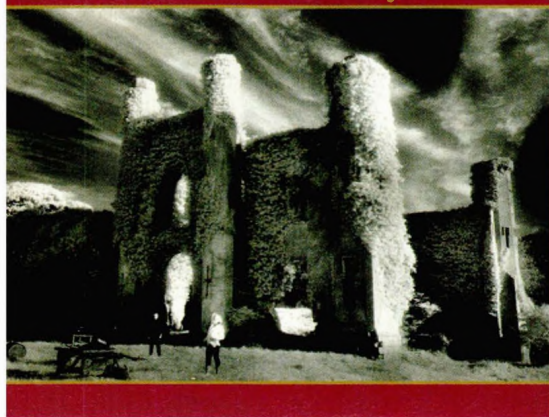
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# ChoiceCuts

New music reviewed and rated by our experts

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

U2 *The Unforgettable Fire*



**U2**  
**The Unforgettable Fire**  
Island

*"I'd seldom met a group of people so fierce in their belief in their own music. They wanted to build from their strengths and limitations"— Brian Eno."*

Words by **Mark Prendergast**

## Classic Album

*An evocative setting, a top-class record producer and a band who thrived on innovation proved to be a classic combination*

At the time everybody was against the idea! Chris Blackwell, head of Island Records thought bringing Brian Eno in to produce U2 was commercial suicide. But after months of badgering phone calls from Bono, Eno agreed to come over to Ireland to record U2 in Slane Castle, County Meath. Eno attached one proviso to the deal, that he could bring Canadian engineer Daniel Lanois with him in case anything went wrong.

When Eno arrived in the summer of 1984, he was immediately impressed by U2: "I'd seldom met a group of people so fierce in their belief in their own music. Something about their honesty as people attracted me. They wanted to build from their strengths and limitations." And Lanois got immediately down to the problem of recording a band in such strange circumstances: "We brought with us a very humble portable 24-track recording set-up from New York. It was all in flight-cases with wheels and really good for getting on with what you were recording quickly. In that huge castle it was really important to capture a feeling rather than have the very best gear available."

A painstaking two months were spent in the castle experimenting. "The ballroom with its big windows and chandeliers was great for 'splashy-sounding' tracks, but no good for songs which required punch, so we used the library for most of the sessions," remembers Lanois, "We were able to get a denser sound and at times we had the Edge's guitar outside on this balcony which produced a really great atmosphere."

Lanois also concentrated on Mullen's drum sound, "a strong hi-hat technique with a timbali to the left and a tom-tom to the right". Lanois agrees that Eno's presence during the castle sessions heightened the experimental mood. *Elvis Presley & America* is basically *A Sort Of Homecoming* slowed-down to what Lanois calls "a rubbery drum track".

The title track came from a piece of piano music Edge had written as film music, put

through a synthesizer and drum machine. Heard by Mullen and Clayton, it was then worked up to a song, but with Bono adding and subtracting lyrics as he went along. Edge then scrapped trying to play chords or single notes and went for an open harmonic approach, as the guitar washes over the rhythmic sound of this extremely plaintive elegy to the survivors of Hiroshima and Nagasaki.

But for Lanois the icing on the cake was the Martin Luther King tribute *Pride (In The Name Of Love)*. "Eno may have heightened the experimental mood but *Pride* was by far the strongest track of the sessions, even though we had to re-cut it in Windmill Lane." As a single, it would go to number three in the UK charts in September 1984.

On its October release *The Unforgettable Fire* album went straight to number one. The album also paved the way for US domination (proving U2 instinctively right on the money with their choice of Eno/Lanois) as *Pride* was their first big US single hit, while the album went into the Top 20 on the Billboard chart.

And then there was *Bad*, an anti-heroin song that seemed like filler on the album, but then blossomed as a live show-stopper during the subsequent world tour. By the time U2 arrived at Wembley Stadium for *Live Aid* in July 1985, the song had become the centrepiece of their show. A slow-building tempo to one of Edge's most memorable combinations of strummed and delayed piercing guitar notes, at *Live Aid*, *Bad* became a legendary performance that hoisted U2 onto the world stage which they still dominate.

*The Unforgettable Fire* has recently been digitally remastered and comes in various formats, including a deluxe box-set with out-takes, copious DVD footage, a 56-page book and photo-shoots. **HFC**



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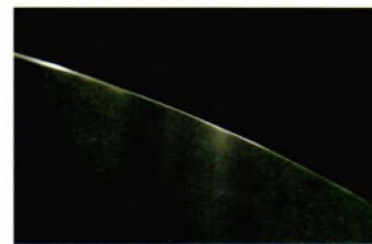
[www.kraftwerk.com](http://www.kraftwerk.com)

**Music:** Recorded at Kling Klang, but mixed in sunny Los Angeles, *TEE* began as an homage to Bowie's *Station To Station*, but morphed into the most concise electronic ode to modernity ever recorded. The mesmerising sequencer effects on *Hall Of Mirrors* shimmer like a whisper from the future and set the tone for a meisterwerk that has often been emulated, but never been bettered.

**Sound:** The out-of-this-world sound comes from Ralf Hütter's complete upgrade of the Kling Klang studio in Dusseldorf. Not only does it sound like a newly scrubbed masterpiece, but the tinniness of the synthesizer sounds of old is gone and we can now hear the fatness of the low frequencies and the richness of the highs. It's nothing short of a revelation. **MP**



ryuichi sakamoto



playing  
the  
piano

## RYUICHI SAKAMOTO

Playing The Piano

Decca

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

**Music:** Best known for his film soundtracks and pioneering work in electronica, the one-time Yellow Magic Orchestra boffin is also one mean ivory-tickler. This album of solo piano works relies heavily on some of his most famous soundtrack compositions (*Merry Christmas Mr Lawrence*, *The Last Emperor*), but also has surprisingly successful reinterpretations of some of his electronic works and a few Debussy-esque piano compositions. His melodies benefit from the solo piano treatment and they retain their power even in this setting.

**Sound:** Recorded at New York's renowned Right Track Recording studios, there is plenty of space around the full-bodied sound of the piano and Sakamoto's generally delicate and light touch at the keys is beautifully and powerfully conveyed. **DO**



## RICKIE LEE JONES

Balm In Gilead

Fantasy Records

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

**Music:** Since her world-wide hit with 1979's *Chuck E's In Love*, Rickie Lee Jones has ploughed a peculiar furrow, lending her elastically expressive voice to Tin Pan Alley covers, experiments with electronica and a one-take demo album about Jesus. For lovers of stirring melodies, heartfelt lyrics and unique voices, however, she has remained an iconic figure. This largely acoustic album sees her return to songs from over 20 years ago, which she never quite got around to finishing and brings a lifetime's experience to bear on them.

**Sound:** That iconic voice is a little cracked, but its power is undiminished and the largely acoustic treatment of the songs sound like they could have been minted yesterday. **DO**



## NEHARÓT

Kim Kashkashian (viola), Münchener  
Kammerorchester

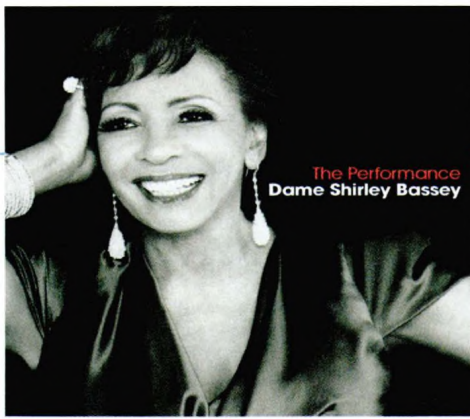
ECM

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

**Music:** The short works on this disc come from two Israeli composers (the title is Hebrew for 'rivers of tears'), Betty Olivero and Eitan Steinberg, plus Tigran Mansurian from Beirut. The music is chamber scale, but has surprisingly rich and varied orchestration, with two voices on tape included in the Mansurian and an accordion and percussion in the Olivero.

**Sound:** With music as profoundly unfamiliar as these four pieces, it is not easy to make quick judgments about the performances. They certainly don't qualify as easy listening, but I found them totally gripping and a powerful commentary on the conflicts in the region. **AG**





## SHIRLEY BASSEY

The Performance  
Polydor

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

**Music:** Dame Shirley may be a national treasure, but that really doesn't mean she should be making a record as superb as this one at her age (she's 73). The many standouts include The Pet Shop Boys' grandstanding title track, Richard Hawley's deeply sad *After The Rain* and Gary Barlow's (no, really) Barry meets Barry (as in Manilow and John) showboating of *This Time*. It's all classic Bassey, but there's a consistent strain of melancholy throughout the album that makes these diamonds just rough enough.

**Sound:** Big production values all round, but the strings and horns don't sound too polished, but admirably serve their purpose of framing the lady's famously powerful instrument. **DO**



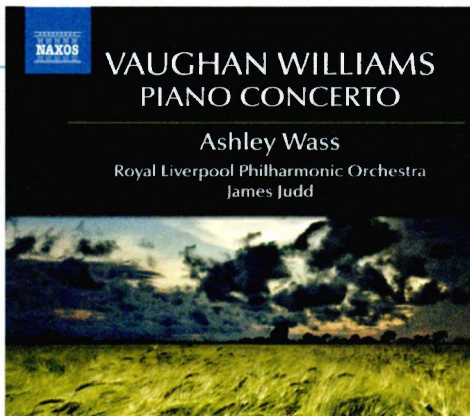
## EVERYBODY WAS IN THE FRENCH RESISTANCE... NOW!

Fixin' The Charts Vol1  
Cooking Vinyl

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

**Music:** Here's one of those ideas so clever you wonder why nobody thought of it before. This UK/US duo (Eddie Argos from Art Brut and Dyan Vades) have taken a dozen well-known pop standards and written 'response' songs. Hence Sinatra's chestnut provokes *My Way* (Is Not Always The Best Way) and Dylan's tenderest love song becomes *Think Twice* (It's Not Alright). Songs by Michael Jackson, Simon and Garfunkel, Kanye West and others get similar treatment with witty replies that avoid archness and affectation.

**Sound:** The 'responses' sound nothing like the songs that provoked them and the rough and ready-sounding, piano-led art rock subverts the originals as cleverly as their lyrics. **NW**



## VAUGHAN WILLIAMS

Ashley Wass (piano) Royal Liverpool Phil.  
Naxos

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

**Music:** Quintessentially English fare like *The Wasps* and the *English Folk Song Suite* mix it with the less familiar *Piano Concerto* to make what sounds like a wholly natural programme. The *English Folk Songs* are idiomatic and completely of a piece with the other orchestral parts of the programme, but it is the sublime *Piano Concerto* that steals the scene here and elevates this collection from the worthy, but mundane to something special.

**Sound:** The Liverpool Philharmonic sound is as comfortably at ease as they have been in other recent recordings, though there are moments, where the playing seems just a little too easy and relaxed and where a little more electricity would have helped. **AG**



## ANGELIQUE KIDJO

Oyo  
Proper

[www.proper-records.co.uk](http://www.proper-records.co.uk)

**Music:** Since the death of Miriam Makeba, the Benin-born, New York-based Kidjo seems best placed to assume her mantle as 'Mama Africa'. Like Makeba she makes a kind of international pop that touches all bases without ever losing the beat of Africa. Her ninth album neatly illustrates her many virtues, as she gives a thrilling African twist to classics associated with Curtis Mayfield, James Brown, Otis Redding and Carlos Santana, as well as lending a global accessibility to a clutch of traditional African songs.

**Sound:** The production treads a tightrope between Manhattan smoothness and African earthiness, but ultimately, it's Kidjo's soulful voice that reigns supreme in either context. **NW**





## JETHRO TULL

*Aqualung*

Chrysalis/Classic Records 200g  
www.classicrecords.com

**Music:** With 1971's *Aqualung*, the Tull perfected their blend of English folk and rock and put themselves squarely on the thriving prog map of the era. The combination of great storytelling, strong composition and virtuosity makes for top-flight entertainment. That and a title track about a tramp!

**Sound:** This pressing is on Classic's SV-P II Clarity vinyl and spins at 45rpm, luxuries which give imaging greater solidity and make for a more dynamic and open version of events. It's quite a transformation even compared to the company's standard Quix black vinyl. *JK*



## BUDDY GUY

The Blues Giant

Isabel/Pure Pleasure 180g  
www.purepleasurerecords.com

**Music:** Made in 1979, after he split with Junior Wells, the Chicago bluesman's on scorching form here. The six songs are longer than average and give Guy the chance to show off his razor-sharp licks alongside a more soulful side, with a voice that must have inspired Robert Plant. *When I Left Home* has great subtlety alongside highly inventive guitar. Good to know that Guy is finally getting the recognition he deserves.

**Sound:** Cut in Toulouse, this is an open and dynamic recording that has no shortage of power and life, thanks to its wide dynamic range. *JK*



## HIGH-QUALITY AUDIO

### DAN & THE ELECTROS

It's Never Too Late

SACD (stereo/multichannel hybrid disc)

Opus3

www.opus3records.com

**Music:** This is a homage to the instrumental groups of the fifties and sixties that inspired Bert 'East' Östland in his youth and it has been done with remarkable skill and care. All 20 tunes are originals, but they sound very much like the work of The Shadows, Tornadoes and Johnny & The Hurricanes, thanks to the use of authentic instruments and microphones from the period. The result is great fun – admittedly cheesy at times – but with a big-beat vibe that is highly entertaining, even if you're not a fan of the bands that provided the inspiration.

**Sound:** The combination of vintage instruments, with ribbon and valve microphones and Opus3's skills at DSD recording makes for a rich and sonorous result that is warm, detailed and has stacks of energy. *JK*



### MAURICIO KAGEL/ TRISTRAN KEURIS

String Quartets 4 and 1

Lagos Ensemble

SACD (stereo/multichannel hybrid disc)

Turtle Records

www.turtlerecords.com

**Music:** These two works for string quartet are distinctly modern in style. There are Bartok-like folk song allusions in the writing, though they probably wouldn't have been possible without the prior existence of the *avant-garde*. The circular construction of the Keuris is said to echo one of Escher's never-ending staircases

and while it's not exactly easy listening, it's never less than fascinating

**Sound:** This superb and technically innovative recording was engineered by Bert van der Wolf and is intended for replay using five identical full-bandwidth speakers and a subwoofer. The result is a surprisingly warm, yet dynamic sound, which perfectly complements the impressive technical qualities of the recording. *AG*



### JIMMY COBB QUARTET

Jazz In The Key Of Blue

SACD (stereo/multichannel hybrid disc)

Chesky

www.chesky.com

**Music:** The *Kind Of Blue* drummer's latest recording sees him hook up with trumpet sensation Roy Hargrove, young guitarist and Wes Montgomery disciple Russell Malone and bassist John Webber on a series of melancholic standards that echo the mood, if not necessarily the style of his earlier triumph.

Cobb is on brushes for all of these ballads and gently augments a session dominated by Hargrove's gorgeously controlled trumpet and flugelhorn.

**Sound:** Chesky keeps to its one-mic, no-compressors philosophy and once again it has come up trumps with a beautifully intimate small combo recording, mastered in 5.1 for SACD, then converted to stereo for the CD version. *DO*





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ALSO AVAILABLE 47PFL7404 LCD TV

### Samsung 6000 • 7000 • 8000 Series

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### Panasonic VIERA TX-L37S10

Award-winning 37" LCD TV. Other screen sizes and ranges available including Plasma, FreeSat and WirelessHD models. ALSO AVAILABLE TX-P42G10 Plasma TV

## DLP PROJECTORS

### Sim2 Domino D60

Designed to bring outstanding quality to a budget-conscious home cinema enthusiast. The projector features full HD (1920 x 1080) resolution and a 10000:1 contrast ratio.



### Optoma HD20 • HD82

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

## BLU-RAY DISC PLAYERS

### Panasonic DMP-BD60 & 80

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

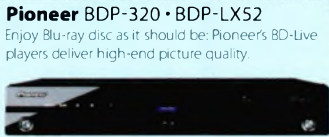


### Denon DVD-2500BT BLU-RAY TRANSPORT

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### Denon AVR-1910

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



### Yamaha

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



### Sony STR-DA5400ES • STR-DH800

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



### Onkyo

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



### Denon AVR-2310

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### Pioneer SC-LX82

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## HI-FI SEPARATES

### Pro-Ject Genie MKIII

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



### Arcam FMJ Series

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### Leema Antila II CD Player & Tucana II Amplifier

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### Cyrus

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



The award-winning 'Servo Evolution' CD players - CD6 SE, CD8 SE & CDX1 SE/DAC X



### Roksan Kandy K2

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



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Dali complements its range with the Lektor 2. Only slightly larger than the award-winning Lektor 1, this new model represents outstanding value.

**ALSO AVAILABLE Fazon A/V Speaker Package**

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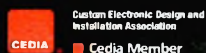
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# Choice mail

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## 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: [HiFiChoice@futurenet.com](mailto:HiFiChoice@futurenet.com)

### Lip-synching

In the December issue of *Hi-Fi Choice*, Paul Messenger asks if there is a combined DAC/digital audio delay box with TOSlink available. I have never seen a single box that does both DAC and audio delay, but there is (since I have one) a digital audio delay box with TOSlink and co-ax inputs; it's a Felston DD740 available from Keene electronics.

This device comes with a remote control to adjust the delay and there are presets available on each of the four inputs (two TOSlink and two co-ax), and a TOSlink and co-ax output. My PS3 provides Blu-ray via HDMI into a 50-inch plasma TV, whose TOSlink audio out goes into the Felston box. From there, it heads to my Wadia 861, then Muse 300 monoblocs and Epos 30 speakers. I find a delay of around 70ms is about right. The added benefit of this unit is that it expands the number of digital audio units which can be played via my Wadia, which has only one each of the TOSlink and co-ax digital audio inputs.

If a DAC is needed, I would suggest adding one of the many separate DAC units available.

**David Lodge** Surrey

### Lip-synching 2

Paul Messenger describes troubles with lip-sync upon using his Sky+ box with a plasma

**“I could not have imagined two designs with more schizophrenic virtues and limitations than the Klipschorn and Quad 57 (speakers).”**



screen. The Sky HD box, fortunately, has the ability to dial-in a delay on the digital output in 20ms increments. After much tinkering, I've found a delay of 120ms seems to fix the lip-sync problems when I watch Sky HD on my Samsung LCD screen, with the sound via a Sony receiver.

I'm not sure if the Sky+ or normal Sky boxes have the facility to do this, but it's clearly a well-documented issue. I don't seem to experience problems when watching Sky HD, using the TV's built-in sound via HDMI (apart from distress at the awful sound). I've not tried watching Sky HD using the TV's optical output (presumably derived from the HDMI input)

connected to the receiver, though I'll have to try it now that I've thought of it...

**Jamie Atkinson** via email

**HFC Paul Messenger replies:** Thanks very much for the tip, guys. I've been in touch with Keene Electronics and a Felston DD740 is on its way for me to try. Assuming it does what it says on the tin, this should be exactly what I'm looking for, so I expect I'll end up sending back a cheque rather than returning the unit.

The only real question left to answer is whether (or to what extent) inserting the DD740 in the chain will affect the sound

## LETTER OF THE MONTH

### Inspect da gadget

I am thinking of selling my beloved Shure V15-VxMR cartridge, but I don't really know how many hours it has on it, since I've not used it much since I replaced the stylus a few years back. I'm considering having it inspected prior to putting it on a well-known auction site, as long as said inspection isn't pricey. The cartridge sounds fine (I tested it a couple of days ago), but I'd like to know for sure that the tip and suspension are fine.

**biotracer** via email

**HFC Expert Stylus (01372 276604)** offer a cartridge inspection service for both

moving-magnet and moving-coil types. As technical consultants for Shure, and providers of styli for a number of cartridge manufacturers, Expert are accustomed to dealing with insurance claims too. A visual and physical check of an MM consists of checking suspension, cantilever and tip and costs £10.

For an MC, the process is rather more involved, as inspection of the coils necessitates removal of the cartridge body, which takes the cost up to £30.

In both cases, VAT and the cost of return Special Delivery postage are included.

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quality from the Sky+ optical output via the Cambridge Audio DAC to the hi-fi system?

I notice the DD740 has both Toslink and S/PDIF digital outputs, so finding a suitable DAC shouldn't be difficult. I've heard good reports for both the Musical Fidelity V-DAC and Cambridge DACMagic and either should provide satisfactory and inexpensive solutions.

### Speakerphrenia

I've just picked up the 2009 issue of *The Collection* and found Jimmy Hughes' 10 products article most interesting.

While I absolutely concur with his two speaker choices, I had to smile as I could not have imagined two designs with more schizophrenic virtues and limitations than the Klipschorn and Quad 57. One plays louder than hell, the other struggles on loud rock



and large orchestral sources. One must be placed in a corner against two walls, the other must be placed away from walls and then have its position fine-tuned.

They have few traits in common, though they are both enduringly impressive designs, are both still being manufactured and are both among the great products which make our hobby such fun for those of us who don't forget our past and heritage.

**Allen Edelstein** New Jersey, USA

**HFC** On reflection, it's strange how loudspeakers which are almost polar opposites in conception, construction and presentation can still be considered, perfectly reasonably, to be high-fidelity equipment.

That said, hi-fi's history holds a lot of valuable lessons in the form of gear which has stood the test of time for decades – the Thorens TD124 and Garrard 301/401 turntables, SME's older tonearms, some of Denon's classic cartridges, Quad valve amps, Roger's LS3/5a loudspeakers; the list is a long one! As the cliché goes, there's no point reinventing the wheel and some

**“... the (Naim) Uniti will only work reliably with a NAS drive, when the network consists of a single leg, instead of two.”**



vintage items are still capable of putting a few of their modern counterparts to shame.

### Huston, we have a problem

The reason for writing in is that I have recently bought a Naim Uniti from my local dealer and I'm struggling with it, as the Uniti seems not to be at home with two-leg wireless networking. With wi-fi from my laptop to router, then router to Uniti, dropouts have been a serious problem for me. The dealer I purchased it from also had a showroom model that had to be wired to work.

I found the usage instructions rather basic and was only sent a trouble-shooting guide by email. I would have thought it would have been in the box. I ended up employing the services of an IT professional and, together we tried many things, including changing laptop and router with no success. Still, the Uniti will only work reliably with a NAS drive, when the network consists of a single leg, instead of two. Despite this, one of the main requirements specified is that you have a UPnP server which can be contained within a laptop as well as a NAS drive. I cannot understand why, when more and more people are using laptops with large amounts of storage, that the user should be forced to use an external storage device to get it to work.

**David**, Norfolk

### HFC Steve Harris of Naim PR replies:

Thanks for offering me the opportunity to respond to David's query.

Networking is difficult for some, while wireless networking and achieving a good reliable throughput of data is difficult for most. A good proportion of wireless routers are just not capable of supporting music throughput twice i.e. PC/laptop to router, and router to Uniti. An example of this would be his dealer's problems, which were instantly solved by the purchase of a new and hence up-to-date wireless router. A £40 investment at a PC retailer solved his problems.

NAS drives are usually designed to be able to stream efficiently and are buffered accordingly; many laptops are not. We are sorry that David feels aggrieved, but would strongly suggest that 'two-leg' wireless networking may always be a recipe for unreliability. A small change in a next-door neighbour's network set-up, a microwave oven or indeed an arrival or a move of a fish tank could easily upset the status quo.

### Speaking out

One area where I think loudspeaker manufacturers could do a better job of educating their customers is running-in time.

I think the same goes for shop-based demos, as the speakers will almost always be thoroughly run-in. Some manufacturers even seem to recommend a break-in period of a couple of months!

**cone.netto** via email

**HFC** In our experience, most loudspeakers do indeed benefit from a break-in period. In fact, drive unit manufacturers often specify that drivers should be fed a test signal (like pink noise) for at least 24 hours before any measurement takes place.



One relatively quick method of getting speakers settled down is to place them face to face – wired out-of-phase – and play a mono signal through them for as long as is convenient.

With cabinet speakers, you can drape a duvet over the top to cut down on noise leakage, but bear in mind that your neighbours might not be too keen on this approach after the 9pm watershed.

# Ask Us

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

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**JON MARKS**

20 years an audiophile, and contributor to *HFC* for over four years, Jon has over a decade of reviewing experience and a passion for classic Japanese gear.



**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. He's also *HFC*'s 'Mr. Tweaker'.



**RICHARD BLACK**

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



**PAUL MESSENGER**

Former *Hi-Fi Choice* editor Paul is regarded as the UK's foremost expert on a wide variety of loudspeakers and is on hand to answer your speaker questions.



**ALVIN GOLD**

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



**JASON KENNEDY**

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

## Help me with my CD life

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

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

**Darren Lines** via email

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

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

## Let it rip!

I keep seeing in newspapers and magazines, advertisements for USB vinyl-archiving turntables which enable you to transfer your record collection direct to CD, MP3 and computer. Mostly, these devices seem to cost under £100 and I saw one from a well-known high street electronics chain for as little as £50. I wonder if any of your writers have ever tried out one of these machines? Surely they are cheap and nasty, and very lo-fi?

I am gradually converting some of my cherished favourite vinyl albums for replay on my iPod. This is a long-winded and time-consuming process in four stages, as follows:

- 1) Play the LPs on a Michell Gyro SE/RB300/Ortofon Rondo Red turntable, through an elderly Musical Fidelity X-LP phono stage and record them to the hard disc on a Yamaha CDR-HD1500 unit.
- 2) Rip to a CD using the Yamaha's Audio Master Quality Recording setting.
- 3) Import the CD into iTunes on my PC (which is in a different room) as Apple Lossless files.
- 4) Copy them to the iPod.

I mostly use the iPod for private listening via headphones, but I sometimes play the files back through my main hi-fi using the new Onkyo ND-S1 digital transport and the inbuilt DAC in the Yamaha. Through Living Voice Avatar speakers, bi-amped with Roksan Caspian integrated and power amps, this

produces to my – admittedly ageing – ears a sound that is virtually indistinguishable from the original vinyl album.

Please, please don't tell me I could have saved myself thousands of pounds and much fiddling and faffing about, by purchasing one of those fifty-quid monstrosities from a newspaper ad!

**Roy Stockdill** Hertfordshire

**HFC** I'm sure you won't be surprised to hear that £50 spent on what is a turntable, arm, cartridge, phono stage and ADC might get you convenience, but it definitely isn't going to buy you great sound. For what they cost, a few of these devices offer passable sound quality, but that really is it. At least they tend to be better than USB cassette decks, which often have cheap transports with very poor wow/flutter performance.

As *HFC*'s Ed Selley found in issue 328, the Onkyo is an excellent iPod dock, as it bypasses the iPod's onboard DAC and analogue output stages. The fact that well-ripped vinyl sounds good on your system is a testament to the quality of a decent set of equipment and the capabilities of a high-quality portable digital audio player. That said, for a simpler overall solution, see below and Sonneteer's Sedley USB phono stage.

## Moon landing

I recently bought Neat Motive 2 speakers and paired them with my 'modified' old NVA AP50 integrated amp (still love it after so many years



## A box for cans

A few months ago, I splashed out a massive £3 on a pair of old Audio Technica headphones. I've only just tried them out, as I haven't had much use for cans with a fixed jack. Using the built-in headphone stage on my integrated amp, I noticed that cranking up the volume also increased definition and solidity, which leaves me wondering if said headphone stage is up to the job with these headphones.

I clearly need an external headphone amp with an input for my laptop, which would presumably be hooked up to my amp, then back through the headphone amp to the headphones. Is there a headphone and DAC in one box which I can buy for less than £300?

hi-firama via email

**HFC** There are some rather impressive little boxes which would fit your requirements and budget perfectly, one of which is the iBassoD10 Cobra, which fired Richard Black's enthusiasm in *HFC* 326. There are three digital inputs;

optical and electrical S/PDIF and USB, the latter enabling easy connection direct to a laptop, if you prefer to keep your integrated amp out of the chain. If you choose the AD8656 opamp option, you won't be disappointed with the resultant sound.

An alternative is the Beresford Caiman, which also has a USB input, volume control and line-level output like the iBasso. It's also cheaper, though it lacks some of the D10's punch through its headphone stage and isn't quite on a par when used purely as a DAC.



sections of the phono stage and had been impressed by both, but lack of space prevented him from elaborating on the performance of the stage with the two types of cartridge.

As far as a comparison with the Basic goes, we'd suggest you stick with the Clearaudio for the time being. Although the NAD's phono stage is very good indeed by the standards of those fitted to an integrated, even a £1,000 one, a decent stand-alone alternative like the Clearaudio remains a better bet in this case. If you swap your current Benz for a lower-output cartridge at some point, useful upgrades to the Clearaudio would be either the Leema Elements (*HFC* 327) or the Primare R20 MkII (*HFC* 320), although ahead of both would be Sonneteer's Sedley, at £550 without USB, or £650 with.



that I just can't turn my ears to another integrated amp). I adore their musicality, but the problem I'm facing now is the lack of weight in the vocal and mid-lows.

I'm thinking of buying a good, but affordable (say around £750-1,200) CD player. My shortlist so far, includes the Naim 5i, Cambridge Audio Azur 840C and Moon CD-1. I've listened to the CD-1 paired with the Moon 1.5 and PMC speakers and the result sounds gorgeous. I haven't tried the other two yet.

Can you give me a suggestion as to which one of these three I should buy if I want an open, rich, musical and weighty sound? I'm not the kind of guy who's looking for a 'neutral equals boring' sound.

Alwyn D via email

**HFC** Naim and Neat components are often paired with good results, although the Salisbury firm's gear couldn't really be described as rich, though it is musical. While the Cambridge is a very accomplished player, for all its skills and an excellent measured performance, it never quite

completely won over our listening panel in the *Ultimate Group Test* in *HFC* 315.

We can't help but recommend the Moon CD-1; it's a great player with a musicality to match the Naim, but possesses greater richness allied to satisfying low-end clout.

## When Basic is best

Greetings from the colonies, gentlemen. I read with interest your review of the NAD 375BEE in *HFC* 325, as I am considering upgrading from my NAD 370 integrated. My system is a VPI HW19 Mk3 table, Rega 300 arm, Benz ACE low-output cartridge and a Clearaudio Basic phono preamp. Richard Black liked the phono section very much, but didn't say if it was an MM or MC that he listened to. As you can imagine, I'm somewhat confused as to whether I should get the phono section option and then sell my Clearaudio, or hang on to the latter.

RJW, Edmonton, Alberta

**HFC** A quick call to Richard clarified that he had of course tested both MM and MC

## System reboot

I've been a fan of *Hi-Fi Choice* since I was a foreign student at Kingston University and still buy your magazine every month, thanks to it being imported to Thailand.

I am looking for a hi-fi system to fit into the medium-size living room of our new house. The design is Bali-Modern, so it has a lot of glass sliding doors.

I mostly listen to jazz and vocals and also like to play my DVD through a two-channel amp, as I found the surround-sound system gives me a headache. I use my NAD M55 Master Series for music and to play DVDs to watch on my Sony 46-inch Bravia X-Series TV. I also have a Rega Apollo CD player as my secondary player and a NAD 355 integrated amplifier. I have van den Hul interconnects and Nordost Blue Heaven speaker cable. My speakers are Bowers and Wilkins 684 floorstanders, which are more than ten years old.

I am looking to upgrade my system and would really appreciate your help. I am thinking of an investment in a better speaker to start with. I am looking for a speaker with sweet treble, pinpoint stereo imaging, tight bass and an expressive midband, as I like to listen to vocals particularly. I don't normally listen at high-volume levels, except when watching DVDs and I like music that can sound relaxed so I can chill out rather

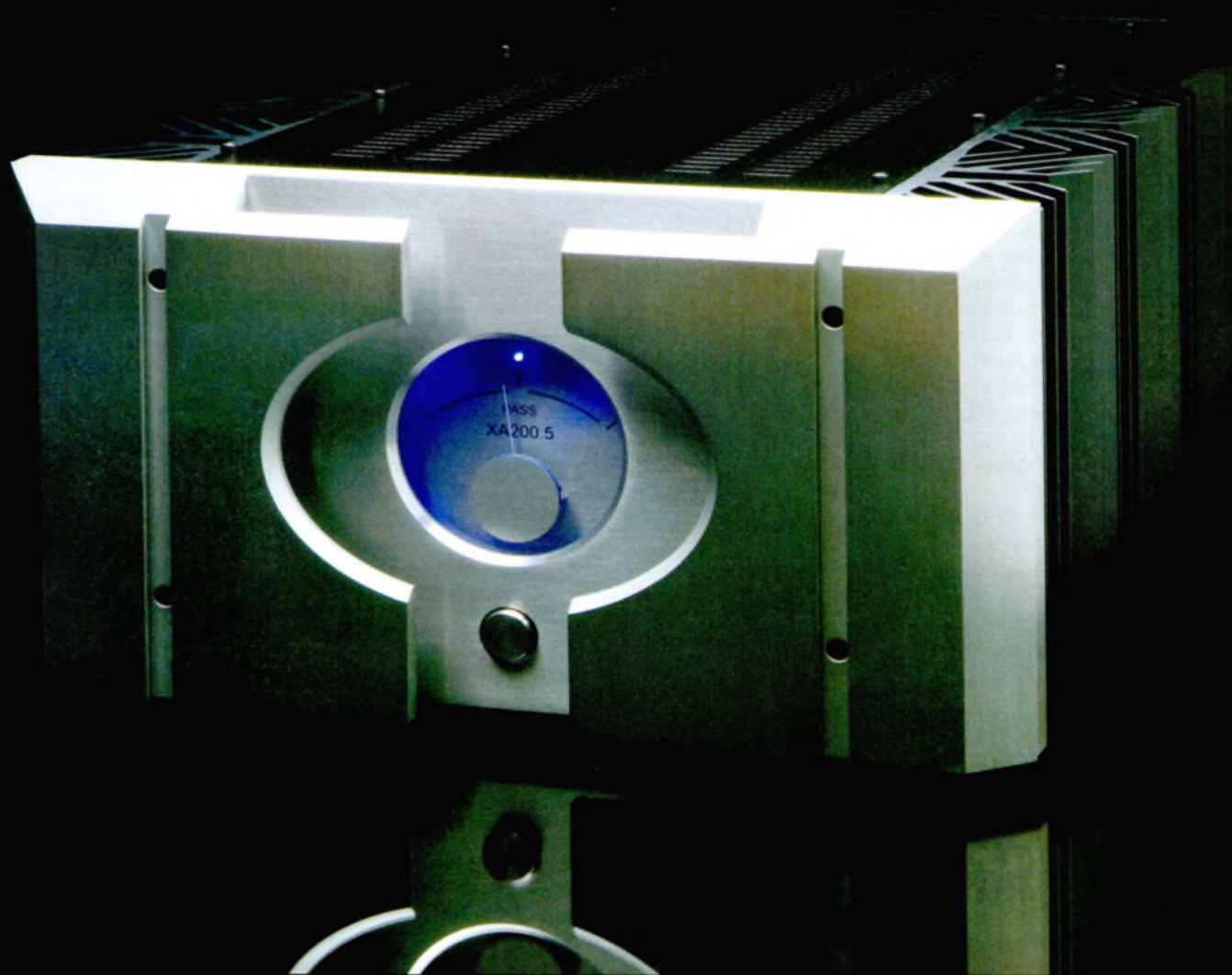


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than rocking the house. My budget for the speaker is between £2,000 and £3,000. I've already auditioned the Bowers and Wilkins 805S and liked their sweet sound. I've heard of Amphion too, but have never listened to any.

I'm also after a new amp to match the new speakers. I'm considering the likes of Primare, Naim, Copland, Plinius, Pathos, Moon and Sugden. I had a listen to the Krell S300i and thought that the sound was very exciting, but too harsh and tiring to listen to for a long time, although it produced a very wide, deep sound stage. I auditioned some of the McIntosh range, but disliked those for the same reasons. I was more tempted by the Primare i30, and would like to know if there's something with similar timing, but a mellower treble and better midrange. My budget for the amp is around £1,500 to £3,000.

If you find a CD player upgrade is also necessary, I would be grateful if you could make a couple of recommendations. I love the NAD for its transparency and treble, while for some music, I prefer the Rega as it sounds more analogue. I've been considering brands like Esoteric, Moon and PS Audio. I recently listened to PSA's latest player and it sounded great, with the analogue feel that I like. The budget is not set in stone and I'd be prepared to go a little further, if you think it necessary.

**Pepe Tan** via email

**HFC** The 805S would be a fine choice and if you fancy extending the bass, you could always add the matching ASW825 subwoofer at a later date. Also worth considering are the Audio Physic Sitara and PMC FB1i, as well as some of Opera's designs. The Gamut Phi5 floorstander offers a winning blend of dynamic range, detail, imaging precision and smoothness, but you may find the soundstaging a little limited and its price would be pushing your budget somewhat. On the other hand, while the Amphion Argon 3L fits more easily within your price bracket, its slightly excessive (though well controlled) bass could prove a handful and there's a hint of nasality to voices. Given the fact that there's quite a lot of reflective glass surfaces in your room, you'd certainly need a home demo before making a final loudspeaker selection.

Of the amps you mention, we'd go along with Primare, Plinius and Moon, as they possess all the characteristics you like. If you get the chance, try to add the Leema Antilla II to your shortlist, as it's a superb all-round performer, which has drive and dynamics without sounding brash or tiring, albeit at a cost slightly beyond £3,000.

In terms of CD players, the Moon CD3.3 turned in a fine performance in *HFC* 321, combining power and finesse in its delivery. Esoteric's X-05 has a more neutral balance with great resolution of detail. Whether it's sufficiently relaxed and sweet, you'd have to judge in your own system and it too is a way beyond the upper limit of your budget. Again, consider players from Leema Acoustics and Unison Research as well.

### Quadever next?

I've had plenty of use out of my eclectic system, which is built around Quad gear from the Seventies, along with a Linn LP12, Sony CDP-555ESD CD player and Ferrograph S1 loudspeakers. I'm now in the market for a new pair of loudspeakers. Although the Ferrographs have served me well for decades, they sound too laid-back and lack clarity when compared to more modern speakers. I have up to £1,000 to spend.

**Simon Trully** via email

**HFC** If you're not planning on any more upgrades, you would be well advised to arrange home demos of loudspeakers like the Roksan Kandy K2, whose superb ribbon tweeters have a beguiling speed and transparency. Otherwise, Tannoy's DC6 Revolution Signature has a sweet and delicate treble. If you'd like a little more low-frequency weight than the Kandy's mid/bass drivers can provide, Bowers and Wilkins's 684 have a smooth, refined midrange and admirable transparency, as well as being able to project a large soundstage. Mordaunt-Short's Mezzo 6 is well worth a look too, though a touch on the bright side compared to the Bowers and Wilkins.



## Standing tall

It goes without saying that synergy plays a major role when it comes to selecting a loudspeaker for your system, but handing over the reedies isn't the last stage in the process for many audiophiles. Making sure your new transducers are happily ensconced in the listening room isn't always a matter of minutes, as the listening room itself forms the largest component in any system.

Lack of bass control can, of course, be caused by backing a loudspeaker too far into a corner, especially if it has rear-firing ports. On the other hand, an old, fairly elastic suspended floor with a large cavity (not necessarily a basement) below it can cause havoc in the lowest couple of octaves. The cure can vary, from attempting major decoupling via some form of suspension (Townshend Audio stand) through to some more DIY approaches, including combinations of concrete or granite slabs atop halved squash balls, thick cork tiles or sorbothane discs.

At the other end of the flooring spectrum, laminate tongue and groove can cause problems, whether there's underfloor heating or not. With enough provocation and the use of spikes and/or cups, boards which have been loosely packed can buzz slightly against each other. Again, try a spot of decoupling and a rug or two over the boards. At least, a properly laid laminate floor, or one of solid concrete, isn't going to add much to the speakers' presentation in this manner, but it's always worth some cheap experimentation before you finalise your speaker support.

A room which lacks soft furnishings is more likely to suffer from problems with speaker interaction, than one which contains some carpeting and soft furnishing. A little judicious toe-in can reduce reflected treble to improve imaging and soundstaging, as well as treble smoothness. The same goes for keeping speakers away from rear and side walls, at least in most cases.

If you find that a plump sofa, carpet and wall hangings aren't cutting the mustard, you may be forced to consider room treatments of some kind. Bass traps are pretty intrusive unless you're able to hide them behind the curtains. Diffusers behind the listening position, or on the side walls, tend to be an eyesore, though they can be had in some quite attractive disguises these days.

A room analysis kit, such as XTZ's Room Analyzer priced at £155 is a wise buy ([www.advancedacoustics-uk.com](http://www.advancedacoustics-uk.com)). It greatly minimises the amount of trial and error repositioning required to get the room's acoustic behaviour under control.

# Made in Japan – The Power of Ten

*Jon Marks reckons Technics' diminutive SL-10 linear tracker is a genuine audiophile classic.*



The SL-15 was a later, programmable version of the SL-10. It's a very infrequent used find these days

There's a couple of acronyms in the world of hi-fi which sum up its place in the average home: 'WAF' and 'SWMBO'. The first, as many sufferers from the audio affliction will know, stands for Wife Approval Factor, the second for She Who Must Be Obeyed. While I've never heard of an audiophile having to sneak his 15th reel-to-reel past guard towers, searchlights and rabid Dobermans, stories of late-night arrivals with bulky objects hidden in the garage are common. Of course, in an ideal world, all stereo equipment would be a thing of beauty, worthy of inclusion in design museums everywhere. Thankfully, that's precisely what Technics' iconic (and patented) SL-10 is.

New York's Museum Of Modern Art is home to many aesthetically outstanding objects, amongst them the iconoclastic product of the brief drawn up by Shuichi Obata, head of the Matsushita turntable design group. When I recently spoke to Toshikazu Yosumi, head of the SL-10 design team (and now working as an electronics consultant in Tokyo), he told me the original memo included a beautiful brush drawing of the SL-10 by Obata himself.

The task of turning the concept into reality rested with Yosumi and fellow engineers, including: mechanical engineers Takayuki Sugihara and Takamichi Nakagawa (whom Yosumi regarded as a technical genius), and electronic engineers Tetsuo Maeda and Akira Onuma (a microcomputer software expert).

**“The SL-10 turntable is simple to use, like a cassette player and could easily be used by even women or children.”**

Over the courses of their careers, Obata and Yosumi accumulated numerous patents, not just in motor control and tonearm design, but early CD replay machinery, digital tape recording and optical disc technology. The goal of the SL-10 project wasn't, however, just to produce a pretty piece of hi-fi. Bang and Olufsen already had a long history of sleek, good-looking turntables, though most fell short when it came to sound quality. Instead, in the SL-10, the convenience of soft-touch

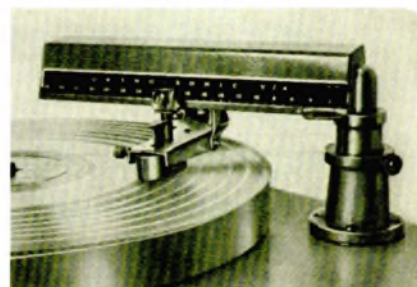
logic control, automation and eye-catching styling needed to be married to genuinely audiophile-grade replay. In other words, it was a bit of a tall order.

#### ARMED AND READY

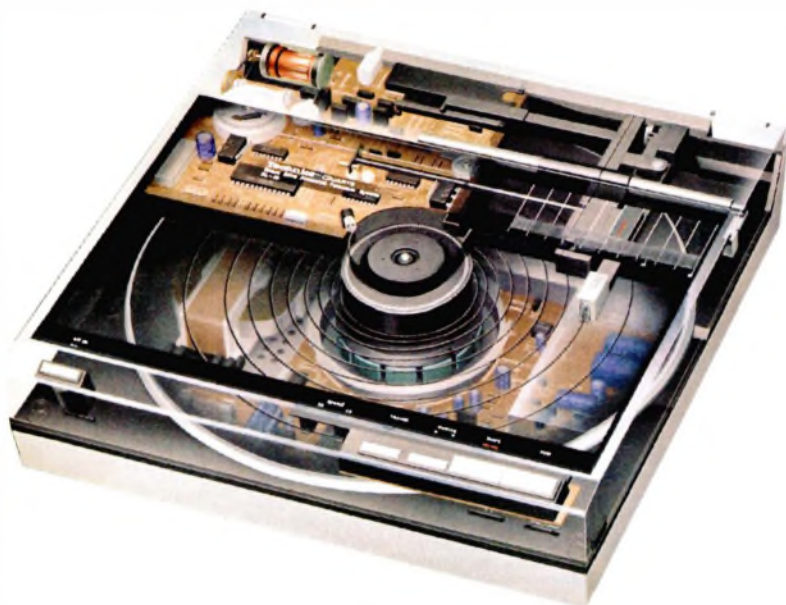
Fitting a standard pivoted arm into a footprint as small as the SL-10's would have led to unacceptably high levels of lateral tracking distortion because of the arm's limited length, so the solution had to be a linear tracker.

Technics' effort was not the first attempt to implement this form of arm design – Ortho-sonic had produced the V/4 linear tracker, whose carriage ran on ball races as early as the mid-1950s, and Burne-Jones had come up with a pivoted parallel tracker (similar to the one used in Garrard's Zero) about a decade later.

Technics, however, decided on a layout similar to that of Pierre Clement, whose ingenious 1968 creation used a pivoted arm fixed to a motor-driven carriage. The beam of light between a bulb and photo-transistor near the arm's base was interrupted by a paddle fixed to the arm tube when the arm began to pivot inwards towards the centre of the record. This in turn would set the motor spinning to move the arm carriage towards the platter bearing to correct the angular error and maintain tangentiality between arm and record groove. In truth, neither the Pierre Clement nor the



Ortho-sonic's V/4 parallel tracker from the 1950s



Considering their electronic and mechanical complexity, most SL-10s are exceptionally reliable devices

Technics arm is a true parallel tracker, as they both move in a series of very small arcs across the record, but they do keep lateral tracking error very low (less than +/-0.10 degrees in the Technics' case), and remove the need for bias.

Another core feature of the SL-10 was its high-grade direct-drive motor. The words 'Technics' and 'direct drive' are synonymous in most people's minds and, indeed the company produced the archetypal, modern DD motor in 1970's SP-10, but Thorens had actually beaten them to the concept by about 50 years. In the mid-1920s, Thorens had been granted a patent in France for a DD motor which was, for its time, really quite an advanced concept.

The SL-10's motor was a very direct (ahem) descendant of that used in 1975's seminal SP-10 Mk2 motor unit, which ushered in the key development of Quartz lock, to greatly improve long and short-term speed stability in DD turntables. Like the SP-10 Mk2, the SL-10's motor was an iron-core type, its green stator looking almost identical to those in the SP-10 Mk2 and the mighty SP-10 Mk3, with its 10kg platter. Another trait the SL-10 shared with the SP-10 Mk2A was the use of integrated circuits in areas like motor control and drive.

Small, direct-drive linear trackers have, perhaps unfairly, gained a reputation for being nasty, lightweight devices plagued by speed drift, rumble and all-round poor sound quality. While there were budget derivatives which followed in the wake of the SL-10, it and its stable mates, the later programmable SL-15 and the subsequent all-new SL-7, were in a completely different league from the basic belt-drive or non-Quartz lock LTs.

In the SL-10, build-quality is very good indeed; both of the clamshell cabinet are cast from aluminium. The platter is a hefty, dynamically balanced alloy-casting damped above and below by rubber mats glued in place. The bearing, an inverted type, is precision machined, lubricated with low-viscosity grease and will last for decades.

A fine motor unit is no use if it's hamstrung by an inferior tonearm, but the arm of 105 millimetres effective length on the SL-10 works surprisingly well. Again, bearing quality is good, though some examples might show a little play, which can be carefully adjusted out by someone with the right skills and equipment. The arm has an effective mass of nine grams, but its compatibility with cartridges is limited

by the T4P connector anyway, which means it will only ever be partnered by cartridges of suitable mass and compliance. Although some might see those four T4P pin connectors and their locking bolt as a huge impediment to performance, the SL-10 was designed expressly to be small and easy to use. In fact, a wonderful quote in an interview with Obata and Yosumi in the early 1980s stated, "The SL-10 turntable is simple to use, like a cassette player and could easily be used by even women or children." (how attitudes have changed in the intervening years!)

If you wanted a full-size linear tracker, there were decks like Yamaha's PX-1, or Pioneer's PL-L1, both of which would take standard half-inch mount cartridges. ▶

## RESEARCH NOTES

Both Shuichi Obata and Toshikazu Yosumi have a number of patents to their names:

In US Patent D261882 (which can be found at [www.uspto.gov](http://www.uspto.gov)), Obata is listed with others as the creator of the SL-10.

In 1982, Obata was named alongside Hiroshi Yasuda and Yukihiro Fukushima in US Patent 4330884 ([www.wikipatents.com/4330884.html-6](http://www.wikipatents.com/4330884.html-6)). This patent covers a range of tonearm designs, including those fitted to Technics' top turntables like the SL-1000 Mk2, with the SP-10Mk2 motor unit and obsidian plinth.

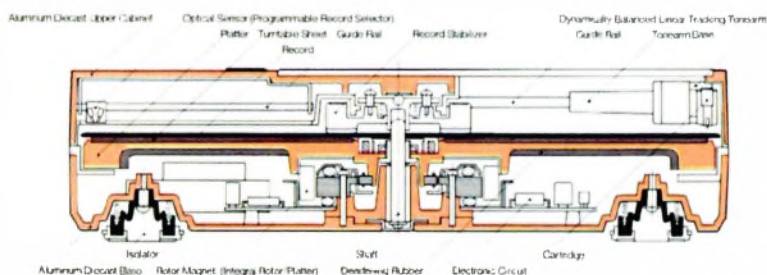


Yosumi appears as one of the authors of a paper presented at the October 1982 Audio Engineering Society convention, which details the construction of 'a digital audio disc player based on the Compact Disc Standard.'

At the same convention, both Obata and Yosumi are named together in an AES paper, which describes the development of a new digital audio processor designed for use with a home video tape recorder for digital audio recording.

In mid-1997, Yosumi, as director of Panasonic's Optical Disc Systems division, was in Paris for the company's video seminar, where he affirmed that the company believed in the one-disc-for-all concept, with DVD eventually replacing all other disc formats, as well as video tape.

This cross-section of the Technics SL-15 shows the motor-driven optical sensor opposite the arm carriage



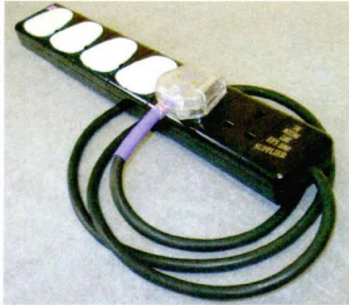


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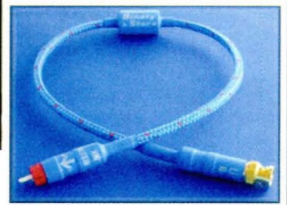
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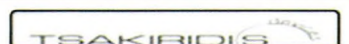
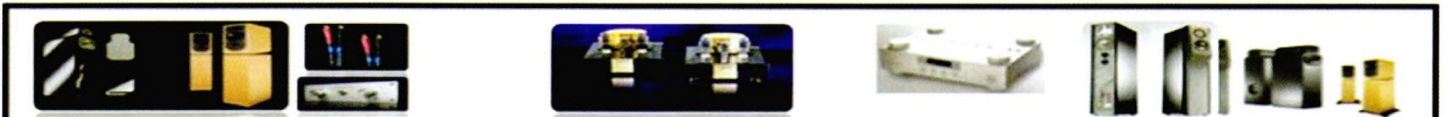
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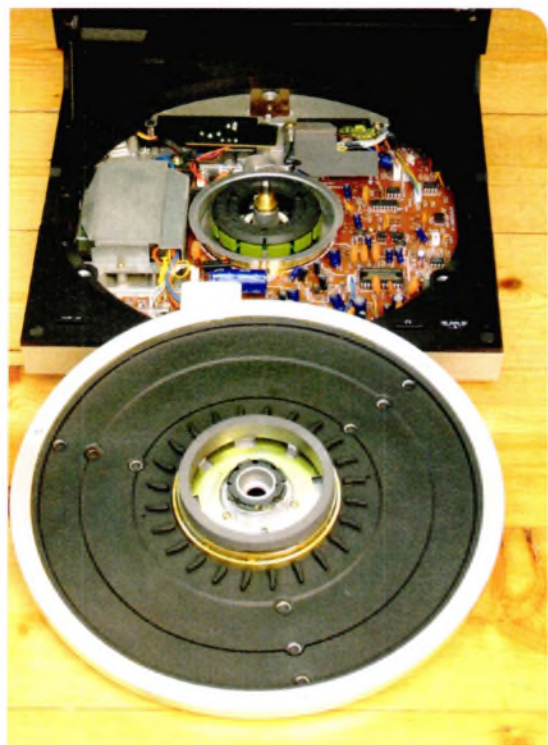
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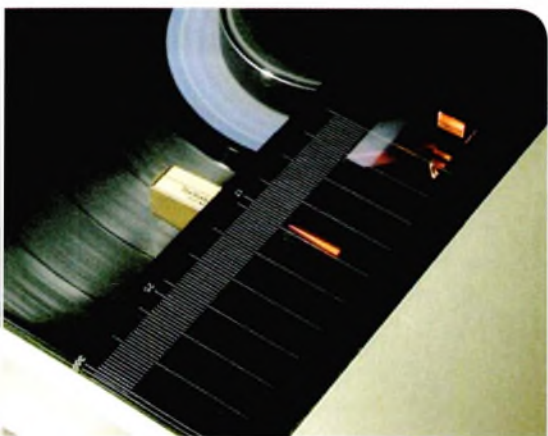


The ring of fins cast into the lower rubber mat improves air flow to the electronics in the chassis

So that cartridge choice wouldn't limit the performance, which the SL-10 provided, Technics fitted it with an internal MC head amp and began releasing a range of very capable cartridges. They pulled no punches with the 310MC fitted as standard to the SL-10 – this was an excellent high-compliance MC, with a low-mass elliptical tip on a boron cantilever. Minimising moving mass were the coreless coils Technics used. Even by current standards, a 310MC in good condition offers a very crisp, clean, neutral presentation (with the rather average in-built headamp bypassed), although one which can err slightly on the cold side in the wrong system.

The SL-10 is a pleasure to own. It looks great, is beautifully built and sounds very good –

**The Technics 310MC is a superb cartridge in its own right, not just as a T4P-type moving coil**



certainly far better than most audiophiles would expect. In use, the soft-touch controls operate very smoothly, from allowing an LP to be repeated, through to the two-speed cueing in both directions. There are automatic and manual speed and size selection, complete with a cardboard template for use with transparent vinyl. There's even a pop-up adaptor for 45s. The integrated record clamp irons out warps in most records, which is a real necessity given the very short length of the tonearm and includes a silvered strobe strip, similar to those on many quartz DDs, Garrards, etc, to show correct speed. Unlike most other decks, the SL-10 uses an LED to light the strobe strip, thereby avoiding a more electrically noisy neon lamp.

### A SOUND DESIGN

Released on the 10th day of the 10th month at a price of 10 Man Yen (one Man Yen being 10,000Yen), the SL-10 with a decent T4P cartridge has an impressively fluid, seamless sound, one endowed with rhythm and musicality, too. If the deck has been set up on a level platform to keep vibration out of the chassis, it also displays accurate soundstaging and imaging and plays particularly well towards the end of a side, thanks to the tangentiality of the arm.

Despite the fact that all T4P cartridges are notionally interchangeable, different cartridges with similar masses appear to have different centres of gravity and optimising the VTF can produce noticeable improvements in sound quality. This is a tricky procedure, but with the deck turned off, a piece of paper can be wedged into the powered arm lift, the lid closed and a carefully placed stylus pressure gauge (like the Shure SFG-2) used to check VTF. The exact force is altered by turning a small cross-head bolt at the rear of the arm, accessible through a hole in the inner lid plastic. Fiddly, but worth it, especially with a good MM like Technics' own 205 Mk4 with its tapered boron cantilever, which has a superbly crisp, clean, transparent sound admired by Arthur Khoubessarian, founder of Pink Triangle and The Funk Firm.

T4P cartridges are definitely not as plentiful as they used to be, but there are still goodies around if you look for them. audio-technica makes some fine T4Ps, as do, Shure and Grado. As the SL-10 is a very reliable deck, generally prone to only a few common and relatively simple faults (see 'Maintenance' box), it's well worth considering as a used purchase.

For our money, the only area in which this Technics' performance falls short is the arm drive motor, where motor noise is audible through headphones on silent grooves, though this problem may be soluble with a little experimentation with damping on the arm carriage. This problem was eliminated in the

## MAINTENANCE

The SL-10, and the track-programmable SL-15 which followed it, are wonderfully reliable considering how complex they were by the standards of their day.

Although the grease in the platter bearing rarely hardens, that on the arm slide rail sometimes does, perhaps because it's much more exposed to the elements. This causes problems like the arm motor whirring without the arm moving, and skipping, when the arm is fully deflected towards the spindle without the arm carriage moving to correct it. It's a quick, easy job to clean off the old grease with a cotton bud and some isopropyl alcohol (surgical spirit) and put on a thin layer of fresh, low-viscosity grease.

Intermittent faults, like the arm lifting before the end of a side, or the deck refusing to play, are frequently caused by oxidised switch contacts. There are more than a few switches in the SL-10, but all they usually need is a good squirt through with contact cleaner. The service manuals for the SL-10, SL-15 and SL-7 can all be found at [www.vinylengine.com](http://www.vinylengine.com) and downloaded after completing the free registration. It's best not to try to disassemble these turntables unless you're confident you can put them back together... In the UK, Vantage Audio ([www.vantageaudio.com](http://www.vantageaudio.com)) service and repair these decks.

**Arm carriage drive belts harden and stretch with use, leaving the arm going nowhere despite the motor turning. Original replacements are no longer available, but suitable substitutes can be found in O-rings of the right size, as well as some drive belts for CD player drawer mechanisms, etc.**

SL-7 which followed the SL-10. Despite this, and the reviews which praised the SL-7 over the SL-10, the former has a more mechanical, less fluid and less involving presentation than the SL-10 or SL-15. This may be due to the different motor technology in the SL-7, while the SL-10 and SL-15 both used iron-cored brushless DC motors, as was common in DDs in the 1970s, the SL-7 was part of the move to ironless stators which took place mainly at the tail-end of the Seventies and on into the Eighties and was intended to eliminate the cogging found in the older motors. That said, the mighty SP-10 Mk3 still used an iron-cored motor, especially as they can be engineered to provide good torque.

The SL-10 is a fine example of attractive, convenient, stylish hi-fi done right. It wasn't cheap when it was released and the individual technologies employed in its design may have been considered evolutionary rather than revolutionary, but the inspired implementation worked, and worked very well indeed. The fact that so many examples still function perfectly after 30 years is testament to the imagination and engineering skills of Messrs Obata and Yosumi and their design team. **HFC**

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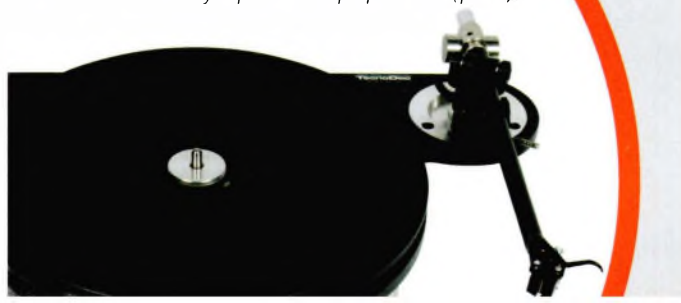
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**THIS MONTH'S  
HI-FI HIGHLIGHT**

Turntable sales are proving an integral part of the hi-fi scene and they don't have to cost a fortune, either. The *Michell Technodec* (reviewed in HFC 309) is still a bargain at £608 (not including arm or cartridge) and delivers a very sophisticated performance (p105).



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
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## CD PLAYERS

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<b>UP TO £1,000</b>												
	Arcam CD17	700	Civilised sound, with a positively deluxe treble. Bass is clear, if not the weightiest ever		●	●	●	●				315
	Cambridge Audio Azur 840C	700	Superbly capable with a resolution and tonal evenness that's well worth hearing (silver finish)		●	●	●	●		●		315
	Cyrus CD6 SE	900	A combination of detail and sheer musical energy with a hint of high end to the performance			●	●	●				318
	Harman/Kardon HD990	550	Highly detailed with excellent extension at both extremes and impressive resolution	/594818		●	●	●		●		323
	Marantz SA7003	600	Highly civilised sound may not be to all tastes, but there's plenty of detail to be heard		●	●	●	●		●		323
	Marantz SA8003	830	Classic Marantz sound in a classy and attractive package. Our favourite sub-£1,000 player	/456022	●	●	●	●				315
	Micromega CD-10	799	The cheapest in the range, the CD-10 has been fine-tuned to please the audiophile		●		●					328
	Moon CD.5	999	Admirably energetic music-making from this very well-built player		●	●	●	●				323
	NAD C545BEE	350	Apart from slight lack of bass control, sound is very fine indeed – treble is beautifully detailed		●		●					322
	Naim CD5i	895	Its competent musical performance comfortably exceeds the expectations of an entry-level player				●					307
	Pioneer PD-D9	850	A mostly well-balanced player that's arguably at its best with classical music	/636734	●	●	●	●	●			326
	Roksan Kandy K2	895	State-of-the-art technology and precision-engineering produces a fine CD performance	/483697		●	●	●		●		315
	Rotel RCD-1520	695	Lacks optical digital output, but feature-count is fine and sound quality is expressive and open	/608305		●		●		●		323
	Yamaha CD-S2000	979	Sophisticated, this is a beautifully controlled, high-resolution player, although SACD is stereo-only	/488867	●	●	●	●		●		309
<b>ABOVE £1,000</b>												
	Arcam CD37	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution	/395096	●	●	●	●				318
	Audio Research CD5	5,055	Audibly better than most CD players on the market – assertive and very dynamic	/455309		●	●	●				312
	Bryston BCD-1	2,500	Not as open as some but more timely than most. It also sounds a lot more gripping than it looks			●	●	●		●		300
	Cairn Fog 3	2,200	Ergonomically challenged, high-energy player with Gallic charm and digital preamp on board			●	●	●			●	302
	Consonance Droplet CDP3.1	1,995	A CD player which gets to the nub of what music is about. Engages the listener every time			●		●				322
	Creek Destiny	1,400	This player presents the music and nothing but the music and is thoroughly recommended			●	●	●				328
	Cyrus Audio CD 8 SE	1,200	A highly civilised player which can, nevertheless, deal convincingly with raw music	/399370		●	●	●				323
	Denon DCD-2010AE	1,700	Well equipped, finely detailed and with good support for compressed audio and iPod		●	●	●	●				328
	EMM Labs XDS1	18,995	Very high-performance two channel only player with the option of a standalone D/A converter		●	●	●	●	●	●		327
	Esoteric X-05	3,995	Superb resolve of fine detail with a perfectly judged balance and an ability to draw you in	/478365	●	●	●	●		●		314
	Leema Stream	1,170	The most timely disc player at its price point has tactile imaging and good dynamics			●		●				306
	Leema Antila II	2,735	Great build and multiple DACs give this a fast, revealing and totally engaging sound	/612396		●	●			●		323
	Marantz SA-11S2	3,300	Superb value, this well-balanced player features various filter settings to customise performance		●	●	●	●		●		304
	Meridian G08	2,400	Advanced digital processing with special apodising filter that gives a very clean sound	/455040		●	●	●		●		312
	Moon CD3.3	2,200	With clear, detailed and energetic sound, this player also offers a digital output	/594609		●		●				328
	Naim HDX	4,500	The HDX hard disk player represents an entirely new paradigm for high-fidelity replay			●	●	●				311
	Roksan Caspian M Series-1	1,450	An exceptionally fine CD player that provides a high-end and musically rewarding performance			●	●					307
	Shanling CD-T1000SE	1,700	This player's valve/direct option gives a choice in terms of performance			●						328
	Sony SCD-XA5400ES	1,199	Elegant, refined control system and very strong CD/SACD performance	/465933	●	●	●	●	●	●		313
	Unison Research CDE	2,495	Valve CD player with interchangeable DACs that doubles as a standalone DAC that oozes musicality	/483759		●				●	●	318

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BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS						
				WWW.TECHPOOR.COM	SPEEDS	SUSP SUBCHASSIS	SWITCHABLE SPEED CHANGE	SUPPLIED WITH ARM	ISSUE NUMBER	
	Clearaudio Emotion	1,185	Beautifully built with open and clean sound emphasising mid and top, but delivering nice timely bass		33/45				309	
	Clearaudio Performance	2,300	Ceramic-magnetic bearing spells a surprisingly uncoloured performance		33/45				295	
	Continuum Caliburn	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellan stand	/587169	33/45/78				320	
	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			opt	276	
	The Funk Firm Funk V2	1,390	Not only as beguiling as those that preceded it, this turntable is also more substantial to boot		33/45				324	
	The Funk Firm Saffire	2,450	Individual design and a sound that's refined and neutral with strong timing and dynamics		33/45			opt	opt	309
	Lumley Heliosphere	2,495	A distinctive-looking turntable with a unique sound and a performance that reflects your vinyl	/560765	33/45			opt	opt	319
	Michell Technodec	608	Needs careful partnering but can deliver a very sophisticated result for the money		33/45			opt		309
	Michell Gyro SE/RB250	1,565	A marriage of shot-putter-strength, build quality and robust audio (including arm substitute)		33/45					324
	Pro-Ject RPM 5	550	Great looks plus engaging sound puts it in the serious league, but needs good isolation for best results		33/45					279
	Pro-Ject RPM 6.1	750	With its huge platter this is a steady design that's capable of fine results with a decent cartridge		33/45/78					294
	Pro-Ject X-Pack	1,000	Combines some very strong elements (Ortofon Rondo Red) into a killer package with top sound and value		33/45					309
	Rega P3-24	390	Very competent, uncoloured and musical, much improved by £148 outboard electronic power supply		33/45			opt		298
	Roksan Radius 5/Nima	1,375	Sophisticated design with accomplished sound quality, excellent imagery and good isolation		33/45					248
	SRM Arezzo	699	The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay	/625025	33/45					325
	Townshend Rock 7	1,720	Has the ability to pull detail out of a vinyl groove, making it the most resolute turntable at its price		33/45					324
	Townshend Rock V/Excalibur II	7,000	If you want to hear everything that's on a record then there's no better machine for the job		33/45					307

## PHONO CARTRIDGES

MM and MC recommendations

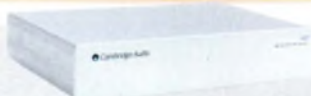
BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS				
				WWW.TECHPOOR.COM	MM	MC	REPLACEABLE STYLUS	ISSUE NUMBER
	Dynavector DV-10X5	295	A high-output MC with superb dynamics and fine timing that's difficult to mount, but well worth the effort					307
	Goldring Legacy	595	An MC cartridge better suited to the smoother-sounding turntable, it unearths a mountain of detail					328
	Grado Prestige Gold	149	Produces rich, open and expansive music with the minimum of fuss					235
	Ortofon Salsa	280	Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean sound					290
	Ortofon Rondo Red	375	Delivers detail, power and resolution and makes a good case for its price					307
	Sumiko Blue Point Spec Evo III	239	High-output MC with refinement at high frequencies and a nimble, articulate and revealing sound					270
	van den Hul MC One Special	699	A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light					235
	van den Hul Condor XCM	2,400	A stunning cartridge with stereo imaging, dynamics and resolution to die for					265

## PHONO STAGES

Get the best performance from your turntable

BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS					
				WWW.TECHPOOR.COM	MM/PHONO INPUTS	MC/PHONO INPUTS	ATT. GAIN	ATT. IMPEDANCE	ISSUE NUMBER
	Cambridge Audio 640P	100	An outrageously good bargain that suits budget systems, but can confidently survive upgrades						305
	Creek OBH15	240	Practical and highly compatible unit offering fine detail and a pleasing, mellow balance						305
	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						234
	Trichord Dino/Dino+	563	Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility						234

**SPECS KEY** **SPEEDS** Speeds offered in rpm. **SUSP SUBCHASSIS** Turntables with a sprung or suspended support for the platter and arm. **SWITCHABLE SPEED CHANGE** Some decks require manual lifting of the belt from one pulley to another to change speed, but not these ones. **SUPPLIED WITH ARM** Deck is supplied complete with tonearm – some require a separate purchase in this department, but the dealer will fit it for you. **SUPPLIED WITH CARTRIDGE** Some decks are supplied with a starter cartridge and this is included in the price shown. **MM** Moving magnet cartridge – see amp and phono stage features to match this type. **MC** Moving coil cartridge – see amp and phono stage features to match this type. **REPLACEABLE STYLUS** Some cartridges have separate styli for ease of replacement, but it compromises sound quality.



**Cambridge Audio 640P £100**  
If you need a low-cost way to get your turntable talking to your amplifier, this is by far the best option



**Dynavector DV-10X5 £295**  
Fiddly to set up, but dynamics are superb from this high-output MC cartridge, making it a firm HFC favourite



**Townshend Rock 7 £1,720**  
A great turntable for those upgrading from an entry-level deck. Sound engineering at a bargain price

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# RADIO TUNERS

Surf the waves with these carefully selected tuners

BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS								
				WWW.TECH2424.COM	WAVEBANDS	PRESETS	RDS	REMOTE CONTROL	SIG. STRENGTH METER	ROT. TUNING KNOB	ISSUE NUMBER	
<b>FM TUNERS</b>												
	Creek Audio Evolution	350	Sound is detailed, cohesive and extended both tonally and spatially – very classy		FM,M	80	●	●			●	308
	Rega Radio 3	390	Strong bass, clear treble and a high enjoyment factor makes this an appealing FM performer		FM,M	20		●				283
	T+A T1210R	1,200	High-end looks are matched by the sound, which is detailed and sophisticated		FM	100	●	●				283
<b>DAB/FM TUNERS</b>												
	Arcam FMJ T32	600	A highly cost-effective way of optimising the airwaves. iPod functionality is definitely a bonus	/559242	DAB,FM	100	●	●	●	●		319
	Onkyo T-4555DAB	400	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard		DAB	40	●	●	●	●		298
<b>DAB/FM PORTABLES</b>												
	Monitor Audio Airstream 10	225	The range of features on this DAB/FM/internet radio is certainly impressive	/636713	DAB,FM,Web	4	●				●	326
	Pure Move	80	A feature-packed, beautifully built DAB/FM radio that is a pleasure to use	/608367	DAB,FM	20	●					323
	Pure Evoke Flow	150	It makes internet radio integrate beautifully with conventional radio	/465944	DAB,FM,Web	40	●				●	313
	Pure Evoke-2S (portable)	170	Attractive and well thought-out. Many useful features and very enjoyable with classical music	/516285	DAB,FM	100	●					318
	Pure Avanti Flow	280	One of the best standalone solutions for internet radio with a tonality that's good for voices		DAB,FM,Web	40	●	●				322
	Vita Audio R2i	300	Very smartly built with a sound that's full-bodied, neutral and detailed	/611865	DAB,FM	30	●	●			●	323

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

# HEADPHONES

Audiophile solutions for home and travel use

BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS								
				WWW.TECH2424.COM	ELECTROSTATIC	SUPRA-AURAL	CIRCUM-AURAL	OPEN BACK	CLOSED BACK	WEIGHT (g)	3.5MM JACK ADAPTOR	ISSUE NUMBER
	ACS T2	500	Ear-canal earphones display an impressive midband intelligibility and a knack for digging out the detail	/479584						28		315
	Audio Technica ATH-CK10	279	In-ear headphones offer unforced detail, natural dynamics and excellent clarity							15		319
	Beyerdynamic DT880	230	Combines musical involvement with a high degree of analytical virtues. Also very comfortable			●	●	●		205	●	312
	Denon AH-D2000	300	Among the best closed-back headphones we've heard and very fine by any standards						●	350	●	309
	Denon AH-D5000	600	Sound is comparable with good open-back models, while isolation both inward and outward is useful						●	320	●	312
	Denon AH-D7000	900	One of the best closed-back designs, bearing comparison with the finest open-back models	/478417					●	295	●	314
	Etymotic ER-4P	195	Fiddle with in-ear earpieces and angles of approach and you'll be repaid with super-detailed sound							20		319
	Grado SR60i	100	A strong contender with out-of-class sound in most areas: a brilliant budget all-rounder	/603478	●			●		210	●	322
	Grado GS1000i	1,100	A superb transducer, capable of astonishingly high performance standards	/624782				●			●	325
	Sennheiser IE8	260	With its combination of neutral midrange and treble, this is arguably the best for in-ear, all-round sound							20		319
	Sennheiser HD380	140	Clear and detailed, with very natural tonality through bass and midrange with just a little coloration								●	327
	Sennheiser HD800	1,000	These headphones will convert loudspeaker listeners to the delights of personal stereo performance	/619269						350	●	324

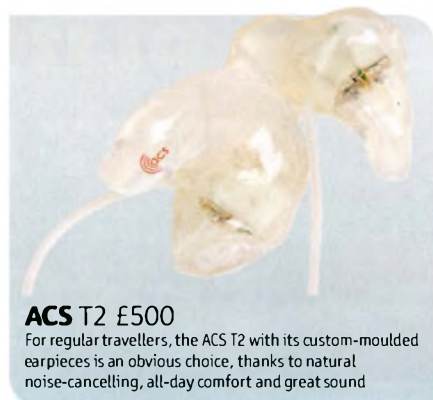
**SPECS KEY** **ELECTROSTATIC** Uses electrostatic film instead of more common cone or dome dynamics. **SUPRA-AURAL** Earpads sit on ear rather than around it. **CIRCUM-AURAL** Earpads rest on the head around the ears. **OPEN BACK** Vented capsules let sound in and out. **CLOSED BACK** Sealed capsules.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



**T+A T1210R £1,200**  
There aren't many similarly priced rivals to the Magnum Dynalab MD 90T for FM fans, but Germany's T+A has really hit the spot with the T1210R



**Sennheiser HD380 £140**  
An easy recommendation – Sennheiser's HD380 should really cost more than this – it's simply fabulous and is a genuine bargain in the world of hi-fi



**ACS T2 £500**  
For regular travellers, the ACS T2 with its custom-moulded earpieces is an obvious choice, thanks to natural noise-cancelling, all-day comfort and great sound

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## INTEGRATED AMPLIFIERS

Our pick of the best one-box amps

BADGE	PRODUCT	£	COMMENTS	WWW.TECHNOVA.COM	LINE INPUTS	PHONO INPUT	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
<b>UP TO £1,000</b>										
	Cambridge Audio Azur 740A	550	Ticks all the boxes for bass, clarity, imaging etc and invites the listener into the music with uncommon grace		6				100	294
	Cambridge Audio 840A v2	700	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)		8				120	327
	Marantz PM8003	750	Detail isn't the utmost, but great vitality makes this amplifier quite thrilling		5	MM			70	327
	Moon 1 5	999	A likeable amp in many ways, with admirable bass, treble and imaging		5				60	321
	NAD C3226BEE	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed	/603281	7				50	322
	Naim Audio NAIT 5i	765	More versatile than previous Nait's, the 5i is a superb amplifier that offers vivid insights into all manner of music		4				50	305
	Roksan Kandy K2	895	Superior design and high-performance credentials makes this amplifier a must-have bargain	/483722	5	MM			125	315
<b>ABOVE £1,000</b>										
	ATC SIA 2-150	2,376	Revealing, dynamic and powerful amplifier that works with a wide range of speakers, has superb build quality	/478483	4				150	314
	Arcam A38	1,450	A winning combination of sonic virtues including highly developed detail and musicality		7	opt			100	321
	Astin Trew AT2000	1,349	If you prefer the timbral and timing qualities of music to its bone-crunching potential, then this is a serious contender	/498574	4				65	317
	AudioAnaloguePuccini Setzanta	1,450	Detailed and lively, particularly in the upper octaves, but lacks a little bass extension		5	MC			160	320
	Copland CTA405	2,998	A musical and involving amplifier, which also has incredible insight and is user-friendly by valve amp standards		5				50	305
	Cyrus 8 XP d	1,500	High on features with a revealing upbeat sound and impressive five input onboard DAC	/608669	6				70	323
	Denon PMA-2010AE	1,700	High-class, well-equipped integrated, with a performance that is muscular, refined and detailed		6	MM/MC			80	328
	Electrocompaniet PI-2	1,600	A superb all-rounder, with insight on one hand and effortless musical flow on the other		6				100	327
	Electrocompaniet ECI-3	1,650	This is an impressively resolute and powerful integrated amplifier for the money	/618304	5				70	324
	Gryphon Atlla	6,995	With exceptional subtlety and definition, it has more than enough power to cope with just about anything musical		5				100	328
	Harman/Kardon HK 990	1,000	Very clever, with built-in DSP room correction and more – but most importantly a powerful and revealing amplifier	/594820	7	MC			160	321
	Leema Pulse	1,270	Admirable bass which combines extension, tautness and clarity. Higher frequencies are highly detailed and revealing		5	MM/MC			70	327
	Leema Tucana II	3,425	Highly featured, well-built and not short of power, this is a highly resolute and organic amp	/612396	7				148	323
	Lyngdorf Millennium Mk IV	10,995	State-of-the-art digital amplifier successfully transcends virtually all the problems that afflicts others of its type	/603231	5				150	322
	MSB Platinum M200	13,656	This amplifier's devastatingly good all-round sound quality sets a benchmark that few will approach	/603452						322
	Myryad MX12080	1,200	Sound is more assured at the top of the frequency range than the bottom, though bass is melodious and detailed		8				80	327
	NAD 375BEE	1,000	A good, solid amplifier that is fundamentally musical and gives a great bang for your buck	/625323	7				150	325
	Naim Audio NAIT XS	1,250	Its spellbinding, refined musical performance is a challenge to all integrated amplifiers	/498536	6				60	317
	Unison Res. Unico Primo	1,395	Line input can be converted to phono (at extra cost), plus an excellent mix of valve and solid-state virtues	/499279	5				85	317
	Unison Research P70	4,995	Delightful valve amplifier with fine neutrality, sweet midband, impressive bandwidth and ample power		4				70	302

## PRE/POWER AMPS

Separate boxes can bring clear advantages

BADGE	PRODUCT	£	COMMENTS	WWW.TECHNOVA.COM	PRE-AMPLIFIER	LINE INPUTS	PHONO INPUT	REMOTE CONTROL	POWER OUTPUT (W)	ISSUE NUMBER
<b>UP TO £2,000</b>										
	Cambridge Audio Azur 840E/840W	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled			8	opt		200	309
<b>ABOVE £2,000</b>										
	Arcam C31/P38	2,450	Very civilised sound in the best possible way. Well featured and smartly built			7	opt		100	308
	Border Patrol Control Unit	3,995	Bluff-looking valve preamp, with one of the most neutral yet dynamic sounds around			5	opt			277
	Bryston BP16/ 2B SST <sup>2</sup>	5,700	Preamp and power amp combo offers superb sound quality	/608649		6	opt		100	323
	Bryston BP26	3,670	Cracking preamp brings detailed results			8	opt		308	
	Chord Prima/Mezzo 140	7,135	Small, muscular, beautifully made and styled, and sounds like a dream			5			120	269
	Classé CP-700/CA-M400	9,200	Pre plus mono power combo with superb build, huge power and enormous flexibility.			6	opt		400	293
	Cyrus DAC XP (preamp/DAC)	2,275	A DAC/pre with naturalness and resolution to die for and six digital inputs for signals up to 96kHz			2				266
	Digital Do Main Ba-1	6,495	By recreating the V-FET, DDM has built one of the most thrilling amplifiers on the market			4			300	327
	Hovland HP-100/RADIA	18,900	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers			9	opt		125	250
	Naim NAC 152 XS/NAP 155 XS	1,920	Preamp and power amp duo offers excellent performance and classic Naim virtues			6			60	324
	Roksan Caspian M Series-1	2,800	A powerful and enjoyable-sounding amplifier combo that brings out the strengths of its CD player			5			85	307
	Trilogy 909/990	10,390	Extremely musical valve-based pairing with hybrid power and beautiful finish	/625226		6			100	325

**SPECS KEY** **LINE INPUTS** Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. **PHONO INPUT** Input sockets and on-board phono stage for a cartridge. Either MM (moving magnet) or MC (moving coil), occasionally both. **REMOTE CONTROL** A remote control is supplied with the amplifier. **HEADPHONE SOCKET** To drive your cans with. **POWER OUTPUT** Manufacturer's rated output in watts per channel.

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BEST BUY EDITOR'S CHOICE

## STEREO SPEAKERS

Perhaps the most influential link in the chain

BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS					
				SIZE (HxWxD) (CM)	FLOOR STANDER	EASE OF DRIVE	BASS FREQU (HZ)	FREE SPACE	CLOSE TO WALL
<b>UP TO £1,000</b>									
	Acoustic Energy Aegis Neo 3	363	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight	20,90,5,24	●	A	24	●	294
	Acoustic Energy Radiance 1	600	Limited bass, power handling and dynamics, but exceptional mid-to-treble voicing	18,5,32,25		A	33	●	325
	Amphion Ion L	900	Sharp styling, fine mid/treble coherence and a sweet treble, but less happy bass alignment in test room	16,23,26,26,5		A	40	●	310
	ATC SCM11	867	A very fine little speaker that's at its best with natural recordings where it adds little and reveals much	21,38,25		A-	55	●	293
	AudioPro Avanti A.10	350	A tough and effective little speaker – overall balance is quite smooth and even	19,29,26		A+	38	●	319
	Bowers and Wilkins CM1	488	Luxury miniature has laid-back sound, with low coloration and fine imaging, but weak dynamics	16,5,28,28		A-	40	●	279
	Bowers and Wilkins 684	699	A fine all-rounder at a realistic price, this floorstander has a smooth, even and nicely open balance	/483503 20,91,30	●		22	●	315
	Bowers and Wilkins 683	879	High-class drivers and a great price makes for a warmly recommended speaker	20,99,34	●		20	●	304
	DALI Ikon 6	999	Needs care with setup, but rewards you with impressively transparent and obsessively detailed sound	19,100,33	●	A	37	●	271
	Dynaudio DM 2/10	880	Unfashionably bulky standmount has fine dynamics, grip, bass and headroom and is well mannered	27,5,45,35		A	22	●	299
	Focal Chorus 706V	389	Advanced drivers deliver an even, overall balance with healthy dynamic expression and tension	22,39,25		A	27	●	319
	Focal Chorus 726V	950	Compact and realistically priced, the Chorus 726V is a good all-round performer	22,99,37,5	●	A	25	●	325
	JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch	22,99,37	●	A	25	●	275
	KEF iQ50	599	Looks cute and very discreet, with spacious imaging, good balance and a sweet treble	/483527 17,5,81,5,26	●	A	23	●	315
	Monitor Audio BR2	230	Good-looking standmount has a muscular sound with superior coherence	18,5,35,25		A-	30	●	294
	Monitor Audio BR5	450	Not the best dressed in its class, but detailed, bold-sounding and good value	17,85,25	●	A-	36	●	293
	Monitor Audio Silver RS8	850	Bold, dynamic sound marks it out from the crowd and it's an easy load that works well in larger rooms	90,18,27	●	A	33	●	276
	Monitor Audio GS10	900	More neutral tonally than some recent MAs, the GS10 is a high-quality stereo design which is easy to drive	20,36,27		A-	40	●	284
	PMC DB11	895	Could be more neutral, but a very effective musical communicator with fine warmth and sweet treble	15,5,29,23,4		A+	30	●	310
	ProAc Tablette Ref Eight	704	Stunning standmount with electrostatic-like imagery. Its brother costs £200 more and is even better!	15,27,23		A+	40	●	267
	Q Acoustics 1010	110	Neatly styled miniature has limited bass and power handling, but fine midband voicing for the price	15,21,5,19,5		A	48	●	286
	Q Acoustics 1020i	140	Outstanding value, the smooth, well-balanced and lively sound makes for a fine communicator	/516273 17,5,25,26,5		A+	60	●	318
	Rega RS1	390	Clever close-to-wall speaker has a fine coherence and good communication skills	15,32,23,6		A	23	●	319
	Russ Andrews SP-1	352	This tweaked Focal 705V RA has a sound that is immediate, engaging and, most importantly, great fun	192,315,248		A+	65	●	309
	Spendor S3/5R	750	Lacks dynamic muscle and loudness potential, but lovely smooth neutrality and good bass extension	16,5,30,5,190			25	●	310
	Tannoy Revolution DC4T	599	Ultra-compact floorstander that lacks bass weight and dynamic tension, but sounds open and coherent	/488857 15,85,16	●		40	●	316
	Tannoy Revolution DC6	900	Pretty compact standmount likes wall loading, delivering a lively bass and smooth, coherent midband	23,36,5,23		A	40	●	307
	Wharfedale Diamond 9.1	150	Superior shape and finish at an exceptionally sharp price. Sound is laid back, but free from boxiness	19,5,30,28		A-	45	●	307
	Wharfedale Diamond 10.5	480	Despite the low price, the 10.5 ticks many of the boxes, with superior voice band coherence	/636778 22,88,30	●	A-	50	●	326
<b>ABOVE £1,000</b>									
	AE Energy Radiance 3	1,500	This speaker's very effective enclosure ensures a wide dynamic range and a very clean sound	/587236 23,92,29,7	●	A	27	●	320
	Amphion Argon2 Anniversary	1,200	Notably superior coherence and focus, fine neutrality and dynamic range with low coloration	19,38,31		A-	24	●	317
	Amphion Helium 520	1,000	Sharp styling and fine value for money with excellent voice-band coherence	16,104,22	●		28	●	314
	Amphion Argon 3L	2,300	Very solid build ensures an impressively clean sound with loads of bass and fine neutrality	19,92,5,30,5	●		26	●	322
	ALR Jordan Classic 5	1,550	Slim, laid-back floorstander has sweet sound with fine coherence, imaging and dynamic range	17,99,26	●	A	28	●	275
	ATC SCM19	1,534	Super-linear motor system and heavy-weight construction makes the ATC a pro favourite	22,44,31,5		A-	54	●	285
	ATC SCM16A	2,376	Makes a great case for the active speaker. Includes built-in amps and is good value	27,45,33		ACT	42	●	300
	Audiovector S3 Super	2,600	With the useful ability to upgrade, this speaker offers good musical communication and stereo imaging	19,103,31	●	A	50	●	328
	Auroual VS	1,650	The fine coherence and imaging of a single driver system, plus extra help at the frequency extremes	/479149 21,5,107,5,268	●		20	●	314
	AVI ADM9	1,125	Active mini-monitors that are exceptionally accurate and dynamic sounding	20,30,26		ACT	60	●	301
	Bowers and Wilkins CM9	1,760	Tall, elegant, expressive midband and expansive, but well-controlled bass	/597244 20,102,5,32	●	A	60	●	321
	Bowers and Wilkins 805S	1,950	Classy standmount with excellent coherence and imaging. Can sound laid back, but a real delight	24,39,33		A	25	●	271
	Cabasse MC40 Java	1,360	This large and handsome speaker has a notably smooth and evenhanded neutrality	25,110,35	●	A	20	●	325
	Cabasse Bora	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354 33,27,50		A	52	●	324
	Dynaudio Focus 220	2,630	Cleverly tapered floorstander has a brilliantly smooth, neutral balance and very sweet treble	20,5,98,29,5	●	A-	20	●	281
	Focal Chorus 816 V	1,099	Fine, warm balance, superior dynamics and a sweet top end, but could be smoother	28,100,37,5	●	A+	20	●	288
	Focal Chorus 826 V	1,349	Times nicely, goes loud with ease and will produce precise imaging if appropriately set up	28,104,37,5	●	A	45	●	287
	Focal Chorus 816WSE	1,499	The W cone makes some of the qualities associated with Focal's high-end models more competitive	99,8,28,2,37,5	●	A+	39	●	308
	Focal Chorus 836V	1,699	Bulky, sharply priced three-way could be prettier, but has good bass with genuine grip	28,115,38	●	A	28	●	290
	Focal Electra 1027 Be	4,399	Outstanding mid and top with fine delicacy and low coloration, but lacks some bass grip and drive	26,5,111,35	●	A-	25	●	276
	Free FS1	3,500	An elegant design for anyone after the minimum of wiring. Wireless with Sonos or Airport Express	16,87,27	●	ACT	35	●	301
	Gamut Phi5	3,040	Lovely and discreet floorstander has excellent sound and several very clever engineering touches	17,100,24	●		20	●	305

BEST BUY EDITOR'S CHOICE

## CABLES

Cables really can make a difference, especially our top recommendations

BADGE	PRODUCT	£	COMMENTS	SPECIFICATIONS					ISSUE NUMBER
				WWW.TECHRABAR.COM	STRANDED	SOLID CORE	COPPER	SILVER	
<b>ANALOGUE INTERCONNECTS</b>									
	Audioquest Sidewinder	45	A detailed cable, with fine tonality and excellent rhythm – slight upper-bass warmth does little to detract						297
	Black Rhodium Prelude	90	Practical and sensibly priced all-rounder that seems happily compatible with a wide range of kit						293
	Black Rhodium Coda	150	Superb bass with neutral and detailed midrange, treble generally sweet with occasional slight constriction						299
	Black Rhodium Polar Illusion	250	A good all-rounder, with clear and purposeful bass and particularly fine treble						321
	Cambridge Azur Reference	50	Performance wouldn't shame a cable at twice the price: especially adept in the treble with no trace of dryness						296
	Chord Co. Indigo Plus	995	Costly, and high-class cable needs running in, but this is a finely detailed design overall	/608313					323
	Clearer Audio Silver-line	283	Complex, well-screened cable which offers good sound all round with exceptional bass						279
	CrystalCable Piccolo	348	Thin, but tougher than it looks, Piccolo has some qualities of a solid-core type – notably resolution, focus and articulation						294
	Kimber Timbre	145	A very neutral cable that will complement even very upmarket systems						312
	Monster M350i	45	Few cables at this price reveal so much about the recording space.						281
	Monster M1000i	230	Very capable, with only a hint of bass dryness to set against excellent results elsewhere						284
	Nordost Wyewizard Dream	110	Slight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass						303
	Oehlbach NF214	63	The bass is a matter of taste, but suits many smaller speakers with good mid and treble						281
	QED Signature Audio S	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice						321
	Supra EFF-IX	77	Lively sounding cable which maintains a high level of detail and neutrality, musically, a great all-rounder						306
	Townshend Isolda DCT100	99	Sound has a particularly enjoyable cohesion and naturalness that makes for great listener involvement						312
	van den Hul The Wave	125	Generally neutral, with a hint of upper-bass richness: images seem to reside slightly further away than most						312
<b>DIGITAL INTERCONNECTS</b>									
	Kimber DV-30	98	A superb performer that lacks very little, even when compared to Kimber's high-end models						E 317
	Merlin Scorpion Digital	130	Reduces distortion, making sound clear with unusually revealing low frequencies						E 317
	Supra AnCo	30	This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context						E 304
<b>SPEAKER CABLES (PRICE PER METRE)</b>									
	Atlas Hyper 1.5	12.5	Don't look to this cable to beef up the bass, but its performance at higher frequencies is revelatory at the price						299
	Atlas Ascent 2.0	60	A highly analytical cable, with more bass extension than at first appears and very fine detail across the board						294
	Chord Co. Silver Screen	6	Screened speaker cable with excellent treble, but just a little light in the bass at times						310
	CrystalCable Piccolo	1,395	A chip off the old block, this speaker cable has a similarly fast, fluid and subtle sound (price reflects 3 metre pair)						302
	Kimber 8PR	21	A cable that really enjoys the music, also admirable for the levels of analytical detail it allows through						299
	Monster MCX-1s	5	Notable for its bass, which is perhaps a touch overdone at times but could be a good foil to small speakers						280
	Nordost Heimdall	185	Alternative to Valhalla, silver-plated, micro-monofilament construction, suitable for exacting systems						278
	QED X-Tube XT300	12.5	A natural and controlled-sounding cable that's cost-effective for mid-priced systems						310
	QED Revelation	15	Sensibly priced, this cable offers a performance which is a step-up from budget types						318
	Townshend Isolda DCT	50	Cryogenically treated 'impedance-matched' cable with stabilising components added						241
	van den Hul The Wind	50	Separate conductors provide plenty of room for experimentation and the conductor quantity keeps resistance low						318
	Wireworld Solstice 5 <sup>2</sup>	25	Rather bulky and awkward, but performance amply justifies it with superb bass solidity						310
	Wireworld Oasis 6	40	Excellent bass with tunefulness and extension all first-rate. Awkward to handle, though	/617560					324

**SPECS KEY** **STRANDED** Cable has a number of (usually) twisted strands to conduct the signal. **SOLID CORE** Cable has one or more individually insulated strands to conduct the signal. **COPPER** Material used to form the conducting element of the cable. **SILVER** Alternative material used to form the conducting element of the cable. **DIGITAL CABLE TYPE** E – electrical, O – optical. Cables are one metre length unless otherwise stated.

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Denon BD1800 Blu-Ray Player E/D (1Yr G/tee)	.....(649.00)	<b>£249.00</b>
Linn Unidisk SC Universal CD Player E/D (1Yr G/tee)	.....(3145.00)	<b>£1795.00</b>
Linn Linto Phono preamp Blk S/H (1Yr G/tee)	.....(1180.00)	<b>£599.00</b>
Linn C 4100 PowerAmp Sil New (2Yr G/tee)	.....(1980.00)	<b>£1195.00</b>
Linn Klout Power amplifier S/H (1Yr G/tee)	.....(2400.00)	<b>£795.00</b>
Linn Majik 140 Loudspeakers- Maple E/D (2Yr G/tee)	.....(1590.00)	<b>£1119.00</b>
Naim CDX 2 CD Player E/D (2Yr G/tee)	.....(3250.00)	<b>£2595.00</b>
Naim DVD 5 DVD Player E/D (2Yr G/tee)	.....(2600.00)	<b>£995.00</b>
Naim AV2 Processor E/D (1Yr G/tee)	.....(2600.00)	<b>£1295.00</b>



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Arcom Solo Music System E/D	.....(Was 1250.00)	<b>Now - £699.00</b>
Arcom CD17 CD Player E/D	.....(Was 700.00)	<b>Now - £295.00</b>
Arcom FMJ A18 Amp Silver NEW	.....(Was 600.00)	<b>Now - £395.00</b>
Arcom FMJ A28 Amplifier NEW	.....(Was 900.00)	<b>Now - £595.00</b>
Arcom Muso Speakers Pair NEW	.....(Was 400.00)	<b>Now - £249.00</b>
Arcom P1000 Power amp NEW	.....(Was 1600.00)	<b>Now - £629.00</b>



BEST BUY EDITOR'S CHOICE

## STEREO SPEAKERS *continued*

BADGE	PRODUCT	PRICE	COMMENTS	SPECIFICATIONS					
				TECHNOLOGY	SIZE (W,H,D) (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (Hz)	FREE SPACE
<b>ABOVE £1,000</b>									
	Guru QM10	1,595	A very clever close-to-wall standmount with fine imaging, that sounds a lot bigger than it looks	/465869	30,25,2,23,2	A	26		317
	Jamo R.907	6,600	Arguably the more 'chummy' of Jamo's dipole flagships, it offers a powerful bass and open midrange	/498515	44,118,9,7		A	30	317
	Kudos Cardea C1	1,450	A very pretty compact standmount with a delightfully subtle and delicate sound quality		20,35,2,7		A	40	304
	Kudos Cardea C2	1,950	This floorstander is a fine all-round performer with fine voicing and neutrality		20,92,5,27			23	322
	Kudos Cardea C30	5,250	An absolute honey that fully justifies its hefty pricetag, lacking only a little dynamic tension	/394973	20,112,2,7			22	310
	Magico V2	18,000	High pricing derives from this speaker's superb, painstaking engineering and impressive performance	/624700	25,5,115,30		A	32	325
	Mission 796	1,300	Clean, open and detailed, this smooth, relaxed loudspeaker does exactly what it says on the box	/594834	20,6,99,8,31,8		A	25	321
	Monopulse 42A	1,995	Oddball styling, fine bass-to-mid balance and dynamics and superb voice coherence		26,110,2,5		A	25	302
	Monopulse 82	2,495	Could be more neutral, but excellent coherence, lively dynamics and fine imaging		27,110,2,5		A-	20	281
	Monitor Audio PL300	6,000	New level of sophistication from a manufacturer best known for mainstream, cost-effective designs		41,111,4,7		A-	28	301
	Mordaunt-Short Perf 6 LE	4,799	Striking moulded enclosure minimises coloration, while overall balance is smooth, neutral and open		24,115,4,3		A	22	308
	Neat Momentum 3i	1,790	Sounds a lot bigger than it looks, with good coherence and an impressively wide dynamic range		22,38,2,7		A-	23	302
	Opera Callas	3,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	/429144	23,37,5,34			32	311
	Opera Seconda	1,995	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth		24,102,5,31,5		A	20	314
	Pioneer S-2EX-W	5,200	This speaker offers superb midband neutrality and exceptional clarity	/587272	29,1,56,5,42,5		A	37	320
	PMC FB1i	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	/429594	20,100,30			20	322
	PMC OB1i	3,600	This floorstander delivers a smooth overall balance with wide bandwidth and dynamic range	/429697	20,102,5,32,5		A	20	311
	PMC fact. 8	4,600	Beautiful styling, alongside a superb all-round sound quality with a notable wide dynamic range		155,105,38		A	55	327
	PMC IB2i	8,900	Delivers a top-class sound quality, fine imaging and exceptional dynamic grip	/617595	33,74,46,5		A	25	324
	PSB Synchrony One	3,500	Slim and discreet floorstander that delivers superb sound quality and flexible bass	/516267	22,109,32,5		A	45	318
	Revel M22	1,800	A remarkably clean and revealing speaker with superb tonal and microdynamic capabilities		22,37,30		A-	48	274
	Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound		22,105,39		A	20	256
	Roksan Caspian FR-5	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25		A	22	290
	Ruarik Talisman III	1,499	No bass demon, but a sophisticated and agile speaker epitomising Ruarik's design ideals		22,84,31		A	22	259
	Sonus faber Luto Monitor	1,690	A subtly designed, elegant-sounding package that's hard to beat, especially with good recordings	/603221	18,5,35,33,5		A-	55	322
	Sonus faber Minima Vintage	2,490	Easy, graceful-sounding compact is a natural for acoustic material at moderate volume levels	/455417	20,33,27,5		A-	55	312
	Sonus faber Cremona Audit.	3,350	Open, exciting and with surprisingly good bass. This is 'The Little Speaker That Could'		20,35,37		A	50	305
	Spendor SP3/1R2	1,600	Conservative styling, superb neutrality and coherence with unusually low coloration		22,40,28		A	37	317
	Tannoy Definition DC10T	5,000	Classy speaker has massive base, high sensitivity and precise image focus	/608326	34,112,5,32		A+	35	323
	Totem Model 1 Signature	1,975	Expensive, but very seductive miniature delivers a beautifully smooth and balanced midband		17,31,23		A	35	277
	Triangle Genese Quartet	2,775	Great material value and a solid all-round sonic performance with great loudness potential		23,117,37		A	25	302
	Triangle Magellan Concerto	16,250	New 'sw2' version is less immediate than its predecessor, but it remains highly entertaining		60,160,45		A-	32	290
	Usher Compass CP-6381	2,500	Lots of speaker for your money, with plenty of deep bass, unusual styling and massive build		35,127,65		A	20	270
	Vivid Audio K1	14,495	With a subtle, fast and wide bandwidth, this speaker is one of the finest on the planet	/625361	28,130,45		A	35	325
	Wilson Benesch Curve	5,383	Much (but not all) of the ACT's performance in a much more compact and affordable package		23,91,37		A	28	254
	Wharfedale Opus	1,500	Great material value and a solid, if bright and forward sound. Has great loudness potential		26,100,5,41		A	23	314
	Yamaha Soavo 2	1,200	Cunningly crafted standmount with a beautiful balance that always sounds lively, open and involving		22,38,35		A	28	296
	Zu Essence	3,750	Sheer realism and fine communication skills are more than fair compensation for balance shortcomings		30,5,125,30,5		A	25	327

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



**Amphion Ion L £900**  
A great-looking loudspeaker that also boasts a superb mid/treble coherence and a super-sweet treble, some experimentation with positioning will reap rewards



**Mission 796 £1,300**  
Mission's 796 is a great choice for audiophiles looking for a clean, open and detailed sound with classic Mission aesthetics and great build quality



**Opera Seconda £1,995**  
Classy, sealed-box, two-and-a-half-way Italian floorstander with a very fine fit and finish and a superior voice band

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 BEST BUY  EDITOR'S CHOICE

# EQUIPMENT SUPPORTS






Hi-fi equipment supports come in all shapes and sizes

BADGE	PRODUCT	£	COMMENTS
	Atacama Equinox	409	Stable, modular design with style and excellent bass transients
	Audiophile Base Std Supp't	1,200	Expensive and quite bulky, but sound is unusually detailed and resonance-free
	Aurios Classic Bearing feet	230	A widely versatile set of three isolation feet for most hi-fi kit, except suspended turntables
	Custom Design Inert Matt	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal
	Custom Design Milan	509	Good-looking stand with nothing more to complain of than slight muddying of detail
	Hi-Fi Racks Podium	500	A keenly priced piece of high-class furniture that also happens to sound great
	Isonoe Isolation feet	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables
	Partington Minim	470	Adds its own character to rock, but to the detriment of acoustic sounds
	Quadraspire QX25 Support	25	Beautifully simple design, cheap and easy to use. Excellent with CD players
	Russ Andrews Torlyte Platform	146	This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice
	Townshend VSSS	1,380	This attractive Seismic Sink retains the same excellent vibration-killing sound quality

SPECIFICATIONS					
HEIGHT (CM)	TOP PLATE SIZE (CM)	WELDED	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER
81	50,50	●	4	Glass	217
57	46,35		3	MDF	302
				Metal	302
	40x25			Metal	311
	60,42		4	Glass	293
57	48,39		4	Glass	302
	59,5			Wood	320
				Alloy	327
78	45,37	●	5	Glass	302
				Acrylic	327
8	48,36		1	Torlyte	302
68	54,49		4	Torlyte	240
76	35,50		4	Glass	273

# SPEAKER STANDS

Not all stands are made equal – try one of our top buys

BADGE	PRODUCT	£	COMMENTS
	Anvil Sound Display Stand	229	A variety of smart looks available – sound is clear and precise
	Custom Design RS300	110	An attractive stand whose lack of coloration suits it to high-resolution systems
	Custom Design SQ404	220	Robust four-pillar design gives very low coloration and maximises performance
	Partington Ansa 60	119	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent
	Partington Dreadnought BS	299	Sound is better defined in almost all areas than cheaper, slimmer stands can offer
	Partington Heavi II	499	Robust to the nth degree, this stand helps produce very precise bass and upper frequencies

SPECIFICATIONS					
HEIGHT (CM)	TOP PLATE SIZE (CM)	FILLABLE	WELDED	NUMBER OF LEGS	ISSUE NUMBER
50	20,17	●		1	293
56	16,5,18	●		1	281
61	18,16,3	●		4	283
62	18,15	●		4	232
62	17,23	●		5	309
53	31,22	●		6	287

**SPECS KEY** **HEIGHT (CM)** Height of equipment support and speaker stand (not including spikes) in centimetres. **TOP PLATE SIZE (CM)** Width by depth of the supporting platform(s). Single figures indicate a square platform (Speakers generally overhang top plates). **FILLABLE** The stand can be mass-loaded with sand and/or lead to stop ringing. **WELDED** As opposed to bolt-together construction. **NUMBER OF SHELVES** To put your kit on (different configurations are often available). **NUMBER OF LEGS** That support the stand. **SHELF TYPE** Material that shelves are made of.



**Quadraspire QX25 Support £25**  
Fashioned from two identical pieces of acrylic sheet that slide together, these feet create a very impressive degree of isolation, particularly for CD players



**Partington Dreadnought BS £300**  
Probably the best speaker stand you can buy for the money – heavily engineered and backed up with sound theory, this mass-fillable stand is a top recommendation



**Townshend VSSS £1,380**  
Although not cheap, Max Townshend's skillfully engineered rack nears perfection in terms of equipment isolation, diminishing returns kicks in if spending more

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ADC ALT1, excellent  
Anston RD80, ex condition  
Art Audio Phono SE mm/mc special edition nr mint!  
Basis 2200 Signature, Vector 4, Clamp c £8k new  
Benz Micro Glider, excellent low hours  
Bill Beard Phono Stage, mm/mc switchable  
Clearaudio Master Solution c/w Unify tonearm  
Garrard 401 & SME3009, excellent  
Graham 2.2 Tonearm, nr mint boxed  
Graham Phantom, ex demo, excellent boxed  
Koetsu Urushi, mint  
Linn LP12, Ekos, Lingo in Rosewood boxed superb  
Linn Ekos 2, excellent boxed  
Linn Ekos, excellent  
Michell Electronic Reference (no arm, SME cut)  
Michell TecnoDec RB250, excellent boxed  
Michell Gyro SE, excellent boxed no arm  
NAD 533 Turntable (Planar 2), RB250, Goldring Elektra  
NAIM StageLine S, excellent  
Ortofon Kontarpunkt B, new  
Pink Triangle PT Too, Linn cut armband, excellent  
Project Experience, excellent boxed, due in  
Rega P3, in green  
Rega RB300 Upgraded wiring etc  
Roksan Xerxes & Tabriz Zi, serviced  
Roksan TMS1 & DSU superb boxed, recent TM service  
Roksan Xerxes 20/XP57 as new, used  
Systemdek II (piscuit tin), c/w Linn LVX arm, vgc  
Technics SL1200 excellent  
Technics SL1210mk2, various from  
Tom Evans Microgroove plus (upgraded ISO), new  
Wilson Benesch Act 1 Tonearm, nr mint superb

## Radio/Recorders

Arcam DT26, excellent boxed 349  
Nakamichi CD2 recent importer service 199  
Quad FM4, excellent 179  
Quad FM3, excellent 99  
Yamaha CT70 99

## Digital

Arcam Alpha 9, remote, excellent condition 299  
Arcam CD17, nr mint boxed 499  
Audiolab 8000CD original version black 299  
Audiolab 8000CD/8000DAX, vgc with remote 788  
Audio Research CD7, mint boxed in silver 4999  
AVI Lab Series CD player, as new boxed 799  
Chord DAC64, excellent boxed to clear 749  
Creek Evo CD, excellent boxed, REDUCED 499  
Cyrus DACX, excellent black boxed 699  
Cyrus CDB, excellent black boxed 349  
DPA Little Bit DAC, cool! 199  
Marantz SA1, boxed recent new laser 1749  
Marantz CD94/DA94 combo excellent boxed 749  
Musical Fidelity XDACv3, nr mint boxed 249  
Musical Fidelity XRay, excellent, remote, box 399  
Musical Fidelity Tubatol! Rare as...  
NAIM CD3, excellent  
NAIM CDS2/CDPS, new laser this year 399  
NAIM CD2, excellent boxed 1999  
NAIM CD5i, excellent boxed 499  
Pathos Digit, superb boxed 1649  
Ratel RCD991, excellent boxed 249  
Sharling CD700, excellent boxed newer model 1199  
Sharling Omega Drive, vgc light cased, serviced  
Sony SACD333ES, excellent boxed 399  
Stello CD7200/DP200 Transport and DAC Preamp mint 1599  
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TEAC P700/D700 excellent boxed 1/2 size pair 749  
Theta DS Pro Gen 3 499  
Unison Research Unico CDP, excellent boxed 599

## AV/Accessories/Cables

Cyrus PSXR, vgc 249  
Musical Fidelity XPSUV3, X10v3 and XLPv3 CALL  
NAIM Supercap, Flatcap CALL  
PS Audio Quintessence ex demo 599

## Amplifiers

Air Tight ATM-1s, excellent boxed 149  
Arcam A28, nr mint boxed in black 499  
ATC SPA2150 Power, excellent boxed 1499  
Audiolab 8000P, black UK built version 279  
Audiolab 8000C&P grey versions excellent boxed 349  
CALL Audiolab 8000Q, excellent in black 299  
Audio Research VS110, excellent boxed 2299  
Audio Research SP11mk2, 2009 AS service 2499  
Audio Synthesis Desire power amplifier 749  
1199 Briston BP26, due in CALL  
1749 Conrad Johnson PV15L preamp boxed 1399  
CALL Creek Evolution Integrated, nr mint boxed 349  
Croft Appartion Elite & Epoch Elite Pre/Power, lovely 1199  
Cyrus 2 & PSX, lovely order 249  
Cyrus 6V52, excellent boxed 399  
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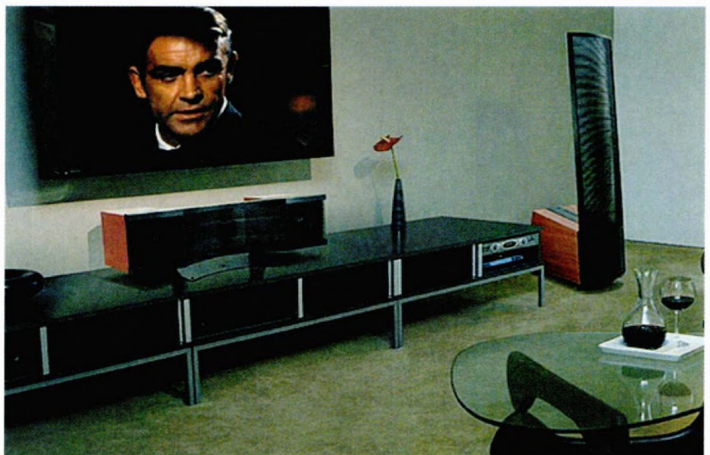
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# Second-hand guide

*We tip some of the best used amps money can buy*

**T**he first of our audio legends is the Naim NAC52 with NAP 250. Launched in 1990, the NAC52 was Naim's premium preamp until 2002. With an original cost of around £4,200, it was never a cheap option. However, despite its hallowed reputation, used examples are now available from around £2,000. Ideally, if you're buying an early one, we would recommend a serial number after 80965 (October 1992), as this brought in a circuit board revision and RC5 remote operation.

Better still are models made from December 1997 (Serial No. 138507), which have the "Pots 8" upgrade. Earlier 'Pots 7' models (November 1996 – November 1997) can be upgraded for around £250. Realistically, if we were to buy a power amp, too, a pre-1996 model is most likely for our budget. Whilst reliability is generally very good, a control board replacement could exceed £1,000, so check the board carefully for cracks.

Even older than the NAC52 is the NAP 250. The original dates back to 1975 and didn't cease production until 2002. Reliability has been BBC-proven and, like the NAC52, this power amp has something of legendary status.

Both units are fully serviceable by Naim and that even includes upgrading the cosmetics to a newer design if you should wish. For our budget, we found a scruffy, but recently serviced NAP 250 dating from the mid-eighties for £500 and a NAC52 from 1993 for £2,000. This may seem like a price mismatch, but there are many in the industry who'll tell you how much more important the preamp is than the power amp.

If you find the sound of earlier Naim equipment a little clinical, then the traditional valve virtues of the Quad II-forty with QC-

twentyfour could appeal. A classically styled and sounding valve preamp matches similar monoblock valve power amps, to give a lush and full-bodied sound. It won't be as articulate as the Naim combo, but the ability to soothe is guaranteed.

Although retro in appearance, this range was only released in 2000. Since then, there have been just minor changes. This and Quad's legendary service back-up mean that the earliest examples are excellent value. Although the guarantee is not transferable, Quad told us that because the amps were over-engineered from the outset, reliability is excellent. Valves occasionally fail, of course, and they can take out the internal HT fuse – worth checking if a replacement valve fails to revive the sound. At around £65 per pair, the chunky KT88 output valves aren't too expensive to replace; the input valves typically cost around a fiver each.

Still available for just under £5,000 new, we found a tidy 2004 pre/power example for £2,800. If you already have a suitable preamp,

**“Excellent amps though both the Naim and Quad are, they will be well out of guarantee and possibly a bit scruffy.”**

then the £2,200 asked for a pair of power amps could suit.

Excellent amps though both the Naim and Quad are, they will be well out of guarantee and possibly a bit scruffy. If you fancy something nearly new in which the store or the first owner has taken the biggest depreciation hit then it's worth investigating the Pathos Logos.

Although costing £3,750 new, we found a three-month old version with upgraded Philips Cryo valves for £2,200 and an ex-demo model from a dealer for just £2,500. All Pathos products come with a two-year guarantee that, providing the receipt is kept, is transferable. This gives both models here over eighteen months peace of mind – not bad when you consider the saving of over £1,000 from new. As for the amp itself, it is wonderfully refined with a seductive mid-range. Again, it's not as analytical as the Naim, but it's not exactly stodgy-sounding, either.

The styling divides opinion, but many appreciate the Italian flair and the quality of construction can't be faulted either. When



The Naim NAP 250 power amp with remote control (bottom) and hi-fi partner, the Naim NAC52 preamp

buying nearly new the main point to observe is condition. Amps like this are often sold on their style as much as the sound, so check both the matte-silver finish and wood trim are scratch-free.

The final option is something of a rarity. You might not have heard of the LSA Statement amp but it shouldn't be easily dismissed. LSA is an American company and its Statement amp is, like the Logos, a hybrid integrated with valve preamp stage and transistor power amp. Like the Pathos, it's also very distinctive in design and beautifully built. Although launched in 2007, it has already had a

cosmetic update. This makes the earlier pre-2008 models extremely good value. We found a 2007 model for just £2,600 – not bad for an amp that costs £7,500 new! Having said that, although LSA products come with a five-year guarantee, it's only transferable when sold through an LSA dealer. If in doubt, check with the distributors, Metropolis Music for a list of authorised retailers. The Electroharmonic 6922 valves are accessible with the lid off and cost less than £30 a pair.

If you're looking for an amp that will continue to hold its value then the Naim and Quad combos remain two of the best in their class. In their own way, they both sound pretty special, too. The LSA Signature is a riskier long-term proposition, but it offers sensational second-hand value and would make a good choice if you plan to keep the amp for a long period of time. Whichever way you spend it, though, £2,500 will give great bangs for your buck when buying second-hand. **HFC**

*Dominic Todd  
Next month, £2,000 speakers*



The distinctive-looking Pathos Logos which comes with a two-year guarantee and costs £3,750 brand new

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**NAIM** NAP 300, mint, £3,200. Naim NAC 252 (early model) and Supercap (late, olive), very good condition, all leads and boxes included, £3,750. 02380 470107 (Hants).

**MARANTZ** SA-1151 CD/SACD, (£2,000) £900 with manual. 01302 538027 (Doncaster).

**LINN** Kaber Aktive speakers and three Linn LK100 power amps in black. All in excellent condition. Active cards included and all cables. (£4,000) £1,100. 01647 61421 or email pat.tranter@yahoo.co.uk (Exeter).

**GRADO** GS1000, £500. Perfect with Grado RA1 battery H/P amp, £150. Graham Slee Solo H/P amp, two inputs, £250. All mint, boxed and light use. 01908 661094 (Milton Keynes).

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**NAIM** 112 pre, 150 power, Flatcap 2. Excellent condition, boxed (£1,850), £750 ono. Linn Ikemi, excellent condition, boxed (£1,950) £800 ono. 01384 350412 (West Midlands)

**LINN** Sondek (black), SN 65820, with Basik arm and cartridge, £300. Atacama Equinox five-shelf stand, £175. vdH First Ultimate cable, £50. 07793 725356 (Surrey).

**CHORD** 2200 CPA preamplifier and 1200B SPM power amp. Original certificate of manufacture. With balanced interconnect cables. Reluctant sale, offers please. 01825 722936 (Sussex)

**QUAD** 306 power amp, Quad 34 control unit, Quad FM4 tuner, all with instruction booklets: £295. 020 8361 3435 (N. London).

**SILTECH** SQ110 Mk2 balanced (XLR) interconnect. Cost new £1,425. Original box and as-new condition. Superb cable, £625 ono. 01491 659036 (Oxfordshire).

**RUSS ANDREWS** Crystal CU interconnect, 14db attenuation, 0.5 metre, £75. Atlas Voyager 1 metre interconnect, £55. 01483 891925 (Surrey).

**SENNHEISER** HD600 headphones, excellent condition, great sound. Boxed, £75. 01483 891925 (Surrey).

**THE CHORD CO.** Epic Super Twin bi-wire speaker cables with banana plugs, 6 metres long. New, January 2009. (£986) £350 ono. 01622 673466 (Kent)

**QUAD** QC24 valve preamp, two Quad 11-40 valve monoblocs, superb condition.



Above: Grado GS1000

Boxed, with instruction books, £3,500 total. 01202 481386 (Dorset).

**QUAD** ELS-989 electrostatic loudspeakers. Top-of-the-range speakers with an excellent bass response. (£6,500) £2,500 ovno. 01443 203496 (Pontypridd).

**PMC** IB1 speakers with stands, £1,500. Conrad Johnson Premier 17LS preamp, with new valves, £1,695. Arcam DT91 tuner, £400. All immaculate condition. 01582 460512 (Herts).

**UNISON RESEARCH** Unico R, FM/RDS/AM valve tuner, absolute bargain (£1,275) £450. Mint and boxed. Spare remote controls for Quad 99 and Primare CD110 systems. Offers. 023 8073 8935 (Southampton).

**ATACAMA** Equinox three-shelf hi-fi rack, boxed and unused, black, £195. Buyer collects. 01986 894424 (East Anglia).

**NAIM** 150X, excellent condition, £475. Croft Micro 25 preamp, one month old (£800) £400. 07716 139026 (N. Ireland)

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## BUYING TIPS

- Buying second-hand can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right.
- Do some research on which brands have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy.
- Usually, speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!

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**LINN** Ekos Mk1 tonearm on Linn armboard, excellent condition, £650 inc postage. Linn armboard for Rega RB300 arm, £25 inc postage. 01925 470619 (Cheshire)

**ROTEL** RCD820B £90, no P&P. 01606 784767 (Cheshire)

**YAMAHA** AX 592 amplifier and Mission 751 loudspeakers/Atacama SE 24 stands, all good condition. Will exchange for a Musical Fidelity XDACv3 (must be in good working order, no marks) 01924 314383 (West Yorkshire)

**GOLDRING** Lenco GL75: Classic turntable in original box, mint condition. Goldring Lenco arm and teak plinth. Cartridge included. £75. 01442 384346 (Herts)

**RUSS ANDREWS** Yellow Power mains leads, original model, 3x 1.5 metres £30. Yellow Power four-way mains extension, two metre £20. 01483 891925 (Surrey).

**KEF** XQ1 in silver. Matching stands. Excellent condition. Genuine reason for sale. £500 ono. 07766 078281 (London).

**DNM** Reson speaker cable, original solid core cut to your required length £5 per metre. 0131 346 1833 (Edinburgh).

**NAIM** CDX2 CD player (later VAM1202 model), mint condition, boxed (£3,250) £1,700. Totem Mani-2 Signature incl. stands. Maple, mint, boxed. (£4,800) £2,400. 07768 811275 or email frank@kinnie.freeserve.co.uk (Reading).

**KEF** Reference 105.3

loudspeakers in black ash. Very good condition, £700. 2x4m original Hitachi LC-OFC speaker cable (bi-wire), £50. 01949 876957 (Notts)

**MISSION** 774 pick-up arm, black £65, on Linn LP12 arm board if required, £15. Mordaunt-Short MS20i Pearl standmount speakers (black) £50. Partington speaker stands (silver) £50. 020 8464 9055 (SE London).

**TECHNICS** SL-1500 TT, £90. Pro-Ject Debut 2, Phono, Speedbox, 78 adapter, £120. Goodmans Maxim speakers, £30. Hi-Fi Answers 1975, complete, £25. Technics SL-P770 CD player £65. 01708 457691 (Essex).

**MARANTZ** CD6002 CD player and Marantz PM6002 amp. As new, in silver, £250 both or £135 each. Cambridge Audio 740A Azur amp, as new, £350 ono. 07970 115378 (South Glos).

**TEAC** Reference 300 system with DAB tuner, £320. Sony Scala system receiver, CD player and tape deck, £170. Excellent condition, boxed. 07900 866232 (Yorkshire).

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**ELAC** fs207.2 speakers, cherry finish, mint condition (£995) £425. Boxes and manuals. Could deliver, within reason. 02920 419226, or email frank8ush@ntlworld.com (South Glamorgan).

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**MARANTZ** PM7200, Marantz CD7300 (gold), Marantz PM 7001 (silver), Arcam CD72 (black), all boxed with manuals. Reasonable offers considered 01933 626185 (Northants).

**MORDAUNT-SHORT** Performance 860 floorstanding speakers (piano black). These received excellent reviews, (can email reviews and photos). (£1,900) £550. Excellent condition. 01424 446282. (Sussex)

**BOWERS AND WILKINS** CDM 1NT, standmount speakers in Cherrywood finish. In good condition with original packing and manual. £300. 07775 540362 (Cambridgeshire).

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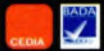
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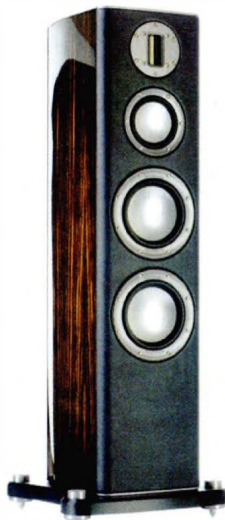


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A select group of music lovers who, for the last decade, have stretched the limits of audio. Producing a select range of musical products, all designed to give you lifelong musical enjoyment.

*"Wonderfully pure and detailed delivery. So clear and dynamic it should be bottled and sold in health shops."*

What Hi-Fi, Jan 2006



Denson Audio Technologies

## 30 DAY MONEY BACK GUARANTEE

> Please ask about our unbeatable part-exchange programme.

> **LIFETIME WARRANTY**  
Prices from £795

#### PEACE OF MIND CHARTER

- 5 year first owner warranty on all new and pre-owned equipment\*
- 14 day no quibble exchange plan
- 'Industry best' part exchange prices
- Free room optimisation consultation using our proprietary software
- Finance available on all products
- \* terms & conditions apply

**WHAT HI-FI?**  
SOUND AND VISION



September 2009

**WHAT HI-FI?**  
SOUND AND VISION

**GROUP TEST WINNER**

October 2009

**BEST BUY**

**HI-FI CHOICE**  
magazine



**WHAT HI-FI?**  
SOUND AND VISION

**AWARDS 2009**

**PRODUCT OF THE YEAR**

STEREO SPEAKERS & SUBWOOFERS

**WHARFEDALE DIAMOND 10.1**



## DIAMOND 10 SERIES

For almost 30 years, Wharfedale's famous Diamond speakers have served as the classic entry point to true high-fidelity sound, their exceptional value for money earning dozens of awards around the globe. Now, with the introduction of the Diamond 10 Series, Wharfedale has again raised the bar for affordable, high-performance loudspeakers.

The latest evolution of this classic speaker range builds upon the success of its multi-award-winning predecessors with numerous enhancements, including a more rigid enclosure and a high-gloss, polymer-finished front baffle, giving greater support to the new, improved drive units. The result is a sound that's crisp, focused and spacious, effortlessly dynamic yet firmly in control. Add the visual appeal of elegantly curved cabinets, enhanced by a choice of six perfectly formed finishes, and it's clear: the new Diamond 10 Series is the sparkling jewel in Wharfedale's crown.

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*Wharfedale*