VINYL SPECIAL...VINYL SPECIAL...



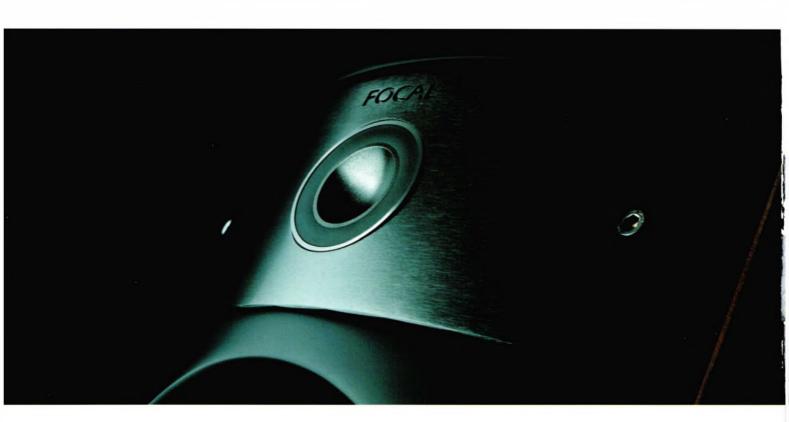
PASSION FOR SOUND AUGUST 2008 £3.99 WWW.HIFICHOICE.CO.UK speakers See p23 THE ULTIMATE GROUP TEST H-IH TURNTABLES £600-£1,300 **STREET KINGS** Cambridge Audio's high-end debut! techradar.com

Yamaha's back! With a must-hear CD/amp combo Russ Andrews SP-1
The Focal that Russ built

Future MEDIA WITH PASSION



Electra S





When Focal wanted to follow the success of the Electra Be range with a speaker line with similar attributes but at a substantially lower price, the challenge seemed at first very difficult.

After all, the Be has proved to be the perfect speaker for many music lovers - and altering a classic recipe does not always guarantee savoury results.

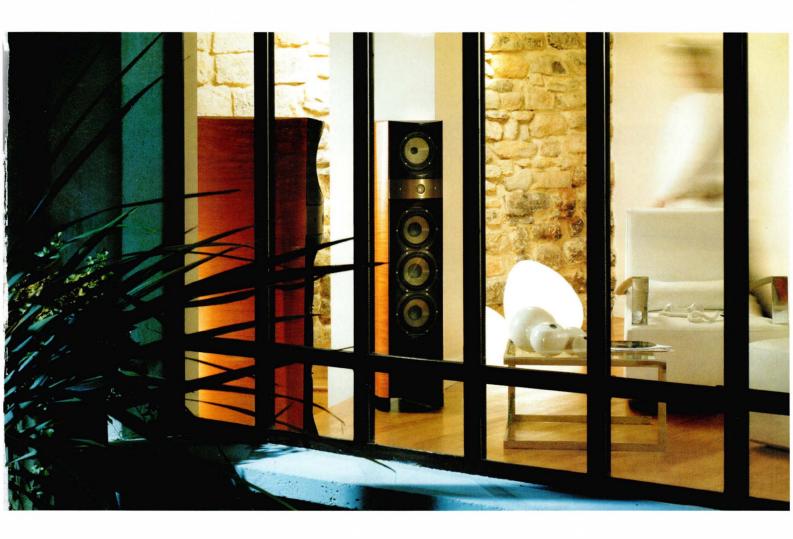
In the end, the answer proved very simple. Change very little.

A new tweeter; an AL/Mg alloy unit in place of the exotic beryllium dome, and a simpler finish choice of Classic (left) or Macassar Ebony.

And that's about it - apart from the smaller price tag of course.

Simple.

Electra Be



Accept no compromise....

Electra 1037 Be

- " A phenomenal balance of musical virtues".......
- "Somewhere in the design process, someone wound the fun control round towards its end-stop".....
- "The Focal Electra 1037Be offers superb measured performance.... That on-room response, one of the best I have encountered. Wow!"
- "Transients were faster than sharp, approaching the ease, physicality and true speed that lets you know, even from down the block or round the corner, that you're hearing live music, not a recording".

Stereophile July 2007

Electra 1027 Be

- "A beautifully sweet and sparkling top end, suffused with the finest and most delicate detail".....
- "There's no shortage of deep bass weight or gravitas here"...

"It's a remarkable speaker for the money"...

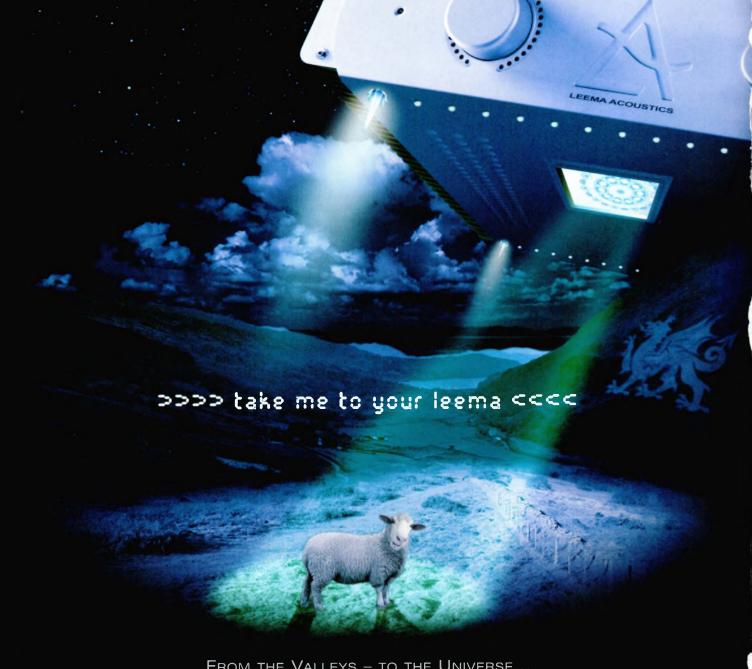
Hi-Fi Choice Feb 2006 - Editor's choice award

Hi-Fi Choice July 2006 - Best buy

Hi-Fi Choice Sept 2006 – Component of the year < £5,000 HiFi Critic Dec 2006 – Speaker of choice < £6000







FROM THE VALLEYS - TO THE UNIVERSE...

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info@audiodestination.co.uk

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www.coolgales.com

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Bath, Wiltshire BA2 6LU

Welcome to the issue..

HI-FI CHOICE AUGUST 2008 ISSUE 309

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



What audio format do you hold most dear? Is it vinyl or CD? — or given the choice, would you plump for the extra resolution of SACD or even DVD-Audio? Your choice is likely to be influenced by a number of factors; your age, your position on analogue versus digital and your perception of what simply sounds 'right'.

The question is particularly pertinent in the current climate, with the swift decline in sales of CDs and CD players. With the big names in hi-fi moving towards a hard-disk future, it's interesting to debate the popularity and longevity of the silver disc. Will it fade away only to enjoy a renaissance like vinyl, or will it remain the dominant music carrier for computer-shy generations who have accumulated CDs in the billions? Only time will tell.

Despite vinyl being declared 'dead' over the years, it has endured all manner of threats and this month we celebrate its staying power with two key turntable features. Our cover star is Funk's incredible Saffire, the new top-of-the-range turntable from a man with an impeccable background in vinyl — Arthur Khoubesserian, formerly of Pink Triangle fame.

We've also put together a definitive turntable *Ultimate Group Test* featuring the key players in the market, at the sensible side of £1,500. With our unique, three-step, in-depth test and measurement programme, you can be assured of verdicts you can trust, from the most experienced hi-fi experts in the business.

There's just time to highlight two other key exclusives in this issue; Cambridge Audio's phenomenal high-end 840E/840W pre/power amp and Yamaha's retro-cool CD-S2000 CD/SACD player and A-S2000 amplifier; two reviews that make fascinating reading.



Dan George Editor

WHY WE'RE NO.1 FOR HI-FL.

- Since 1975, Hi-Fi Choice has delivered the world's most thorough, no-nonsense quide to buying high-performance hi-fi
- We now publish 13 issues a year including a special edition, The Hi-Fi Awards – the most important annual awards in the hi-fi calendar. We also produce The Collection, a separate stand-alone special edition for the newsstand, dedicated to the finest hi-fi on the planet.
- Every issue contains a potent mix of the latest hi-fi news, views, music, interviews and in-depth tests, brought to you by a prestigious team of expert writers from the UK and around the world.
- We only review the most interesting and worthy new hi-fi components – high-performance audio products across a wide range of price points. We obtain more genuine hi-fi exclusives than any other magazine – if it's worthy of your attention, you'll read about it first in Hi-Fi Choice.
- Our tests are the most rigorous in the business, conducted by the UK's most experienced team of hi-fi reviewers.
- Alongside in-depth component reviews and accessory round-ups, every regular issue of Hi-Fi Choice features an Ultimate Group Test on a core hi-fi product category – from source components to amps and speakers.
- Each Ultimate Group Test is conducted using a uniquely thorough three-step test regime. This consists of carefully controlled 'blind' and sighted listening sessions, a full set of laboratory tests and extended 'hands on' testing by the primary reviewer. No other magazine goes to such lengths to ensure accurate comparative reviews.
- Components that best meet our exacting standards are listed in the Buyer's Bible section – the world's most reliable reference guide for the hi-fi buyer.
- That's why Hi-Fi Choice is...
 The Essential Guide To Audio Excellence In The Home



the most worthy components make it into Hi-Fi Choice

Comprehensive in-depth reviews – we give you the full story



Annotated shots show you what's really going on inside

Interviews with designers give you extra background information

Carefully considered verdict scores, so you really know what we think of a product—



THIS ISSUE'S EXPERT WRITERS AND REVIEWERS INCLUDE..



A former HFC editor, Paul has been writing about his beloved his fi hobby for nearly 30 years. In that time he has become one of the world's most respected scribes and probably the UK's foremost loudspeaker reviewer.



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.



Richard is a professional musician, 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 HFC.



Freward for the first Review magazine, Malcolm was one of the best known and most outspoken reviewers of the 1980s and 1990s. He currently edits his fi industry bible The British Audio Journal.



Alvin GOLD

Alvin has been writing about his obsession for more than 20 years. In that time he has contributed his encyclopaedic knowledge to almost every hi-fi periodical you can think of (and several more besides)



Alan began his journalistic career in the early 1990s. Now a successful freelancer, you too can benefit from his extensive his fixowledge, from purist two-channel stereo to the latest multichannel



Jason previously edited HFC, but can now be found in the wilds of Sussex indulging himself with the very best hi-fi money can buy. His own system is simply sensational and his love of music knows



A highly experienced journalist, Dominic's sharp ears and retail experience are a valuable mix for HFC. Each month, Dom dispenses priceless second hand buying advice that always comes in handy.













Contents

NEWS AND FEATURES

9 PRODUCT NEWS

The juiciest new fruit from the hi-fi tree

14 HAPPENINGS

Hot stories from around Planet Hi-Fi

16 DISPATCHES

The hi-fi commentators with clout

23 COMPETITION

Win Monopulse speakers worth £1,495

24 UNDERSTANDING... DAB

Digital Audio Broadcasting explained!

28 CHOICE CUTS

New music rated by our experts

30 JAZZ MASTERS

Exploring the world of this uniquely 20th Century American art form

34 CHOICE MAIL

A selection of your letters and emails

38 ASK ALAN

New! Your hi-fi questions answered and your technical problems solved

EQUIPMENT REVIEWS

IN-DEPTH PRODUCT TESTS

- 42 Funk Firm Saffire turntable
- 46 Yamaha A-S2000 integrated amp/CD-S2000 CD/SACD player
- 50 Epos M5i/M16i loudspeaker
- 52 Cambridge 840E/840W

- pre/power amplifier
- 57 Denon AH-D2000 headphone
- 58 Advance Acoustic MPP 206/ MAA 406 pre/power amplifier
- 61 Russ Andrews SP-1 loudspeaker
- 62 Amphion Xenon loudspeaker

ROUND-UP

LOUDSPEAKER STANDS £120-£299

- 64 Custom Design RS302
- 64 Kudos S50

- 65 Partingdon Dreadnought Broadside
- 65 Quadraspire QX-600L

ULTIMATE GROUP TEST

TURNTABLES £600-£1,300

- 70 Clearaudio Emotion/Satisfy/Aurum
- 71 Funk V/RB250/Denon DL103
- 73 Michell TecnoDec/RB250/Denon DL103 79
- 75 Pro-Ject X-Pack
- 77 Rega P3-24/Elys/TT PSU
- 79 Roksan Radius 5/Chorus Black

BUYER'S BIBLE

Ultimate guide to high-performance hi-fi and AV equipment, gathering together all our favourite products for you Your shortlist starts here...

SOURCE COMPONENTS

- 92 CD players
- 94 DVD players
- 98 Vinyl
- 101 Radio tuners

AMPLIFIERS

- 102 Stereo amps
- 104 AV amps

LOUDSPEAKERS

- 106 Stereo speakers
- 111 Subwoofers

ANCILLARIES

- 113 Headphones
- 114 Cables
- 115 Stands and supports

PRE-LOVED GEMS

Buy or sell your hi-fi in our special second-hand section...

- 124 2nd-hand shootout this issue, turntables around £1.500
- 128 FREE Readers' classifieds

READER SERVICES

Our regular information service, including back issues, dealers guide, and the latest subscription offer

- 82 How to subscribe
- 85 Back issues

- 116 Dealer Guide
- 123 Dealer Directory
- 130 What's coming up in the September issue on sale 24th July



MULTITASKER

TEAC's DR-H300 DAB.

DVD/DAB Receiver - HDMI output with upscaling to 1080i and a USB input for MP3.

This **little box of magic** is a real multi-tasker! HDMI interface delivers superb digital quality pictures to your TV with matching sound quality. It also delivers music from almost any source: CD, DVD, Hybrid CD or DiVX Disc, MP3 files on a USB memory stick plus crystal clear DAB radio. Another winner from TEAC, it's all you'll ever need to go beyond your audio **and** visual expectations.

Don't just take our word for it:



"...it sounds better than everything else. And we're not talking 'slightly' here: we're talking 'lots'." Sept 2007 ★★★★



"Involving, weighty and detailed sound with CDs and radio; comprehensive specification." May 2007 ★★★★



"Unbeatable value for money. Quality." Oct 2007 ★★★★★





The leaders in digital music





NEWS

PRIMALUNA PROLOGUE EIGHT .::

The world's first valve-based data clocking system in a CD player

Plonking valves in a CD player is nothing new, but tubular expert PrimaLuna has taken the product to new levels with its ProLogue Eight player. In addition to using valves in the output stage (the usual place to insert valves in a CD player), the ProLogue Eight sports the world's first valve-based data clocking system.

Called the Super Tube Clock, this proprietary system builds on the standard clocking chip – an electronic oscillator that is used to generate a timing reference signal. It is an element that is critical to CD player design, as it is used to synchronise the data being taken off the disc and adds a low-noise mini-triode valve in the digital clock signal chain. But, don't assume that the use of valves means the player is behind the times, as it features a state-of-the-art Burr-Brown SRC4192 192kHz sample-rate converter, coupled to a 24-bit/192kHz PCM1792 digital converter.

The dual-mono, zero-feedback output stage is also distinctly hollowstate, with a 12AX7 and 12AU7 valve and even a valve-rectified power supply for each channel; a concept adapted from the ProLogue Three preamp. It's not simply the valve section that makes a difference; the player also sports, custom-designed isolation transformers to separate the analogue and digital devices – which is claimed to reduce signal degradation. High-quality resistors, MOSFETs and Solen capacitors are used throughout the CD player, too. As well as bringing high-end 'cred' to the design, the audiophile-grade components are suggested to yield superior transient response, detail and channel separation.

The finish also manages to combine businesslike and elegant in one typically PrimaLuna stroke. The hand-rubbed, high-gloss finish is available with a silver or black faceplate and a quick-release, classy tube cage is also included. A heavy-gauge, anodized, brushed-aluminum remote handset — which controls all important CD operations plus key functions of other PrimaLuna components — is supplied with rubber rings on both ends to protect furniture. The Eight joins the PrimaLuna range of valve integrated and pre/power amps and forms a major part of Pistol Music, a division of PrimaLuna's UK importer/distributor Absolute Sounds. The PrimaLuna Eight will be subject to a full review in Hi-Fi Choice soon, don't miss it!

Price £1.590 **Due** now **№** 020 8971 3909 **⊕** www.primaluna.nl





A New Era for Audio

Red Reference CD player CPA5000 Pre Amplifier SPM 6000 Monoblocks

And for your second home

CPA 3000 Pre Amplifier SPM 1050 Stereo Power Amplifier



These superb systems have been designed as the ultimate audio components with our stunning looks and truly state of the art design utilising ground breaking technologies to give the most accurate sound reproduction that can be obtained.



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audiofile ...

ALFRED DUNISILL/MERIDIAN AD88 .::

Luxury high street marque joins forces with audio specialist

Not content with bringing high-quality one-box audio to the Ferrari set, Meridian now rubs shoulders with British crème-de-lacrème, in the guise of luxury lifestyle marque, Alfred Dunhill. Nestling alongside Dunhill's elegant range of timepieces (watches), writing implements (pens) and North South bags (manbags), the Alfred Dunhill AD88 entertainment system (table-top hi-fi) is designed to be as understatedly elegant as it is great sounding.

Hand-built in the Meridian factory in Huntingdon, the system is finished in polished wood and piano lacquer, in the Alfred Dunhill tradition. Beneath the refined exterior lies a 2.1 channel DSP-based sound system, using technology taken from Meridian's top-flight electronics. This DSP not only maximizes the performance of the three built-in speakers, but allows the user to fine-tune the performance of the AD88 depending on where it is placed. The AD88 also sports a CD player, DAB/FM/AM tuner (with a built-in antenna) and a trio of amplifiers, each said to be capable of delivering 80 watts.

Like its F80 stable-mate, the AD88 can also play DVD-Video discs. The Alfred Dunhill model raises the bar further still by including an iPod docking station. The electronics are housed in a solid die-cast metal base plate and the loudspeakers are enclosed in a densely-layered wooden cabinet. The display is a new OLED design and Meridian and Alfred Dunhill have worked hard to make the button layout (both on the front panel and remote control) ergonomically friendly.

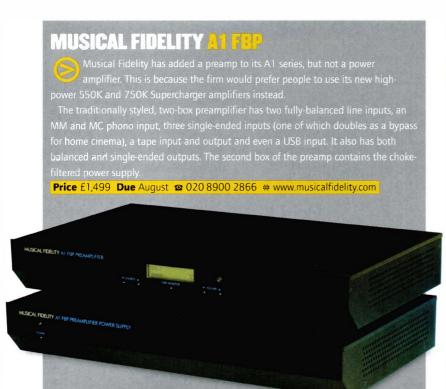
But why Dunhill? Back in April, the Muse SA Group, a Luxembourg-based investment consortium announced that it had acquired a minority share in Meridian Audio. The consortium includes a venture capitalist subsidiary of Richemont SA, which backs luxury brands like Montblanc, Cartier, Purdey... and Alfred Dunhill. Although Meridian has apparently turned down design partnership offers within the group, we wouldn't be surprised if more luxury branded audio systems sporting Meridian engineering excellence follow suit... and a hand-tailored suit at that.

Price £2,000 Due July © 01480 445678 www.meridian-audio.com



audiofile

NEWS



UNISON RESEARCH P40

Following in the footsteps of the gorgeous P70 (HFC 302), the new P40 integrated amplifier is also an all-valve, push-pull design, delivering 40 watts into six ohms, with performance suggested to be comparable to that of a single-ended design. The four-input amplifier uses microchip-controlled hermetically-sealed relays on the input selector and a double-gang Alps blue potentiometer as the motorised volume control. Featuring an ECC83 and ECC82 triodes in the input stage and a pair of the popular EL34 power valves in the output, the design sports overspecced output transformers that are said to deliver 30kHz bandwidth at full output. This new circuit is able to continuously monitor both the bias current level and the balance of the two current levels in the two 'arms' of the pushpull circuit, acting automatically to correct the levels as necessary. No manual bias adjustment on the part of the user is needed and even when a pair of EL34 valves are replaced the adjustment is taken care of automatically. The elegant black glass finish, rolled edges and funky remote control help, too. Form an orderly queue.

Price £2,350 Due now ☎ 01753 652669 ⊕ www.unisonresearch.com



SONUS FABER CREMONA AUDITOR ELIPSA

Loudspeakers from the Italian Sonus Faber company are always designed to sit at least a

metre away from the rear walls. The new Cremona Auditor Elipsa is the notable exception. Intended as a wall-mounted speaker, the Cremona Auditor Elipsa draws its design cues from the Stradivari Homage, with its distinctive eliptical cabinet.



The Elipsa features a 25mm ring-radiator tweeter and a 150mm wood fibre cone mid-bass unit. The rear-ported, solid-wood cabinet comes in natural maple and light graphite options.

Sonus Faber has designed the Cremona Auditor Elipsa to work comfortably on a bookshelf, but it also comes with a wall-mounting kit.

Price £2,690 per pair **Due** now **2** 020 8971 3909 ⊕ www.sonusfaber.com

THORENS MINI AND JUBILEE

Most of us might be happy with a card and a birthday cake, but not Swiss turntable expert Thorens. To recognise the company's 125 years in the music business, Thorens has announced the Jubilee

turntable. This platter spinner is called "a turntable without limits" in the corporate blurb. Certainly, weighing in at 58kg, the deck appears not to have much in the way of a weight limit. The

heavily damped turntable is said to incorporate four independent 'levels of operation'.

The Thorens Jubilee sports two independent and interchangable tonearm platforms that allow fine adjustment of horizontal tracking angle, one designed for a 10-inch or 12-inch Thorens TP 125 arm and the other designed for 'foreign' arms at anywhere between 9-inch and 12-inch armtubes.

At the other end of the spectrum, (by £27,760) the Jubilee is joined by the entry-level Mini turntable. This is a compact three-speed fully manual turntable that comes supplied with arm and cartridge.



CRYSTAL BRIDGE

It's not every day that we get to deal with something truly new in audio. Crystal Cable has announced the new Bridge cable add-on. Each Bridge comprises a pair of phono plugs (that plug into your electronics), a pair of phono sockets (that allow you use to hook up your existing interconnect cables) and a connecting cable with an ultra high-speed filter (>20GHz) at each end.

Crystal's Bridge is claimed to lower noise and both audible and measured distortion in an existing audio system. It's also suggested to improve dynamic range, microdynamics and frequency response. The difference between the Bridge and Bridge Dreamlink is said to be in the choice of filter; Bridge uses an "HPSR filter made of 99.9999 per cent silver-gold", while Dreamlink raises the bar by using "99.9999999 per cent silver-gold".

The Crystal Bridge and Dreamlink are based upon Siltech's Zero Ohm Link design, announced at the recent Munich High End show.

Price from €450 (Bridge) to €1,500 (Bridge Dreamlink) UK pricing TBC **Due** now **2** 020 8971 3909 www.crystalcable.com

HECO ALEVA

Heco's latest loudspeaker range comprises an Aleva 400 floorstander, Aleva 200 standmount, matching Center 2 centre channel speaker and Sub 25A subwoofer The bass drivers on the Aleva range are Heco's own 'Kraft' designs using an amalgam of longfibre pulp and wool to match the paper



cones used in classic Goodmans and Jensen drive units.

They are joined by a soft-dome tweeter with a horn-loaded aluminium faceplate and both connect to a bi-wired crossover network with OFC wiring and feature MKT capacitors.

Price from £500 (Aleva 200) to £1,000 (Aleva 400) **Due** now **2** 01822 612449 **⊕** www.heco.com

NAD PP-3

NAD has improved on its popular PP-2 MM/MC phono preamplifier. The new PP-3 now includes a USB output, allowing the user computer access for ripping vinyl collections. Its phono section consists of a low-noise discrete MC preamp for moving coil cartridges, followed by a low-noise opamp based RIAA MM stage. The PP-3 retains rearmounted connections to a line-level phono input of a traditional stereo amplifier, but in addition sports a front-mounted USB connector. The PP-3 also includes a CD-ROM containing VinylStudio Lite software for Windows PCs, which allows the user to store vinyl recordings in MP3 or .WAV formats.



AMPHION KRYPTON2

The Finnish Amphion speaker company has just upgraded its flagship model, the Krypton. The new Krypton2 design features a newly developed 25mm titanium tweeter (made in association with SEAS) sitting in Amphion's proprietary damped 222mm-wide, wood-fibre 'U/D/D' waveguide. It also uses a pair of 200mm SEAS wood and plant fibre midrange units, in Amphion's special double hypercardioid 'TAPS' (short for 'Time Accurate Point Source') configuration and has an adjustable bass response reaching down to a claimed 19Hz from the 250mm Peerless nomex bass driver. The hypercardioid radiation pattern (from 160Hz upwards) is used to help reduce room interaction, according to Amphion. The 1.37m tall cabinet is almost half a metre deep and allows the Krypton2 to achieve a claimed frequency response of 19Hz-30kHz, all the while delivering a relatively comfortable 87dB sensitivity and suggested nominal impedance of four ohms.

Price £10,000 per pair **Due** now **2** 01623 517000 ⊕ www.amphion.fi



Soundbites

ISOBLUE the stand expert has announced a new modular stand to work alongside its popular 60 Series products. The new Special Branch range is a high-end system supplied in deep satin lacquer, for £195 per level.

The company has also announced a lower cost fourtier stand finished in polymer charcoal finish, for £299.

DENON's new D-M37DAB all-in-one system is the first new entry-level micro-hi-fi from the brand in almost three years. The system includes a CD player that can cope with WMA and MP3 encoded CD-R, a DAB/FM tuner and a port for one of Denon's clever iPod docks. The D-M37DAB is priced at £300 with the SC-M37 loudspeakers, or at just £230 on its own.

© 01753 680568

PHILIPS £90 SHE9850 headphones are suggested to deliver professional-grade acoustic performance from an in-ear design. The new in-ear cans designed and tuned by Philips own 'iLab' team - have specially selected armatures, magnets, drive rods and diaphragms and are mounted in a metal housing. It features the company's Angled Acoustic Design, which is anatomically correct and adjusts the angle of the speaker tube and ear bud to the listener's ear canal. A slim-line, high-quality metal carrycase with its own cable bank seals the deal. **2** 0906 1010 016

AUDIO-TECHNICA's new

flagship headphone system

- the ATH-W5000 – features
striped housings, carved from
solid blocks of ebony. Under the
slabs of rare tree are largeaperture 53mm neodymium
magnet transducers, featuring
voice coils wound with '8N' purity
copper, which is said to deliver accurate
detailed performance from 5Hz to
45kHz. A hard carry case plus a cable tidy bag
are also included in the £700 price tag.

© 0113 277 1441

SANDISK has announced a new MP3 player called the Sansa Fuze (pictured!), which supports music, videos, photos and even includes an FM radio. It's BCB capacity can be increased thanks to a

allows easy transfer from the player to a mobile phone or PC. The UK price of the Sansa Fuze is still to be confirmed, but the US version is priced at \$100. www.sandisk.com

microSD slot, which also

audiofile ...

HAPPENINGS

⊗ Hi-Fi Diary

AUGUST

29-03

Internationale Funkaustellung Messe, Berlin www.ifa-berlin.com

SEPTEMBER

- 3-7 CEDIA Expo 2008
 Colorado Convention Centre,
 Denver CO, USA
 www.cedia.net/expo
 (trade only)
- 18-21 Top Audio Video Show Atahotel Quark, Milan, Italy www.topaudio it
- 19-21 London Sound & Vision Show Park Inn, Heathrow www.chestergroup.org
- 24-27 Hi-Fi Show 2008 Hotel Holiday Inn, São Paulo, Brazil www.clubedoaudio.com.br

OCTOBER

- 3-5 High End 2008 Show Iris Congress Hotel, Moscow, Russia www.hifishow.ru
- 10-12 Rocky Mountain Audio Fest

 Marriott Denver/ Hyatt Regency Tech
 Center, Denver CO, USA

 www.audiofest.net
- 12 Audiojumble 2008

 The Angel Leisure Centre,
 Tonbridge, Kent
 www.audiojumble.co.uk
- 31-02 Stuff Live/What Hi-Fi Show ExCeL London www.bestofstuff.co.uk

NOVEMBER

20-02 DreamHouse Sound & Vision Show
KyivExpoPlaza, Kiev, Ukraine
www.dreamhouse.ua

Ultimate Azimuth

Dr Feickert Analogue has developed a cure for a problem that it claims afflicts 95% of record players, namely incorrect stylus azimuth. Azimuth is the angle at which the stylus sits in the groove, something that is considered to be correct when the cartridge body is upright. Dr Feickert asserts that a great many styli are not fixed at precisely the right angle and has produced software to prove it. Used in conjunction with a supplied test record the Adjust + system allows you to set correct azimuth and minimise crosstalk, in order to produce superior imaging and to remove inner groove harshness from vinyl.



MusicGiants extra

High-def download specialist MusicGiants, has signed up Image Entertainment, "a leading licensee, producer and distributor of home entertainment including music, movies and concerts". In the process, the download site which offers DRM-free, uncompressed music to the discerning, has added 200 albums. This is thanks to Image Entertainment's subsidiary Egami Media, which distributes music from a number of labels including its own Image Music Group. The latter's back catalogue includes live concert material from The Moody Blues, Phil Lesh and Friends and the inimitable Yanni.



Naim roadshow

Naim Audio is taking its latest goodies on the road for the Summer Sounds tour. The company will be demonstrating the HDX hard disk player, range-topping Superline phono stage and Power-Line mains cable. As well as hearing these new components, you will get the chance to meet key members of the Naim team and enter a draw to win a Naim HDX. The events will be held at hi-fi stores across the country through to July. To find participating dealers go to www.naim-audio.com and click on Summer Sounds.



JVC and Kenwood

One time arch rivals JVC and Kenwood are to merge in October, if a shareholder meeting (about now) approves the venture. The two companies combined their car and portable audio divisions last year forming J&K Holdings in the process. One of the reasons put forward for the merger is the intense competition coming from China and south east Asian manufacturers. The new holding company looks likely to be headed up by Kenwood chairman Haruo Kawahara and JVC president Kunihiko Sato. As things stand, the new company is expected to make 43 per cent of its sales in the home and mobile electronics sector including JVC's range of wood-coned speakers such as the SX-WD10.



DXD for SACD

Digital Extreme Definition or DXD is a high-resolution recording format created in order to be able to edit recordings destined for release on SACD. The format's traditional recording method is DSD (Direct Stream Digital), but its one-bit nature makes it less studio-friendly than PCM formats like DXD. Co-developed by Digital Audio Denmark and Merging Technologies, DXD has a 24-bit resolution and 352.8kHz sampling rate producing a data rate of over 11 Mbps, which is four times that of DSD. The format has been used to make recordings for Telarc and 2L alongside a number of other audiophile labels.



Bowers & Wilkins Music Club

Bowers & Wilkins has teamed up with Peter Gabriel's Real World Studios to Bowers & Wilkins has teamed up with received one is Society of Sound online launch the Bowers & Wilkins Music Club. A part of its Society of Sound online community, each month the Music club selects an exclusive album recorded at Real

World which members can download for free. The albums are distributed as DRM-free, lossless files and you can subscribe for six months (£23.95) or a year (£33.95). The opening offering is Bought for a Dollar, Sold for a Dime by Little Axe. The site will also host interviews with Society of Sound fellows such as Cassandra Wilson, Dave Stewart and Peter Gabriel, as well as long time Bowers & Wilkins design guru Kenneth Grange. There will also be podcasts from multichannel soundscaper and producer Martin Ware (Heaven 17).



The Insider

TONY SALLIS Job Title: Managing/ Tech Director Company: Coherent Systems



What is your most exciting product currently in development?

For the last 18 months, we have been working on some ground breaking signal transfer technology, which is producing some surprising results that just make us smile when we hear them.

What is the future of hi-fi in the home?

Home hi-fi has a place without question, however, the implementation and methodology needs to evolve with the changing pace of technology and the publics' requirements. Very simply, adapt and change with the times or fall by the wayside.

What's the best innovation you've encountered recently?

All the best innovations are usually very simple and straightforward; recently the most eye-opening product we've come across is the Black Ravioli isolation system. A serious product that's amazingly simple.

Can 'Generation iPod' be turned on to hi-fi?

I believe a 50/50 possibility in that, those that stop, listen and absorb the music, do then understand. For the others total convenience wins through and quality may not be an issue for them.

Apple's iPod – blessing or curse, and why?

The iPod, mostly a good thing... bringing more music to a wider audience in a neat tidy package. Portability, plus the gadget factor all made Apple a serious amount of cash. Downside? Sound quality is not there yet by a fair margin

Will downloading kill the CD player?

Downloading is nothing more than record companies trying to maximise profits, cut costs and, unfortunately, sound quality in the bargain. Though with the amount of compression on modern recordings, it's sometimes difficult to tell where a download stops and CDs start. Genuine high-quality download files may start to have the edge in time, however there's something satisfying about owning a CD jewel case or LP cover.

Are audio servers the future?

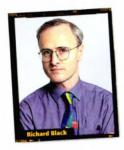
Servers currently are starting to show potential now and I do feel it will be the way that music is delivered through out the home/ work place in years to come. However, technology marches on. Maybe the new high-resolution formats, coupled with optical storage devices, will be the future? One things for sure, it won't stand still!

What type of products really excite you?

On a personal level, I love to delve into a product; mentally reverse-engineer it, see how the designer has overcome key issues, added new innovations and how the format/layout of the product has been thought through form start to finish. Why they have chosen to use that particular component, etc. Currently my favourites are the Esoteric players and the Belles statement/ Dartzel amplifiers.

audiofile:

DISPATCHES



For the record

The merits of portable audio recorders

n last month's issue (HFC 308) our 'Roundup' consisted of four portable audio recorders. This has become quite a lively little corner of the audio market - apart from the four we reviewed, there are at least three other models of broadly similar specification currently available in the UK, plus a Sony model that appears to be unavailable here. The gist of each is the same: a digital recording device capable of accepting signals from internal or external microphones, or a line-level source, with linear PCM and MP3 recording stored on a removable solid-state memory card. Recordings, once made, can be played back over headphones or uploaded to a computer via high-speed USB.

Now personally, I've never been much into portable audio. I've got plenty of tunes in my head and I simply don't feel a need for music on the move. On the other hand, I'm an avid recorder of all sorts of things – rehearsals and gigs I'm personally involved in, concerts I attend, conversations of interest for various reasons and so on. These little pocket-sized recorders have reality caught my imagination, to the extent that I bought the Edirol R-09 and have used it several times a week since.

What's so good about it/them? Really, it's a combination of factors. The convenience, for a start; its built-in microphone immediately removes one obstacle to rapid recording action. And the speed, too – all these devices are ready to record within a few seconds of switching on. On the whole, the manufacturers have cottoned on to something that most MiniDisc portables seemed to miss, which was the necessity of having large enough, clearly labelled buttons for one to operate the device instinctively. What's more, they all have unambiguous feedback that the recording is taking place, thanks to a combination of an informative display and a steady red light.



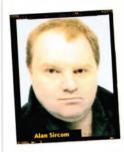
"Perish the thought that you might actually break the law, but my R-09 has sat, in a thin sock, on my lap at several concerts."

The sound is also quite extraordinarily impressive. Even the least good of these little devices gives good clear sound from internal or external mics. In fact, I've used the R-09, plus a single (stereo) external mic and dedicated mic amp, to record a commercial CD. The linear PCM recording format is, of course, essential to that. But it's not the whole story, which also depends on high-performance integrated circuits that can deliver good sound from battery-type operating voltages.

Have you ever used a dictating machine? The modern digital ones have pretty gruesome sound quality, but these semi-pro recorders are great for recording memos, meetings etc. If you don't trust yourself to set a sensible recording level (not hard and settings aren't lost when you turn off) they all have optional automatic level control. Of course, they all function as a high-quality portable music player too and with a high capacity SD card you can get several CDs on board in full, uncompressed quality. Perish the thought that you might actually break the law, but my R-09 has sat, in a thin sock, on my lap at several concerts. Oh, and you can use them all as a general-purpose

backup device for files on your computer. I tend to avoid gadgets like the plague, but this is one class of them I love!

> 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



A new Golden Age of hi-fi?

Could Blu-ray Audio be the tonic?

n the face of it, music has no place in the latest high-res systems. The best the audiophile can hope for, is SACD. It may have suffered thanks to the DVD-A/SACD format war, but for those of a classical persuasion, SACD and its 5,000+ titles is well worth seeking out.

Blu-ray offers a small chink of hope for the audiophile. In the Blu-ray specification list is a BD-Audio format. This is called 'Profile 3.0' and follows in the footsteps of the latest 'Profile 2.0' players (a.k.a. 'BD Live' players).

Aside from the obvious increased storage potential, Blu-ray Audio has another major advantage over SACD - it doesn't have a rival anymore. With HD DVD an early casualty in the high-resolution format war, Blu-ray has the distinction of being the 'last disc standing'. The chances of yet another disc format appearing in the future is small; the next method of delivering content will be a downloading system, but this poses piracy and bandwidth problems. Squirting upwards of 50GB down conventional telephone lines used for the current generation of broadband is going to put a huge strain on the system. So, for the foreseeable future, Blu-ray represents the king of content delivery.

For Blu-ray Audio to stand a chance though, one of two things needs to happen; either Profile 3.0 needs to be backwards compatible with Profile 2.0 players (specifically, PlayStation 3, whose owners represent a major reservoir of current potential Blu-ray owners), or the dedicated Blu-ray Audio format and players needs to be available very soon. At the moment (PS3 notwithstanding), Blu-ray is still relatively undeveloped and if the Audio format arrives after Blu-ray Profile 2.0 reaches some kind of critical mass, BD-Audio will go the same way as DVD-Audio. Okay, a significant part of the reason for the demise of DVD-Audio was the near total lack of marketing. Even at its, err, 'peak', if you asked most people about DVD-Audio, you'd either be met with a blank stare or have a discussion about the latest Bjørk video. However, the fact that DVD-Audio simply wasn't there when DVD went from 'whassat?' to 'want one' didn't help matters

It's currently little more than idle speculation, but if Blu-ray Audio stands wholly alone from Blu-ray Profile 2.0 and earlier players, it will hopefully be taken up as the ultimate in audiophile equipment. And whether that spells a new Golden Age of hi-fi, or the death of the format in a few years... well, that's up to you.

Alan Sircom began his journalistic career in the early 1990s. He has since become one of the hi-fi and AV industry's most respected scribes



HI-FI REVISITED

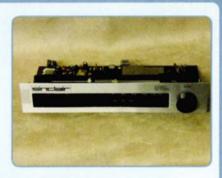
SINCLAIR PROJECT 60

The eponymously named Sinclair
Project 60 system, dating from
1969/1970, was undeniably one
of the highlights of its time. It
came from the same stable who gave you

black-faced digital watches, virtually unusable LED calculators and radios the size of matchboxes, before finally going off the rails completely with the C5 electric car.

Project 60 was Sinclair's ultra cute entry into the 'audio is fun' market. I remember clearly the first time I encountered a Project 60 FM tuner. Like other Project 60 models, this was an unbelievably cheap kit - about £10 as I recall, though it was also available ready built for around £25. There were some intriguing technical details, such as printed circuit coils, of which it was one of the first protagonists. I remember seeing one working in Audio T's premises in West Hampstead, London. In those days, Audio T was my quality dealer of choice, but to be frank I was surprised to see the P60 tuner in the shop nestling among the gleaming Transcriptors turntables and Cambridge Audio amplifiers. I asked why it was there and was told that they had assembled it and found much to their surprise that it worked. They even intended to leave it running until it failed. I didn't follow this up, but it fairly reflects the flavor of the beast.

Sinclair's Project 60 range included quite a few mutually compatible components intended to work in unison. The tuner was an FM only design with a phase lock loop detector – a novelty art the time – and varicap diode tuning, as well as the previously mentioned printed circuit coils, though many users were probably more impressed by its continuous loop tuning indicator and the compact size and contemporary appearance of the unit. Similarly compact and also undeniably elegant, the Stereo 60 was the matching preamplifier. I have a copy of the documentation which lists it as costing £9.19.6p and the launch date as just one year before the tuner – 1969. It was



"...black-faced digital watches, virtually unusable LED calculators and radios the size of matchboxes..."

kept in the range until 1975, which I believe is when Sinclair pulled the plug on its ambitions as a hi-fi manufacturer. Again ultra-compact and visually neat, the unit offered three inputs, including phono (magnetic, ceramic or crystal!), bass, treble, volume and balance.

The preferred power amplifier partner was a pair of Z30 monoblocks, 'the world's lowest distortion high fidelity amplifier. Although, the information I have disinterred suggests that the unit has problems with heat dissipation near its 25-watt output limit, which in effect restricted its output to 15-20 watts and that it was quote 'capable of achieving reasonable results if not pushed too hard' unquote. The Z30 was intended to complement Sinclair's entry level power amplifier, the Z12, which it outperformed by virtue of over 60dB of negative feedback How long is it since you saw a power amp's credentials laid out in such glowing terms? A year later, a more powerful variant was introduced; the 50-watt Z-50 and reliability was less then perfect. It was fed by a customized power supply, the PZ8

There were other models too, but this is the core of the Project 60 range. **HFC**

Alvin Gold





Future shock

Envisaging content without the container

was a bit miffed when having just watched the ink dry dry on my last Dispatches column in which I celebrated the fact that Naim Audio did not go in for fancy mains leads, the company released the decidedly racy Power-Line cable.

I was not, however, so miffed that I would contemplate turning down the invitation to join Naim at the Geneva Motor Show to witness the unveiling of the 'Naim For Bentley' automotive system. It is an impressive set-up, and made all the more so when one considers the technological hoops through which any electronics fitted into a car are obliged to jump and still perform. It is definitely not considered good form if your brakes throw a tantrum every time you change the CD track, no matter how wonderful the audio sounds.

As far as I am concerned though, the best Naim news came at the Munich High-End Show when the company launched the HDX, its first hard disk player. Note that I said 'player' and not 'server' because Naim was at pains to point out the difference between the two terms, which many think of as being synonyms. A server is generally accepted as being a custom installation device, delivering usually unremarkable sound quality into multiple rooms simultaneously. The HDX, on the other hand, is destined more for the main room where it will be connected to your primary hi-fi system as a complementary option to your other sources and provide audiophile-quality performance. It is not really intended for being stuck in a cupboard and connected to a multi-room system, although that is possible.

What so impressed me at the HDX launch was the attention to detail Naim lavished on this player. Every aspect of its performance has been scrutinised to see how best it can be optimised. Its CD ripping, for example, which is perhaps the most vital element in any HD player's performance, aims to transcribe the

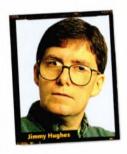


"It's not considered good form if your brakes throw a tantrum every time you change the CD track, no matter how wonderful the audio sounds."

disc bit perfectly onto the hard disk without any unnecessary interpolation (or guesswork, as we pedants prefer to call it). The process may take longer than with competing devices, which can be three times faster, but by avoiding the use of a cache and performing multiple reads if an error is detected, users are virtually guaranteed far higher-quality musical performance than that attainable by any other means. And that's only part of the story.

The \$64,000 question, of course, is whether the HDX will outperform a similarly priced and equipped CD player. I would guess that it ought to be able to do so, all else being equal. However, in truth, that is hardly a genuine concern. The audiophile source of the future is almost certainly downloads. Middle-aged fogies like me who cherish CDs and LPs already appear to our children like people who buy wine, drink it but keep the empty bottles as a reminder of the experience. Their pragmatic attitude is that it is the content and not the container that has value. But wanting physical media is something that, as the habit of a lifetime, we will probably never shake off.

Molcolm Sleward was one of the country's best-known hi-fi reviewers of the 1980s and 1990s. He currently publishes the hi-fi industry trade bible, the British Audio Journal



Striking a balance

The ideal hi-fi is able to cope with all styles

eople often say a good hi-fi system 'expands' your taste in music, enabling and encouraging you to explore and enjoy a wider range of material. While there's truth in that, it's probably more accurate to say that a bad system 'constrains your musical taste' – it inclines you to listen to things that sound good, rather than the music you actually want to hear.

If your favourite music isn't as well recorded as you'd like, there's an incentive to listen to other types of music – or different performers – that 'are better recorded'. Which means – even if the music isn't quite as good – you kind of prefer listening to it. The simple fact that it sounds great makes it enjoyable.

It's a bit like a having a cool-looking pair of shoes that hurt like hell whenever you put them on. You might love them to bits, but most times you end up wearing something else... So, if you've just upgraded (or made other changes), it's worth reflecting on what you can and can't listen to

Every hi-fi system has its sweet spot; its comfort zone. I've owned systems that sounded great on certain things and terrible on others. But make a few changes (perhaps going over to a different amp or pair of speakers) and the whole situation reverses itself. Scary!

Suddenly, all the discs that used to sound great now sound average. Meanwhile, all the ones that used to disappoint now sound fantastic. Such goings-on indicate a hi-fi system that lacks 'balance'. The individual components might all be great. But, together, the end result is less than the sum of the parts.

So, when upgrading or making changes, it's vital to avoid this. How? By basing your equipment selection after listening to a wide range of music and styles of recording. A really good hi-fi system - one that's well balanced and finely tuned - should be able to play most things with complete success.

Let us uppose that your current hi-fi suffers from thick, boomy bass on certain recordings. You decide a new set of speakers should cure this and create a shortlist of suitable replacements. Now all you have to do is listen and make a choice, taking along your problem recordings to see how different speakers cope.

This should be very revealing. If a certain speaker eliminates the boom, chances are you've found what you're after. But, also sample the recordings that didn't boom, and notice how these sound

If the new speakers really are good, the boomy recordings should improve, while your best discs will still sound as impressive as ever. If, however, they don't; watch out. Very likely the new speakers aren't any better than your old ones - they just have a different mix of strengths and weaknesses.

The ideal is a hi-fi system that sounds great and allows you to enjoy music of all styles and vintages. Good hi-fi enhances your enjoyment and understanding of all music, without discriminating against certain recordings. So – beware of equipment that's over-fussy; it's probably not that good!

> limmy Hughes is one of the country's best known hi-fi experts. His knowledge of tweaking and his record collection know no bounds



CLASSIC ALBUMS

SCOTT WALKER SCOTT 4

In 1967, when hippydom was exploding and the world was tuning-in to the way-out sounds of Jimi, Syd and Janis, Ohio-born singer Scott Walker was not playing ball. Scott, who was newly solo after three years of British pop fame as the velvet-voiced heart-throb of The Walker Brothers, was about to find success with a string of solo albums that brought his mordant, baroque songwriting to the charts and airwaves, alongside quality MOR covers. These records - namely Scott and Scott 2 were a beguilingly weird mix of showbiz gloss and existential gloom. This double-dealing ended with Scott 4, for many his magnum opus. Just check out the inner sleeve stars; Death, Stalin, a GI in Vietnam, existentialist novelist Albert Camus.

The album was recorded at Olympic Studios in Barnes, southwest London, with Scott's producer and friend Johnny Franz and arrangers Peter Knight, Wally Stott and Keith Roberts. Almost forty years on, Angela Morley (AKA the pre-genderreassignment Stott) recalled entering the studio with him to filmmaker Stephen Kijak. "I found this young man sitting on the floor with a guitar... as he strummed and sang his way through these things, from time to time he'd stop and say, 'I really hear Sibelius here' or 'here I hear Delius'... somehow he wanted that sound in the arrangements.

The music that resulted is what classical fan Scott has called his "dream of Europe" crepuscular, gothic dreams suitable for an American cinema buff to listen to after watching the films of Fellini, Bresson and Bergman. Suitably the LP's opener, The Seventh Seal, is a re-telling of Ingmar Bergman's 1957 film of the same name, with the plaque parable of the Knight playing chess against Death transformed into a bizarre spaghetti western. The song suggests a Godless universe where "life's a vain pursuit"



"The album's highlight is possibly the most sublime song he ever wrote, Boy Child."

There's no explicit reassurance across the LP's remaining nine songs, either. Some, like the gorgeous country rock of Duchess, suggest happiness is fleeting at best, while others, pertinent to the here and now, observe how wars are being fought illegally and freedoms teeter on the verge of being crushed by totalitarianism. The latter view is expressed by the anti-Soviet The Old Man's Back Again (dedicated To The Neo-Stalinist Regime).

There is, though, comfort to be had. The album's highlight is possibly the most sublime song he ever wrote, Boy Child. Lyrically fantastical, it's still beauteous in its luminosity and eniqma. Like all of Scott 4, the timbre of his sonorous, expressive voice and the extreme luxuriousness of the string arrangements repay close listening

The LP did not chart, his teen fanbase finally alienated, perhaps, by too many songs of death and despair. Thereafter, Scott reverted to interpreting other peoples' writing, and it would be eight years before he rediscovered his muse. As the young singer told a German TV interviewer during his late sixties Imperial phase, "I'm for permanence." HFC

Ian Harrison





Viva les valves

Thermionic tweakery explored

espite the best efforts of the naysayers and techno-freaks, valve amplifiers stubbornly refuse to become extinct.

New examples were hard to find when I joined the hi-fi industry in the mid-1970s, but a second-hand Radford STA25 MkIII served me well for a while before I changed over to Naim Audio amplifiers (probably because of superior pre-amp performance).

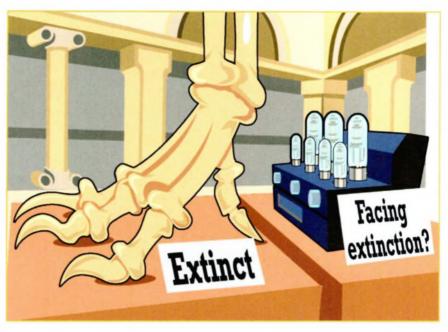
Since the late 1970s, British brands like Michaelson & Austin, Beard, Audio Innovations and Audio Note UK, together with numerous overseas operations (e.g. – Audio Research, Jadis, Unison Research) ensured valve amps remained available, while regular mini-revivals have taken place.

Chinese sourcing has helped by driving down prices, but huge variety and considerable performance variations are still prevalent. Chinese examples might look impressive on paper, but the actual sound quality seems more variable than amplifiers from more established heritages.

According to received wisdom, output transformers are both the key to valve amplifier sound quality, and yet also very much a 'black art'. However, a hefty part of the appeal of valve amps is the scope for component tweaking they offer the enthusiast, and web surfers will find plenty of relevant discussion.

I can't claim expertise here. As most of my reviewing involves loudspeakers, I use solid-state amplification for consistency's sake and don't get much chance to play with valve amplifiers, despite liking what they do. However, I recently (*HFC* 302) got to review Italian maker Unison Research's fine P70 valve amplifier, a very serious thermionic prospect at around £3,500. (Unison makes all its transformers locally and partners them with carefully specified Russian valves.)

This amplifier certainly sounded very good in 'standard' form, but a couple of months later I borrowed a set of EAT (Euro Audio Team) 'audiophile' valves. EAT has taken over an



"Since the late 1970s, British brands, together with numerous overseas operations ensured valve amps remained available."

ex-Tesla factory in Prague in the Czech Republic, where it produces a limited range of valve types that are effectively hand-built to the highest possible standards.

By chance, EAT makes eight of the ten valves that the P70 uses – four KT88 output valves and four ECC83s – as well as special Cool Valve dampers that fit onto the glass envelopes of the six small ECC types.

I don't mind admitting I was sceptical that simply changing and damping some of the valves would change the sound much, so I decided to do the whole lot in one go. Boy was I surprised! There was nothing in the least subtle about the sonic improvement wrought by these components.

At £599 for four matched KT88s, £85 each for the ECC83 replacements and £15 each for the Cool Dampers, the whole EAT package adds up to an admittedly costly £1,000 or so. It's almost impossible to put a value on a sound quality upgrade, but I reckon the whole shebang (in the context of the Unison P70 at least) delivered the performance of an amplifier twice the price of the original, which has got to make the upgrade worthwhile.

The KT88 upgrade is the more significant, delivering the more obvious and dramatic, dynamic improvements. But the ECC83 upgrade added extra cleanness, sweetness and control and the two together seemed made for

each other and totally complementary. Take one or other as a first step and I wager you'll immediately start saving up for the other.

> Poul Messenger is a former editor of Hi-Fi Choice and has been writing about his favourite hobby for nearly 30 years



Rebirth of hi-fi!

Companies return to high-quality audio

t's possible that I am reading too much into this, but I think I detect a glimmer of hope for quality high fidelity, as major manufacturers who drifted away from purist hi-fi into home cinema and fashionable compact systems have once again begun to take an interest in what's been happening at the sharp, quality end of the market. This has been happening slowly, but progressively for

some time and has reached a stage where the trend can no longer be ignored.

I'm not going to list all the brands concerned. as it would be unfair on those significant names that I might have overlooked. But highlights on the replay hardware side include Marantz, Denon, Pioneer and (as you can read on page 46) Yamaha, whose CD-S2000 CD/ SACD player and A-S2000 amp are the perfect exemplar of the trend we're discussing here. I notice that many of the brands concerned are from major multinationals, rather than the traditional specialists and this has given a sharp edge to the changes as prices have been tied more closely to the mainstream. There have been some encouraging signs with loudspeakers too, with important new ranges offering very high performance standards from Mordaunt-Short, Monitor Audio and Wharfedale and even companies like KEF, who until recently seemed to have forgotten about mainstream high fidelity.

Something of a similar trend can be seen with the music software side of the equation. Of course MP3 and AAC continue their all conquering progress, but there are signs of a quickening interest in better quality on several levels. Lossless encoding is a good example of this and the use of players with larger amounts of on-board disc or flash storage encourages the use of less drastic compression (without too much of an impact on capacity).

There are similar trends with high resolution formats too. DVD-Audio and DualDisc are effectively dead, if not buried, as the market has given a resounding thumbs down to multimedia music storage. SACD, meanwhile, refuses to lie down and die and is, in fact, being driven by far eastern markets. Fequently available in stereo only – the players, if not the discs – and, of course, there is no multimedia element. A video capable version of SACD was mooted at one point, but appears to have dropped by the wayside.

I have been impressed by the number of quality SACD recordings available from some of the labels tied to major orchestras (quite a few of them have been featured on the review pages of this magazine), while Linn Products, in particular, deserve a mention for the quality and depth of their SACD catalogue.

Maybe, just maybe, high fidelity is not quite dead after all...

Ahin Cold began writing about hi-fi more than 20 years ago and has since become one of the UK's most internationally renowned reviewers



Once again, we turn in our monthly *Ultimate Group Test* to turntables. The products on offer all feature a platter that goes round at 33rpm, but they employ various ways of making it do that. Why the differences?

At least there is one feature in common between the drive systems: they all use a belt. Idler wheels were popular in the 1950s and '60s, and direct drive was pretty successful in the 1970s and '80s. Idlers can work pretty well, but are hard to make really quiet and they don't generally offer the best speed stability. Direct drive got a bad name because most of the decks that employed it were flimsy and sounded unimpressive, but again it can work well. Belt drive, however, has stood the test of time and has very nearly a monopoly among current turntables.

Electric motors can be divided into three types: AC synchronous, AC asynchronous and DC. Synchronous motors run at a speed that is determined by the frequency of the electric supply, while asynchronous and DC motors need some other means of controlling their speed. For many years, practically all serious turntables used a synchronous motor. There's an obvious advantage in that the frequency of the mains electricity supply (50 or 60Hz depending on territory) can be used as a speed reference.

The turntable that started the arguments about DC versus AC motors was the original Pink Triangle from the early 1980s. It used a DC motor with a 'servo' (electro-mechanical feedback system) to keep its speed constant.

The main advantage of DC motors is their lower vibration. Good quality examples of the breed vibrate less than the small synchronous motors usually used in turntables. They also vibrate at a higher frequency, which is much easier to filter out through such measures as compliant motor mounting.

Synchronous motors can be improved, though. The usual type is designed to be quite



"...which is much easier to filter out through such measures as compliant motor mounting."

powerful It's also capable of driving large electric clocks, that being its original purpose The power required to spin an LP is much less, so a lower operating voltage can be used, lowering vibration. A further improvement is to feed the two 'phases' of the motor separately and ideally with a low-distortion signal held in accurate timing relation between the two. Taken to the ultimate, this approach can reduce vibration to a tiny fraction of the original. At the same time, deriving the signal from a crystal oscillator reference ensures that turntable speed is constant and no longer reliant on the mains. This is why purpose-built power supplies can yield such obvious improvements, compared with direct mains

Although the turntable market is still healthy, some of their components are becoming harder to source. A few years ago, it was quite easy to buy really high-quality drive belts. These are becoming harder to source reliably and, despite improvements in motors and their drive electronics, transmitting the drive to the platter remains a challenge. I'm afraid that all the motor sophistication in the world won't help, if your drive belt is lumpy! HFC

Richard Black



KRELLS ANGELS

Since launching the legendary **KSA-50** amplifier a quarter of a century ago, **Krell** have established themselves as the absolute world leaders in the design of high end audio electronics, rocking the establishment over the years with novel technologies that have redefined the way we listen to music.

In 2005, chief designer Dan D'Agostino took the audio community by storm with the introduction of the stunning eight-chassis **Evolution One** and **Evolution Two** amplification systems, a creation that represented his ultimate strike of genius on the high end, and received accolades all over the world.

What's more, it doesn't stop there: this year sees the launch of a complete new range of **Krell Evolution** pre- and power amplifiers - plus two exciting source components and an extraordinary unique integrated amplifier.

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COMPETITION

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The MonoPulse has abandoned the conventional wooden cabinet, using an inverted-U of steel for the sides and top of the speaker. While the large Audax 218mm bass driver and 28mm Morel tweeter are mounted on different timealigned baffle boards.

When we reviewed the 42A in *HFC* 302, we gave it a richly deserved Best Buy thanks to its fine performance, coupled with excellent dynamic headroom. And, as you might expect from such a phase-corrected loudspeaker, the temporal coherence was superb. Best of all, is that you can win this loudspeaker for the cost of a phone call.

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5852162 and follow the instructions, leaving your selected answer (A, B or C) and your details where prompted or (B) send the letter of your selected answer (A, B or C) by email, including your name, address and a daytime telephone contact number to hificomp@futurenet.co.uk:

QUESTION:

The woofer and tweeter feature...

A: Bored baffle in time-differential alignment
B: Time-baffle on different alignment-boards
C: Different time-aligned baffle boards

TERMS AND CONDITIONS

Answer must be excised between 26 inine 2008 and 23 fally 2008. The prize winner will be selected at 4 and only from all context perties, excised between the relevant pittes, and will excess a part of Manni-Pulsa 42A budgepiskers fixed of many. The winner will be modified within 28 a vec of the classified state of prize parties of a active kind parties in the UK to which the helpophrane should be sent. Telephone cities will be conviged at 60p par minutes.

By Halling part in a Compatition virulagee to be brond by the Compatition Rule, which are summarised below but and be viewed in fault at weight the respective production of the control of the viewed in fault at weight of the respective production of the secondary. Providing both gift deservation and not be deemed product of deservations, between the submitted by an adaptive flori view on viewer or similary and, unless interview situal, are finited to map per household. The compartment is subsidiated with a subsidiated with a proper with ratio for a press of compartment or provide viewer. Allows observe the optim to subsidiate and in substitute any press with ratio for a press of compartment or any particular view of the publishing and any particular view production of the Publishing and any particular view production of the properties of the compassion with the Compassion of the properties of the compassion of the production of the compassion with the Compassion of viewer and view of the compassion of the production of the compassion of the production of the production of the compassion of the production of the compassion of the production of the compassion of the production of the production of the compassion of the production of the





Understanding: DAB radio

On its tenth anniversary, we catch up with DAB (Digital Audio Broadcasting)

igital radio is effectively a decade old this year. The system has been around longer than that in trial form, but 1998 was the year the first Digital Audio Broadcasting (DAB) tuners appeared in the shops. At this point, it's interesting to take stock of the current state of play.

Ten years is a long time in consumer electronics. In that time, DVD has gone from launch to truly global market penetration, with colossal sales. How has DAB fared? If the truth be told, rather modestly. The UK is one of the world's most advanced DAB markets yet, according to information released in February this year, total tuner sales hover around the six and a half million mark. Assuming no households have more than one tuner, the average is one tuner per four households.

DAB coverage is pretty good: commercial stations claim to cover 90 per cent of the population, with the BBC stations reaching 85 per cent. Mind you, the definition of 'coverage' is pretty vague and it's a fair bet that the figure would look higher if we all had a roof-mounted directional antenna, but a good deal lower if the criterion is taken as interference-free reception from a portable set anywhere in the house. Still, it's clear that most of the UK has the potential to enjoy the benefits of digital radio.

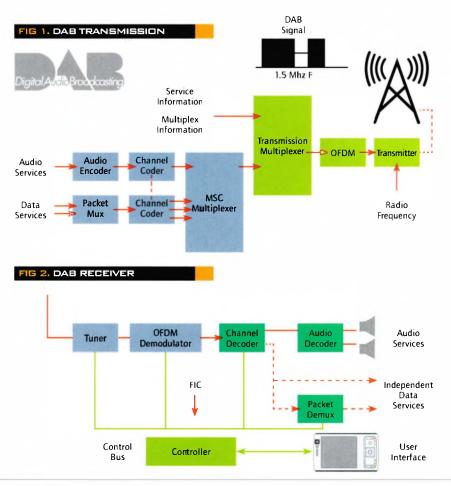
WHY DIGITAL?

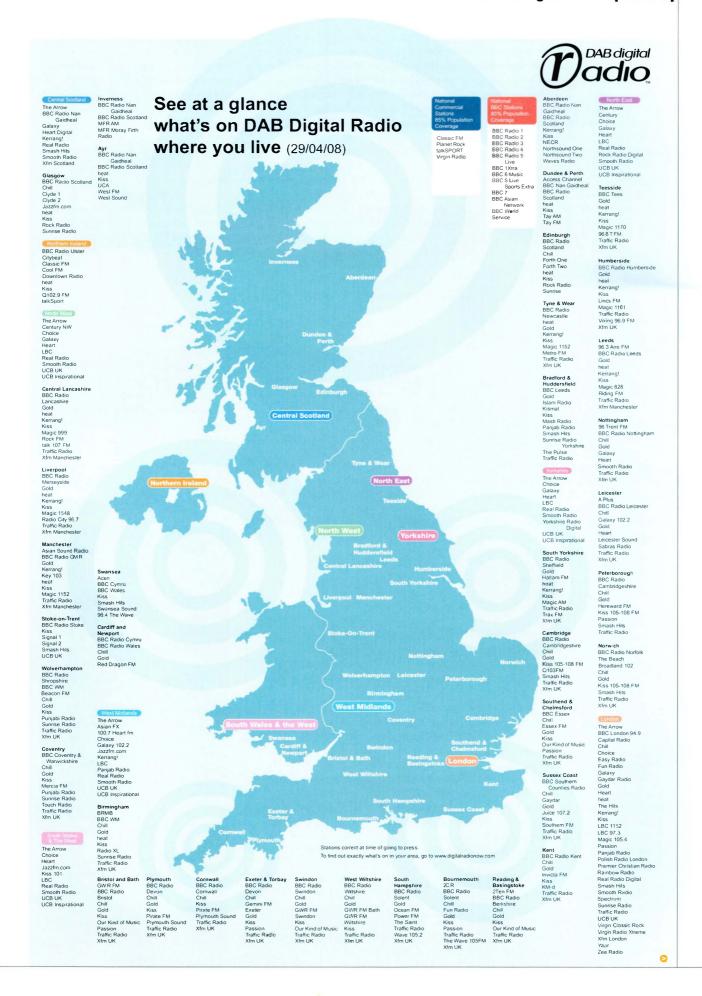
So, what are those benefits? What, in fact, is the point of digital radio? There's no single overriding answer to that. There have been some predictably over-enthusiastic plugs for DAB claiming that the great British populace is 'crying out' for higher quality radio – and, of course, it's taken for granted that digital means higher quality – but there's plenty of evidence against that. Most people's expectation and requirement of sound,

and indeed video, quality is low. Years ago, when the tape cassette was still dominant and MiniDisc an intriguing novelty, we observed in these pages that the continuing preponderance of cheap ferric cassettes over high-quality (and only very slightly dearer) chrome and metal types was pretty clear evidence that a large proportion of Joe Public actually didn't care.

And anyway there's a great risk of comparing apples and oranges. Those radio

listeners who do care about sound quality are, in many cases, able to get highly satisfactory results from FM. With a good tuner and a good antenna, the quality of sound available via this 50-year-old system is a major credit to its inventors and developers. There are limits, though. Achieving good sound from FM is critically dependent on achieving good radio reception and for various practical reasons this is not equally straightforward everywhere.





[Feature] Understanding: DAB Radio

Even if you are not particularly remote from the transmitter, terrain – including buildings – can cause 'multi-path interference' which can really only be dealt with by using a much bigger and/or much higher, antenna: and that's usually impractical.

One undeniable advantage of the DAB system is that it makes really good radio coverage of the vast majority of the population much more practical. If two FM transmitters have coverage areas that overlap, even if only by a little, they must use different frequencies for every station they carry. DAB uses the same frequency for each station over the whole of the UK, so it becomes possible to have as many transmitters as are needed to give good coverage.

The other point about DAB reception is that because the system uses digital error correction, reception can be perfect – where the data in equals the data out and there are no lost bits. If you have a tuner with an error rate display (some of them do), seeing that drop to zero at least gives confidence that you really are receiving whatever station loud and clear. Even so, tomorrow the weather might be different and the reception less good and the error rate finite...

'Perfect' FM reception is a little harder to define, but to all intents and purposes you'll know it when you hear it: no interference, no break-up on loud bits of music, minimal noise and a nicely focused sound generally. It's under precisely these conditions that DAB starts to lose out in terms of what we as audiophiles mean by 'sound quality'. We've described the audible problems with typical DAB broadcasts often enough in these pages

– lack of real insight in the sound, coarseness in the treble especially when it's loud, sometimes 'space monkey' twittering in the extreme treble and hints of tonal artefacts in background noise. If you've ever listened critically to MP3 downloads you may have heard something similar, but MP3 is slightly more efficient and the nearest comparison to the usual radio bitrate of 128kbps would be 96kbps MP3.

It's important to add that rider above about 'what we audiophiles mean', because arguments about DAB sound quality have been seriously muddied by misunderstandings over what's meant by that phrase. For most folks, sound quality includes reception quality and, what's more, they're very likely taking as a reference FM reception on a portable or a hi-fi with a totally inadequate indoor antenna. Of course the sound from such a setup will be terrible, so DAB will be a large improvement if you live in an area where perfect reception is easy to achieve. In most

central London locations, for instance, a screwed-up piece of wire loosely poked into the antenna socket of a DAB tuner will indeed give zero error rate, while really good FM reception is notoriously difficult because of all the buildings, so it's all a foregone conclusion.

DAB+: A RAY OF HOPE?

Now if DAB is found wanting by even the most forgiving audiophile standards – and remember that we're talking about properly set up DAB versus FM – what does the future hold? If one day FM is to be turned off, will we forever be stuck with sonic frustration on the airwaves? Quite recently, over the last year or so, a possible ray of hope has appeared in the shape of DAB+. On the radio side it is basically the same animal, but it uses AAC+ coding instead of MPEG-2 Layer 2.

Plenty of new audio coders have been developed over the last few years, and quite simply AAC+ is a more efficient coder that can get better audio quality at a given bitrate than the older MPEG-2 standard. If current bitrate allocations were maintained, but with AAC+ data substituted for MPEG-2, the sound quality of DAB would indeed take a significant turn for the better. However, things aren't quite as simple as that.

First, particularly in the UK, it is not likely that DAB+ will be adopted any time soon, mainly because the DAB market here is relatively mature and most of the six million or so DAB tuners that have already been sold would become obsolete. The official position, indeed, is that there is 'no plan' for introduction of DAB+ in the UK and that's easy to believe, though that doesn't rule out a plan in the future. Actually, manufacturers of DAB tuner front-ends are already shipping parts that are capable of receiving DAB+, but even if every tuner sold from the day this issue of *HFC* hits the streets has DAB+ capability, there will still be an awkward compatibility issue hanging around for some years yet.

Second, given that data rates are not cast in stone, why should broadcasters (ever conscious of the cost versus benefit bottom line) give us the benefit of better sound when they can alternatively offer more stations? If AAC+ at 128kbps sounds about as good as MPEG-2 at 192kbps, might they not be tempted instead to use 80kbps AAC+, roughly equivalent to 128kbps MPEG-2, and broadcast 50 per cent more stations in the same bandwidth, using the same total transmit power?

They might, of course, find a compromise somewhere in the middle. However, as things stand presently, we're not tempted to speculate in any great detail on the future of radio broadcasting. It's likely that it will continue, in pretty much recognisable form,

for a good long while yet, but advances in internet provision are steaming ahead at such a rate that we may in the not-too-distant future have access to higher quality broadcasts online than on air. Currently, a lot of internet radio is somewhere between unimpressive and frankly rough, with bitrates often around SOkbps, but there has been plenty of discussion among service providers and other interested parties about various ways of making high-bandwidth digital audio and video (from major broadcasters) available online

Meanwhile, many radio stations can be received via digital terrestrial TV and/or satellite in higher quality than DAB provides and although an 'FM switch-off' is threatened, there's no definite date in view yet – the earliest estimate we've heard is 2012 although that seems highly unlikely. 2020 would probably be ambitious. From a practical point of view, we see no reason to change the advice we've been giving for a while now.

If you live in circumstances where decent FM reception is possible and your main listening is to stations available on FM, spend wisely on aerial and tuner and you'll get the best radio sound going. Otherwise, take your pick of DAB, DTT, satellite or internet, but don't mortgage the farm to do it (that would be pretty hard anyway!). If you get five years' service out of any bit of new digital technology you buy in 2008, you'll have done pretty well. HFC

Richard Black

TECHNICAL BACKGROUND

Since DAB first appeared, we've all become so used to the idea of MP3s (etc) that the concept of data compression, or more accurately reduction, is quite familiar. DAB relies on this, using a relatively antiquated system called MPEG-2, Layer 2, to get the bitrate of CD and professional audio sources down to a manageable level. But it also relies on a very clever form of radio modulation that enables the signal from two transmitters to add usefully, where by contrast two FM transmitters on the same frequency will interfere with each other at the receiver. This means that national stations are transmitted on the same frequency across the entire country. Stations are bundled in groups called 'multiplexes', BBC or commercial, local or national. It's also possible to trade the data rate of one station in a multiplex against another.

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3HOICECUTS

This month's varied musical morsels

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

AUDIOPHILE VINYL



JONI MITCHELL

The Hissing Of Summer Lawns Music: This was the point at which Mitchell moved from folk to jazz as her Moog synth, guitar and piano and employs the Drummers of Burundi to add unusual complexity and depth. This is the crucible from which all her great works would seem to have been drawn. Not always easy, it remains immensely rich. Sound: The immaculate pressing reveals a lot more of the space and dynamics of





SANTANA

Caravanserai

undermine the quality and longevity of Santana, featuring two original members alongside Carlos and his army mould set by the first three albums, Latinstyle backing behind Santana's distinctive guitar. Although strong on atmosphere at its best is pretty good and the pressing



COMPACT DISC & VINYL



BON IVER

For Emma, Forever Ago 4AD Music: Canadian singer-songwriter Justin Vernon self-recorded these nine exquisite vet appealingly rough-edged songs while snowed in for the winter in a cabin in Wisconsin. The results belong vaguely in the pastures of freak-folk staked out by the likes of Devendra Banhart, although his hushed intimacy is closer to the work of another lo-fi maverick, Iron And Wine's Samuel Beam.

Sound: Acoustic strumming, in which you can hear Iver's fingers scraping across the frets and his grainy, falsetto voice that sits halfway between Young at his most quavering and TV On The Radio's Tunde Adebimpe – if you crave authenticity, this is it. NW







SECKOU KEITA SKO

The Silimbo Passage World Adventures Music: Senegalese kora player Seckou Keita's multinational Quintet includes his sister on vocals, plus an Italian bassist, a Ghambian percussionist, and an Egyptian violin player. Together they create a joyous noise that mixes traditional Mandinka rhythms with jazz inflections, Arabic melodies and a host of other influences from around the globe. The tone is generally positive and uplifting, but steers clear of the homogeneous mush that can often blight world fusion experiments.

Sound: The three-stringed instruments are beautifully spaced and blend with each other in a very natural way, with no-one hogging the spotlight. DO







THE ZOMBIES

Odessey & Oracle Odessey & Oracle Music: One of the great psychedelic concept albums, The Zombies' final 1968 album follows the torturous path of a fractured relationship with all the intensity of its era. Inspired by The Beach Boys' Pet Sounds, Odessey features a pocket symphony approach to pop which is, harmonically, extremely precise. It also boasts the million-selling Time Of A Season, which became a No1 hit after the group had split! Sound: With the crystal-clear soul voice of Colin Blunstone and the keyboard talents of Rod Argent, every song here is a corker. This 30th





Anniversary Deluxe Edition offers



THE REAL THING

Can You Feel The Force? The Anthology Castle/Universal Music: Even though they were not taken all that seriously at the time, The Real Thing were the only really zeriously successful UK soul group of the 1970s. Their blend of sweet harmonies and occasionally raw vocals have aged well, too. Can't Get By Without You and You To Me Are Everything are solid uptempo ballads that Stevie Wonder wouldn't have been ashamed of penning. Sound: Well-recorded with clarity and separation - as well as a good dose







MARTHA WAINWRIGHT

I Know You're Married, But I've Got Feelings Too Drowned In Sound Compared to her flamboyant big brother Rufus, Martha Wainwright always seemed the quiet and demure sibling, but her second album looks set to change that perception forever. The bitter-sweet, folk-tinged navelgazing of her 2005 debut has given way to a brash and forthright selfconfidence, with an operatic delivery that sits somewhere between Rufus and Kate Bush. This is allied to a vivid, Technicolor expansion of her musical palette that finds her adding rock glitz, torch melodrama and big, bright Blondie-style pop songs to her former troubadourisms. Yet beneath the

newly-acquired flash, the songs pack a real emotional punch too. Star guests including The Band's Garth Hudson, Steely Dan's Donald Fagen, Pete Townshend and brother Rufus all contribute to the general air of classiness. NW







THIS MONTH'S CLASSIC HI-FI TEST DISC "...this is a very live and exciting album with tremendous atmosphere..."

RODRIGO Y GABRIELA Live Manchester and Dublin Rubyworks

Music: Mexican duo Rod y Gabs play heavy metal on acoustic guitars, or at least that's what they say. Equally they "do not play flamenco", which is evident. But they do play Brubeck's Take Five, so it's not straightforward music to categorise. Essentially this is a very live and exciting album with

tremendous atmosphere and some stunning, grin-inducing guitar duetting between the pair. The metal influence would seem to come from Metallica, although the instrumentation and lack of shrieking vocals changes everything for the better. It'll make you want to go and see them for real.

Sound: A very simple recording made on MD this shows that it's not what you use but how you use it that counts. Loads of space and excellent dynamics make it a very engaging recording. JK







FRIC BIBB

Get Onboard Telarc

Bibb's pediaree might be impeccable (Paul Robeson was his godfather and his uncle was John Lewis of the MJQ), but his albums have all too often tended towards the impeccable too - tasteful blues for the dinner-party set, heavy on the virtuosic musicianship, but a little too easy on the ear. Thankfully, his latest offering has noticeably more verve and hite than previous efforts and while it's certainly not raw, it's not overly smooth either, blending blues, soul and gospel to powerful effect. Spirit I Am, with its chanted chorus and Wurlitzer organ is a standout, as is the spiritual Stayed

On Freedom, which is coloured solely by acoustic guitar and harmonica.

Recorded in Nashville with a stellar group of session musicians, the sound is clean and a little dry, but delivered with conviction DO







BERNSTEIN

Chichester Psalms NAXOS 8 559177 Music: Performances throughout this selection are superb. Marin Alsop brings a firm hand to proceedings, and the orchestra has rarely sounded more distinguished. The sound is characteristically bright and lively with a strong sense of presence. Sound: Recorded at the Poole Arts Centre and edited at 24-bit/192kHz resolution, the results on this occasion live up to the hype. The sound is very deep, pure and effortlessly dynamic, with a spacious and well separated, yet homogenous, soundstage. And as usual with Naxos, it comes at a bargain price. If there is a criticism, it is that the total running time is on the short side, clocking in at well under 50 minutes. AG







BRUCKNER

Simon Rattle (cond) Berlin Phil EMI Classics 0946 3 84723

Music: As performances of The Romantic, Bruckner's most popular symphony go, this one is stately and measured, in the manner of some of Rattle's Mahler with the Birmingham SO, Even so, there is a quiet intensity as the music unfolds that makes it truly compelling, especially the finale. Sound: Recorded at the Philharmonie in Berlin, which can be unforgiving on record, the sound can best be described as 'okay'. It lacks the immediacy and sense of structure found in the best recorded Bruckner. for example the Gunter Wand set of 4-9 in pristine SACD. If ever a performance cried out for a highresolution recording, this is it. AG





HIGH-QUALITY AUDIO

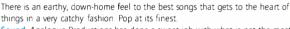
CREEDENCE CLEARWATER REVIVAL

Bayou Country

Analogue Productions

SACD (stereo/multichannel hybrid plus stereo CD)

Music: Bayou Country was CCR's second album and the one that took them to the top of the charts with two singles, the title track and the highly regarded Proud Mary. CCR came out of San Francisco but produced blues rock with a distinctly Southern flavour that harked back to the earliest days of rock and roll. These seven tunes have a drive that is irresistible and undoubtedly influenced bands like ZZ Top, The Band and Little Feat.



Sound: Analogue Productions has done a sweet job with what is not the most sophisticated of originals, retaining the analogue feel and delivering the energy of the live recording. JK





RACHMANINOV - ISLE OF THE DEAD, SYMPHONIC DANCES

Vladimir Jurowski (cond), London Phil IPO Live 0004

SACD (stereo/multichannel hybrid plus stereo CD)

Music: For those who complain that classical music is short in the areas of rhythm and timing, here's a recording that proves this doesn't have to be the case. The deservedly popular Isle Of The Dead has rarely sounded so pointed or rhythmically involved and this budget-price recording is at least as good as most of the more famous old recordings, with a hypnotic quality from the outset which beautifully captures the lopsided pulse of the bass.

Sound: Jurowski is Principal Conductor of the LPO and this recording was made live at the Royal Festival Hall - prior to its recent major refit - in the presence of an audience. The result is a pleasantly airy, atmospheric sound, though any audience sound inevitably tends to alienate some listeners. AG





RY COODER AND VM BHATT

A Meeting By The River

Analogue Productions

SACD (stereo/multichannel hybrid plus stereo CD)

Music: Now regarded as a world music scholar, Californian quitarist Ry Cooder made one of his first global fusion attempts with this 1993 album. He plays his trademark slide guitar while VM Bhatt plays the mohan vina - an instrument of his own design that combines the shape of the guitar with the fluidity and tone of the sitar. Apparently, the pair met just half an hour before the recording and simply iammed along with each other. Not

that you'd notice given the natural flow and cohesion of the four recorded pieces Sound: Recorded in a chapel using custom-built vacuum-tube microphones, the record was produced without overdubs or equalisation. It's unusually quiet but with an immediate atmosphere; a slight increase in volume reveals wonders. DO







A Meeting by the River

12272 190

INASTERS

Which jazz albums truly define the genre? HFC investigates...

azz was originally a uniquely 20th Century, American art form (so much so that Louis Armstrong 'revised' his birthday from 4th August 1901 to 4th July 1900). Its successes and downturns tracked not only the events of the last century, but also reflected the technologies that underpinned the record industry.

It's a difficult genre to pin down, as jazz is regularly influenced by – and influences – other musical disciplines. As such, luminaries regularly announce the death of jazz, as it reforms and reshapes itself. Although jazz is unlikely to reclaim the popular sales it once had, what began in America in the last century has spread around the world and its many, often very localised flavours mean that jazz isn't about to disappear any time soon.

What follows are a dozen important jazz recordings. Although some of these discs regularly feature in hi-fi demonstrations, these CDs are selected more on musical content than recording quality. Call it the Oscar Peterson Trio Syndrome; his best CD from a jazz perspective – but not in any way an audiophile disc – is *Night Train*. And while hi-fi enthusiasts wax lyrical about *We Get Requests*, the selection of songs on that disc are generally considered pedestrian by jazz enthusiasts.

JELLY ROLL MORTON

Complete Recorded Works 1926-1930 (JSP)

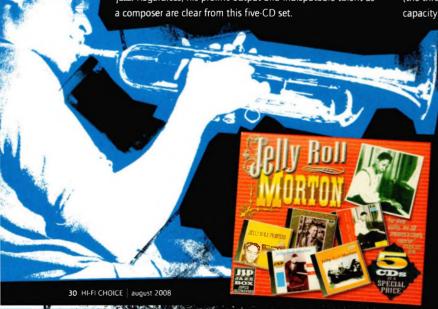
Born out of a melting of African rhythms with American folk and spiritual roots, the first inklings of what was to become jazz appeared in New Orleans in the late 1890s. Sadly, there are no recordings of early jazz pioneers like Buddy Bolden and early acoustic recordings of acts like the Original Dixieland Jazz Band are of extremely poor quality. Fortunately,

the Western Electric recording process arrived in the mid-1920s and tireless self-publicist Jelly Roll Morton revisited many of his early hits in an effort to re-brand himself as the 'inventor' of jazz. Regardless, his prolific output and indisputable talent as a composer are clear from this five-CD set

LOUIS ARMSTRONG

Hot Fives and Sevens (JSP)

Moving from New Orleans to New York and then Chicago, Louis Armstrong quickly established himself as so much more than second cornet in King Oliver's band. The Hot Five and Hot Seven bands he created (specifically for the studio – itself a first) show 'Satchmo' as one of the finest musicians of all time and one of the greatest bandleaders in history. The first pop star – his popularity in the late 1920s was akin to that of Elvis in the 1950s or The Beatles in the 1960s – Armstrong's version of *West End Blues* is the ultimate three-minute jazz masterpiece (the three-minute pop song dates from this time, as it was the maximum capacity for a single side of a 10-inch, 78rpm record).





BENNY GOODMAN

Carnegie Hall January 16th 1938: the Complete Concert (Jasmine) Sales of New Orleans, 'Dixieland' or 'Trad' jazz faded in the early 1930s (sparking the first 'jazz is dead' comments), to be swiftly replaced by Big Band or Swing orchestras. None typified the genre better than clarinettist and bandleader Benny Goodman, dubbed 'The King of Swing'.

His legendary Carnegie
Hall concert in January
1938 was essentially half
swing gig and half potted
history of the first four
decades of jazz. Overall, it
brought jazz mainstream
credibility as well as
popularity and was one of
the most important sets in
the history of the genre.

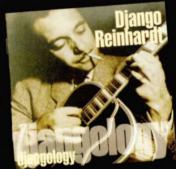


DJANGO REINHARDT

Djangology (Recall)

Jazz had quickly spread beyond America's borders (thanks to record sales and émigré musicians escaping racism and draconian contracts), but had yet to find a non-American voice of its own. Then, as Swing came to dominate the US jazz scene, a Belgian gypsy guitarist called Django

Reinhardt (along with his brother Joseph on 'rhythm' guitar and violinist Stephane Grapelli) took Paris by storm with 'Manouche' or 'Gypsy' Jazz. Despite a partially paralysed left hand (following a caravan fire), Django's style of high-speed arpeggio solos marked the first truly European jazz sensation. His acoustic style remains popular today, with guitarists like Stochelo Rosenberg keeping the Manouche flame alive.

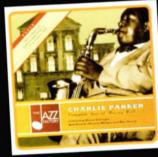


CHARLIE PARKER

Complete Jazz at Massey Hall (Jazz Factory)

Jazz never recovered its pre-WWII popularity and consequently turned inward. The result was bebop; complex, challenging and inherently arty. And few took bebop as far as saxophonist Charlie Parker. The Massey Hall concert is the ultimate bebop — Parker, trumpeter Dizzy

Gillespie, pianist Bud Powell, bassist Charles Mingus and drummer Max Roach turned up on 15 May 1953 at the Massey Hall, Toronto. It was the only time the five legends played together, the audience was tiny and Parker only had a plastic alto sax to his name. And yet, the 14 tracks – six of which formed the original album cut – are the stuff of legend.



MILES DAVIS

The Complete Birth of the Cool (Blue Note)

While East Cost musicians grappled with bebop, their brethren in California developed cool jazz. Using the same concepts as bebop (chord-based improvisation, or 'playing the changes', 'passing' tones

and chords, moving the rhythm from the snare to the cymbals), cool jazz steered clear of the more 'angular' tempos and abstract harmonies. Birth of the Cool is perhaps the most important album of this genre, even though it wasn't released until 1957, some seven years after being recorded. Miles and his peers turned a new audience on to jazz and the start of the audiophile's love affair with the genre begins here.



ART BLAKEY

Art Blakey and the Jazz Messengers (Blue Note)

Bebop was all played out by the mid-1950s and it looked as if the West Coast's cool jazz would be the dominant form. However, musicians then began to mix elements of blues, gospel and R&B into bebop and the result – hard bop – was at its acme at the time when stereo records first

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appeared. Consequently, many hard bop recordings (especially those on the Blue Note label) feature strongly in the audiophile collection to this day. *Moanin'* is a prime example; accessible enough for people to tap their feet to in coffee shops, yet complex enough for the jazz buff to wax lyrical about the use of 'call and response' themes from African music.



MILES DAVIS

Kind of Blue (SonyBMG)

You can't discuss jazz without mentioning *Kind* of *Blue*. Merging elements of cool jazz, hard bop and modal music (improvisations around the melody, not the chord changes), *Kind* of *Blue* is the most successful jazz album ever; it's still selling well almost 50

years after its first release. So What – the first track of the album – pares music back to the bone, with just 16 bars of one chord, eight bars of a second then another eight bars of the first. With a band including John Coltrane on sax, it was clear this was always going to be one of the most significant sessions in jazz history.



JOHN COLTRANE

A Love Supreme (Impulse)

'Trane' was the arch polymath of jazz sax; his earlier work covered everything from bebop to cool jazz and yet at the end of his life he became one of the most 'out there' jazzers, alongside Eric Dolphy and Albert Ayler. His purple patch in the early-mid 1960s on Impulse records and A Love Supreme, in particular, shows how elegantly he could blend together diverse elements like hard bop and free jazz. A four-part suite dedicated to God (although with a later album called Ohm, not

exclusively God in the Christian sense), A Love Supreme is a series of improvisations that never once sound like random jazz noodling. Little wonder then that many enthusiasts believe that when John Coltrane died in 1967 age 40, jazz died with him.



KEITH JARRETT

The Köln Concert (ECM)

This album of solo piano works has become so ingrained into the zeitgeist, that it's difficult to remember how avant-garde it was when first released back in 1975. Essentially three tracks - 26, 34 and seven minutes long respectively - the live recording is

an improvisation over a few chords, often just one chord for extended periods. Perhaps it's down to Jarrett's phrasing which is less harsh than many of his avant-garde peers - but the Köln Concert is still very popular with hardcore jazz aficionados and hifi enthusiasts alike





THE MAHAVISHNU ORCHESTRA

The Inner Mounting Flame (Sony Jazz)

Jazz was struggling in the late 1960s, as its potential audience turned to rock and psychedelic albums. The response was albums that were a 'fusion' of different styles, commonly jazz with rock (incidentally, rock musicians began experimenting with their own brand of fusion with jazz - Frank Zappa's Hot Rats album being one of the best examples). The Mahavishnu Orchestra was the early archetype; a multinational group playing rock instruments with 'different' time signatures found in jazz, funk, Indian and classical music. It may sound dated in parts today, but this album still resonates through modern jazz and rock.

THE BLESSING

All Is Yes (Cake)

And so we come to the 21st Century and the shape of jazz to come... perhaps. Post-bop, post-fusion, post-modern and people with bags over their heads on the cover; what more could you ask for? This West Country act (with Portishead's drummer and bassist) crunks up everything from pop to Coltrane to lounge-jazz and sprinkles in a healthy dose of humour on these 10 largely improvised tracks. With

new discs from the likes of The Blessing - as well as more 'conventional' jazz offerings from Brad Mehldau, Pat Metheny, the Neil Cowley Trio, Antonio Sanchez, Norma Winstone, Bjornstad and Rypdal and many more - jazz still has a lot to offer.



Totem Arro

It's our slimmest floor standing speaker, with a 4.5" sandwich cone woofer with dual magnet, and a soft dome tweeter tuned for low resonant frequency. Although this design is very slim, it produces an amazing - never expected - deep bass. The Arro can perform comfortably even near walls. As with other Totem models, the Arro's small lateral dimensions are a virtue, not a compromise. Its very smallness allows it to project a completely believable stereo image most large speakers are unable to replicate.

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The name is evocative of the arrow, which echoes the tribal theme suggested by our name, Totem.

The shape of this stand also mirrors an arrow, long and slim. Like a fine quality arrow, it is, at once, noticeably light and extremely rigid. And it reaches its target...the heart of the music. Listen to it, and you'll conclude that Totem has hit another bullseye with the Arro.

London Area

South East

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Wales

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Rayleigh Hi Fi, RAYLEIGH, Essex, Tel: 01268 779762

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Movement Audio, POOLE, Dorset, Tel 01202 730865/380018
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The Sound Organisation, YORK, Yorkshire, Tel: 01040 627108
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- f System Audio The Ranger loudspeakers.
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How to find us

Located approximately 15 minutes drive from either M4/Junction 12 or M3/Junction 6 with free and easy parking outside the building. We have a home evaluation scheme for those who might find this method more convenient.

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Demonstrations by appointment

Mondays to Saturdays 10:00 to 18:00. It is advisable to call us before visiting.

Part exchange welcome. Ex-demonstration and previously owned equipment listed on our website: www.audioconsultants.co.uk

NAIM THAT TUNE

I read with interest on your website about Naim's new HDX 'hard disk player'. I find it impossible to believe that a company can charge thousands of pounds for a one-trick-pony PC in a fancy box. I can do exactly the same thing on my PC and that cost less than £500... and I can also use it to send an email like this one. The Naim doesn't even burn CDs! How can a company think this is credible? Naim should stick to doing what it does best; making amplifiers!

Sam Piggott via email

HFC Naim's HDX has engendered more forum posts in hi-fi than almost any product since the Apple iPod. Like the noise surrounding the release of the iPod, much of that forum traffic is based on no actual experience of the real product, but sheer speculation. Back when the iPod was launched, the noise was all about how

Apple had 'missed the boat', how the iPod was 'too little, too late' and how 'no one's going to pay that much for a MP3 player'. The forum furies were wrong about the iPod; they might be just as wrong about the HDX. We suspect Naim will sell to many people looking to the next generation of Naim audiophile player. Many of these people already own a CDX2 player and yet strangely that isn't considered a 'CD player in a fancy box'. One thing's for sure, we can wait to test the HDX and bring you the results.

DEAL OR NO DEAL

You often suggest the best way of choosing the right product is by going to a dealer with a demonstration room and listening for yourself. This might be fine for you London types, where there's a hi-fi dealer on every corner, but for those of us who live north of Watford, visiting a 'nearby' audio purveyor



Above: The controversial Naim HDX hard disk player

"Naim should stick to doing what it does best; making amps."

can easily be a round trip of 100 miles or more. And as the internet offers the best deals, what does a traditional hi-fi dealer really have to offer?

Amrit Singh via email

HFC There are millions of possible permutations of hi-fi products and even those that are notionally practical (no-one hooks a £100 DVD player to a £10,000 amp... do they?) quickly run into the thousands of possible combinations. Not all these permutations and combinations gel though; every dealer worth his or her salt will know a range of products that do work together. They will also realise through a subtle series of questions and a process of elimination in tests - what kind of system will suit the listener, the listener's room and the listener's budget. All of which is pretty damn impossible to do by clicking on a mouse. There's nothing intrinsically wrong with internet shopping, but you do need to be aware of the potential pitfalls.

LETTER OF THE MONTH

COMMUTER RAGE

I used to enjoy listening to my hi-fi as a way of relaxing after a long day at work. But, not any more. My commute takes me past a college and everyday the same oiks pile on to the bus and fire up their mobile phones. It's just one ten-second snippet of R'n'B after another. If you ask them to turn it down they just get surly, even ignoring the bus signs about unsociable music levels. I find the whole ordeal grinds me down and makes listening to music at home impossible. Surely I'm not alone in being upset by this?

Adrian Jennings via email

HFC No, you aren't alone. Idiots on public transport selfishly intrude upon thousands of bus, train and tube users every day. But there is a (non-combat) solution. ACS (Advanced Communication Solutions) 01295 266665 makes custom-fit earpieces for Shure and Etymotic in-ear headphones. These pieces are replicas of your inner ear and block out more noise than any noise-cancelling system on the market. The result is incredible and allows you to enjoy your own music without any interruption. The editor swears by them, too.



The author of our 'letter of the month' will receive a free copy of Russ Andrews' excellent hi-fi book, Sound Solutions. This compact and invaluable tome is an excellent guide to getting the best out of the equipment you already own. So drop us a line, or email hifimail@futurenet.co.uk

A BASS BLAST FROM THE PAST

I was the originator of the idea that sub-bass ('infra-bass' as I like to call it) is important in sound reproduction, long before Richard Lord of REL arrived on the scene. I was granted three full patents in hi-fi loudspeaker science, one of which covered a foolproof way of producing clean, undistorted and efficient sub-bass down to single figures, even in small rooms. I built a number of different designs of full-range systems, typical response 4Hz-30kHz, lectured to the Audio Engineering Society and I also demonstrated this to the public at the London Hi-Fi Show in 1984

Consequently, I do not agree with David Vivian's statement (in Understanding Bass, HFC 306) that "lifelike bass... isn't going to happen in a small listening room." It is possible; ruler flat with a measuring mic, 3dB at 5Hz and -OdB at 7Hz in a 5x4m room... I still have the original demo pair; the drivers are about 25 years old now but still give a good result.

David Vivian does, however, say some very important things about bass extension in audio reproduction that I completely endorse, especially its importance in producing 'realism' as if live. When loudspeakers are genuinely flat to near DC, it becomes important to make the whole reproducing chain similarly flat, although some trickery can be employed if you know what you are doing. A good rule of thumb is that a square wave at 15Hz should reproduce with a flat top at the amplifier speaker terminals.

Graham Holliman Hertfordshire

"I've now inherited my father's hi-fi; is there anything out there that can compete today?"

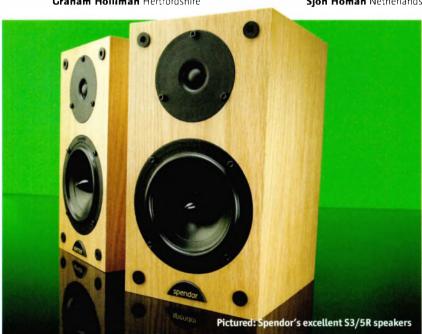
HFC (David Vivian replies): Perhaps I was a little over-zealous in dismissing the realisation of very low bass in small rooms. I have witnessed subwoofers pressure-drive small spaces down to some extraordinarily low frequencies but, for me, the experience has never been particularly pleasant (usually because the content has been the LF channel of a blockbuster movie DVD). When it comes to music, I've yet to be convinced. The wavelength of a 20Hz note is 20 feet. In a room that can accommodate this, it's as if the note has room to breathe and develop properly. Even the best subwoofers struggle to match the sense of ease and freedom when attempting to reproduce the same frequency in a small room.

MORE BASS CUTS

In the May issue of Hi-Fi Choice, you asked your readers to let you know if there are subbass tracks somewhere around. I think this album is a good sample: Hatfield's End Stonehenge 4 - Echoes of Ancient Mysteries'. This album goes as deep as the ocean, bass is as heavy as the stones of Stonehenge themselves, but the track Show of hands is the track where the basslines really dive into the deep. I hope you can find this CD somewhere over there

Also a favourite track: Sarah McLachlan - I Love You from the album Surfacing.

Sjon Homan Netherlands



NO FUNKING AROUND

I read some of your best bass cuts, both in the Understanding. Bass feature (HFC 307) and the subsequent comments made by readers in the next issue. I'm shocked that no-one came up with any hardcore funk cuts from the 1970s. The eponymous album Funkadelic has some truly gut-churning lines in tracks like What is Soul? and, of course, there's the epic one-sided 12" single of Aguaboogie (A Psychoalphadiscobetabioagu adooloop) from Parliament's Motor Booty Affair. That has bad, uncontrollably P-Funked up bass lines. Get in!

'MiniMoog' via email

BACK TO THE FUTURE

I read Jez Williamson's letter (HFC 307) with interest. He asked how far CD technology has advanced in the last decade. I want to take it further... how much has audio advanced since stereo first appeared? It seems we take one step forward and two back. My father's system (bought in the 1970s) comprises a Quad 33 preamp and 303 power amp with a pair of Chartwell LS3/5a loudspeakers. He added a CD player (a Marantz CD94) in the mid-1980s and that system served him perfectly until he died a few years ago. In contrast, I bought my first 'real' system (Micromega Leader CD player, Inca Tech Claymore amp, Heybrook HB1s) in the early 1990s and it wore out soon after. Worse, I think my dad's system sounded better. I have now inherited my father's hi-fi; is there anything out there that can compete with it today?

Austin Hartnell via email

HFC In many respects the Quad 33/303 combination is the stuff of hi-fi legend. Few things in life are as reliable and their reputation for never going wrong is richly deserved. Similarly, the Marantz CD94 has a reputation for excellent longevity and it's only recently that parts for the LS3/Sa have become hard to obtain. These are exceptional products - your late father chose well - but there are products with the same long-lived reputation today; Quad still builds exceptionally well-made products, as does Naim Audio, SME and many others. And check out next month's Ultimate Group Test (on sale 24th July) to see which mini-monitor, if any, can out-do the LS3/Sa.

Is this the best improvement you'll ever make to your system?



Unless you try, you'll never know. MAVROS CABLE STOCKISTS

Call these dealers for an obligation free demonstration or home trial.

- Aberdeen:
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- Kilmarnock: Kevin Galloway Audio, Tel: 01563 574185 Info@kevingallowayaudio.co.uk
- Glasgow: Glasgow Audio, Tel: 0141 332 4707 matt@glasgowaudio.com
- Newcastle: Lintone Audio, Tel: 0191 477 4167 info@lintone.co.uk

- Wrexham: Acton Gate Audio, Tel: 01978 355522 sales@acton-gate.com
- Sheffield: Moorgate Acoustics, Tel: 0114 275 6048 sales@moorgate.demon.co.uk
- Market Harborough: Divine Audio, Tel: 01858 432999 tim@divineaudio.co.uk
- Solihull: Music Matters Tel: 0121 742 0254 sales@musicmatters.co.uk
- Banbury: Overture, Tel: 01295 272158 sales@overture.co.uk

- Aylesbury: Noteworthy Audio, Tel: 01296 422224 info@noteworthyaudio.co.uk
- Guildford: P.J. Hi Fi, Tel: 01483 504801 info@pjhifi.co.uk
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AWARDS





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SPEAKER CABLE
Atlas Ascent • October 2003
Atlas Hyper 3 (= • July 2005
DIGITAL INTERCONNECT













WE ARE GLASS

I've been trying to find a system that will sound good in my conservatory. I've tried a Denon micro system and a couple of iPod docks, but they all sound really bright and aggressive sounding. Is it worth going for more upmarket equipment – possibly even separates – or am I flogging a dead horse?

Keith Jones via email

HFC The problem with a conservatory is that they are often constructed from bright, reflective materials. Glass walls and ceilings, not much in the way of wall covering and, often, metal garden furniture that's been dragged back 'indoors'.

Nevertheless, there are some things you can do to improve the lot of almostoutdoor audio. Make the living space as comfortable and as softly furnished as possible; the more the furnishing can soak up, the better the system will sound. Also, open one of the skylights when playing; it's not much, but anything that can break up the reflectivity of the ceiling will help. Ultimately, there's not a great deal that can be done to improve the sound of a glass house, so it's best to consider it a place for a secondary system. Depending on location, it might be better to run a second set of speakers from the main system instead of buying anew.

ASK ALAN

Got a burning hi-fi question? Ask Alan...

Send your queries to:

Alan Sircom, Hi-Fi Choice, Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW. Or email your queries to hifmail@futurenet.co.uk

CONE FLAP CONUNDRUM

Dear Alan.

I think I broke my turntable! I recently moved house and although I packed the turntable (an Audio Note TT-1, with Arm 1 tonearm and IQ1 MM cartridge) carefully, whenever I play it now, the loudspeaker woofers go in and out like crazy. This doesn't happen with my CD player, so it has to be something wrong with the vinyl. I'm scared to use the record player in case it kills my loudspeakers. Is there anything that can be done? I'd rather not do an 80-mile round trip to my nearest hi-fi dealer if it were a simple repair I can do at home.

Al Tervey via email

HFC The woofers 'going in and out' is called 'cone flap'. There are four possible causes of cone flap, only one of which involves a sharp intake of breath. It may be down to the suspended turntable sitting on a loose floorboard - if you walk across the room, see if the speaker cones start bouncing along with every footfall. A dedicated turntable wall shelf, as sold by Apollo and Quadraspire, can cure this. Otherwise, it comes down to a mismatch of arm mass and cartridge compliance. Given the problem wasn't a problem before you moved house, one of two things has happened; you have either set the tracking weight too high, the cartridge has come loose in the headshell or (sharp intake of breath) you trashed the cartridge in the move. If the weight is too high, adjust the counterweight until it has the right tracking weight for the cartridge (about 1.75g, or just over three-quarters of a turn of the RB250 counterweight from its balance point, remembering to set the bias adjustment slider to zero before checking the tracking weight, and then resetting it to a bit less

than 2g again). If the cartridge is loose in

the headshell, re-tighten it using an alignment protractor to ensure it's correctly set up. And if it's trashed... well, get ready for a long journey.

REBUILDING THE CASTLE

Dear Alan,

My system comprises Marantz CD63 MkII KI Signature CD player and PM17 MKII KI Signature integrated amp into a pair of Castle Harlech loudspeakers. Until recently, the system sounded excellent, but recently one of the bass drivers began to distort. I tried to ask my old dealer about replacements, but both he and Castle Acoustics no longer exist. Is this true, and if so, where can I get a replacement bass unit?

S J Clarke via email

HFC Sadly, yes it's true; Castle Acoustics went out of business recently. However, the company is now owned by IAG (the parent company behind Audiolab, Quad and Wharfedale, among others). We are not totally sure how the spares situation stands for specific models, but it's worth contacting the company on 01480 447700 or try castle.uk.com) to see what can be done.

QUINTESSENCE OF DUST

Dear Alan,

A friend of mine told me the worst thing I can do for my hi-fi system is to polish it. As a consequence, my wife is getting really upset that everything else is nice and clean, while my hi-fi's covered in half an inch of dust and cat hairs. Is it really a bad thing to clean your hi-fi system?

Trevor Biggs Norway

HFC A little knowledge is a dangerous thing, Trevor. There's nothing wrong with

TOP IPOD SOUND

Dear Alan,

I just bought an Apple iPod (80GB 'Classic' version). I have downloaded iTunes to my PC and started to move my collection onto the player. Trouble is, although it's quick, the sound quality is rubbish, next to the original CD. I haven't played with the settings on the iPod yet, but what can I do to make this sound better? Would new headphones help?

William MacLeod via email

HFC It's not necessarily the settings on the iPod that need to be changed. If you improve the way your PC initially 'rips' the disc, the sound will get better, at the expense of storage space on your iPod. Some go for high-sampling AAC (Advanced Audio Coding, set to at least 128kbps with Variable Bit Rate compressor engaged), while others choose Apple Lossless,

arguing that any form of lossy compression (including MP3 and AAC) still throws away some 'music', where Apple Lossless keeps the sound unsullied. You can also lose compression totally and go for AIFF or WAV files.

You'll be able to store about two-and-a-half hours' worth of music stored in Apple Lossless for one hour of AIFF bit-for-bit recordings. For every hour of music in Apple Lossless, you'll get about five hours of 128kbps AAC music.

Curiously, Apple does not automatically go for error correction in its ripping process. Don't make the same mistake; check Preferences > Advanced > Importing and tick the 'Use Error Correction' box as you set the encoder format. Finally, while staying in the preferences folder, turn off 'Crossfade Playback' from the 'playback' section. This prevents long tracks from suddenly fading in and out.

keeping your hi-fi system clean and dust-free; in fact, keeping the cooling vents clear will help lengthen the life of many amplifiers and players. The thing to be careful of is silicone, which is a commonly found component of spray polishes and waxes. Silicone has amazing properties so that it gets in places it is not welcome; spray it on the top-plate of an amplifier and it will soon start coating every part on the PCB. But that means steer clear of spray polishes... and things that have been used with spray polishes or are impregnated with cleaning materials.

Cleaning cloths beloved by jewelers and photographers (such as 'Selvyt' polishing cloths, or microfibre sheets and pads) are great, as are J-Cloths and old, but clean disused T-shirts. If your hi-fi is heavy and inaccessible, cleaning the underside can be tricky... but once again your local camera shop can help. The large Giottos 'Rocket' air blower is really designed to blow dirt off camera sensors and lenses, but will also blow away those dust bunnies from under your amp. If you need more air power, the same shop will sell you a Ken-Air can of compressed air and a nozzle. That will shift almost anything living under an amplifier! Just remember not to use it the wrong way up, otherwise it will release a jet of freezing propellant instead of air and turn the can ice-cold in seconds, too.

CABLE CRAZY

Dear Alan,

I'm not happy with the sound of my system. The basic components (Shanling CDT80 CD player, Consonance Cyber 10 Signature amplifier, Usher CP-6371 speakers) are very good, but the bass is too powerful and the sound is not refined enough for

me. I have recently changed from Transparent Reference XL to Kimber Select KS 1030 interconnects and KS 3038 speaker cables; this helped, but not enough. Would changing to Cardas Golden Cross prove any better? Unfortunately, many of these products are not imported to Dubai and I have to go on guesswork.

Guy Higson via email

HFC I think you might have some mixed up priorities here, Guy. The system you have is very good, but the cables you are using are destined for a class or two above your existing components. In essence, you are using cables designed to hook together one £10,000 component to another, and using them with considerably cheaper equipment. Whether this means you will never get the best from the cables or that it shows up the limitations of your electronics all the more is moot, because there's still a mismatch in the system. You don't need to change the cables for a while, but what may be happening here is the speakers and room do not suit one another, and the speakers are setting off the room. Try moving the speakers out into the room and experimenting with positioning. The most likely problem is a mismatch between amp and speakers (the Cyber 10 Signature is best used with speakers of 94dB sensitivity or greater and your Usher's hit around 90dB) that could be holding things back, but it could even be the CD player, which might be ever so slightly softening transients and adding insult to injury. Check out these issues before trying out yet another set of cables, especially ones that cost as much as a Mercedes.

ALAN'S TIPS

SPEAKER CABLES
WITHOUT TEARS

Here's an age-old dealer's trick for ensuring you get the speaker cables round the right way. Mark one of the cables at both ends with something (typically something red, for mnemonic reasons listed below). Traditionally, one cable had an inch-long loop of red heat-shrink plastic stuck about 20cm from the speaker terminals at both ends of the cable. Now mutter the little aide-memoir mantra, 'red on the right, what's left is left' when plugging loudspeakers to the amplifier. This way, you don't get to accidentally plug the right speaker into the left channel of the amplifier.

This gets a little more confusing, because speaker terminals are also colour coded, with the 'hot' or 'positive' terminal sporting a red colour code and the 'negative' being represented by black colour coding. These are to keep the speaker in phase; the speaker cone moving out when it should be moving outward. If you hook the red plug to the red terminal at the amp and the black terminal at the speaker (and vice versa), the speaker will be 'out of phase' (meaning that the cone will be traveling backwards when it should be going forward). If you then wire the other speaker correctly, the two will be out of phase with one another. A way of checking phase is to play a mono voice recording (talk radio on DAB is useful here, because you can clearly see on the readout when the signal is in mono) while sitting directly in front of the speakers; if the voice appears directly in between the speakers, all is good, but if the voice is disembodied and seems to sound like its coming from all around the room, you have wired one speaker out of phase with the other

Some amplifiers (Conrad-Johnson preamplifiers, for example) invert absolute phase, meaning that the loudspeaker drivers 'push', when they should 'pull' when the loudspeakers are correctly wired. The way around this is simple; you should hook both speakers in the 'out of phase' position described above. However, we'd hesitate to say this is something you should get too worried about; absolute phase appeares to be accurately determined by only a small percentage of listeners, whereas out-of-phase speaker wiring is relatively easy to hear.







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.



Funk Firm Saffire turntable

EQUIPMENT REVIEWS

- 46 Yamaha A-S2000 integrated amp/CD-S2000 SACD player
- **50** Epos M5i/M16i loudspeakers
- **52** Cambridge 840E/840W pre/power amplifier
- 57 Denon AH-D2000 headphone
- 58 Advance Acoustic MPP 206/ MAA 406 pre/power amp
- 61 Russ Andrews SP-1 loudspeaker
- 62 Amphion Xenon loudspeaker



ROUND-UP

LOUDSPEAKER STANDS £120-£300

- Custom Design RS302
- Kudos S50
- Partingdon Dreadnought
- 65 Quadraspire QX-600L

TURNTABLES £600-£1,300

- 70 Clearaudio Emotion/Satisfy/ Aurum
- Funk V/RB250/Denon DL103
- 72 Michell TecnoDec/RB250/ Denon DL103
- Pro-Ject X-Pack
- Rega P3-24/Elys/TT PSU
- Roksan Radius 5/Chorus Black



OUR RATINGS EXPLAINED

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

, nor an point here is p to the job of

pare tins with maraniz's £800 player, the 17 MkII M. which has excellent build and e a very good impression in HFC 243. At same price there's also the Cyrus 7, a no all-rounder in a compact case 'ter trying the Heart with the standard s we switched over to the Siemens grade, a comparison somewhat muddied by ie fact that it was a cold for hot swap – the lawer had been on fac soweral days with the

Our overall conclusion after a livelier.

hrough. The Siemens equipped player has an in snappier sound with better timing that es with dense material with remarkable fidence and ease. It even seems to be

YOU can find most civilised players for the money. But few combine dynamics with fine timing skills as effectively as this. HFC

lason Kennedy

VERDICT FEATURES ☑ CON

score All criteria are taken into account but the emphasis is on performance. Components scoring more than four stars may qualify for an

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



Combine elements of Linn and Pink Triangle with a dash of Funk and the results are startling

PRODUCT Funk Firm Saffire

TYPE Turntable (tested with modded Linn lttok arm)
PRICE (Saffire) £1,900; (Funk's lttok arm mods) £700

KEY FEATURES Size (WxHxD): 42x11.5x37cm

◆ Weight: 5kg ◆ Solid acrylic plinth ◆ K-Drive DC-motor belt drive system ◆ Optional dedicated isolation support available ◆ Acrylic platter on inverted main bearing

CONTACT ☎ 01273 585042 ⊕ www.thefunkfirm.co.uk

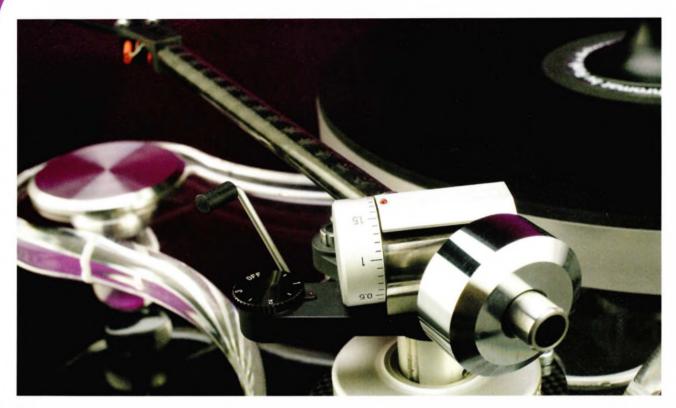
he team at *Hi-Fi Choice* are big Funk Firm fans; this relatively new company is already a multiple award winner and scooped two Gold honours in our 2007 Awards issue. So we had high hopes for the Saffire, the new top-of-the-range model, which

is hailed as the modern day replacement for the still-popular-after-all-these-years, Pink Triangle Anniversary.

At this point, a quick historical re-cap would seem in order. Cast your mind back a decade or two. While there were many companies producing turntables with high-end aspirations, there were two major protagonists as far as most people were concerned: Linn with the formidable Sondek LP12 and Pink Triangle with, among other models, the philosophically opposing Anniversary. The LP12 was all about rhythm, timing and pitch accuracy while the PTA favoured the mastertape-style neutrality paradigm. People thought

that these two approaches to music reproduction could never meet and that they were effectively mutually exclusive. PT fans believed the Linn to be coloured and lacking transparency, while LP12 supporters deemed the Anniversary neither very rhythmical nor tuneful. These arguments continued until Pink Triangle committed the ultimate heresy...

In 1991, the company threw a multitude of spanners into the works, when it introduced the sacrilegious Pink Link modification for the Sondek. This replaced the LP12's AC motor with a DC variety powered by an external battery supply. The motor was bolted into a replacement top plate with a reconfigured



"The top-of-the-range Saffire features Funk's K-Drive, belt-drive system that employs one motor, one belt and three pulleys."

layout that positioned it opposite the tonearm mounting. Many people deemed this an outrage, but a many others had no qualms whatsoever about owning a Pink Link as soon as they'd heard it. Indeed it was only ousted from this writer's system very recently by a Funk Vector Link LP12 kit. This particular near complete remodelling of the Sondek was engineered by a certain Arthur Khoubessarian – a former principal of Pink Triangle and now head of The Funk Firm.

A while ago, Arthur decided that the Pink Triangle Anniversary deserved to be revisited and so the Funksters produced a thoroughly modern iteration of that famed turntable, which they then christened the Saffire Unlike the traditional-looking original, the sleek 21st Century design reflects the way Funk perceives consumers' aspirations and needs have changed over the past twenty years or so.

The Anniversary was a sprung, suspended sub-chassis, wooden-plinth design, but the Saffire is based upon a solid acrylic platform, which makes it far easier to use. Hardcore audiophiles will be pleased to hear that it can be positioned upon an optional, dedicated isolation base for optimal performance. The top-of-the-range Saffire features Funk's

patented K-Drive, belt-drive system that employs one motor, one belt and three pulleys. There is also an additional switch on the power supply case that'll illuminate tiny LEDs in the plinth, adding a whimsical bling element to things.

The Saffire also benefits from a refined iteration of the Anniversary's famous inverted main bearing configuration supporting the acrylic main platter and topped of with a Funk Achromat (which, says Funk, provides the best impedance termination for records). The K-drive configuration prevents the drive belt tugging at the platter and causing it to oscillate around the main bearing. What's more, the K-Drive system uses asymmetric slave pulleys that, by rotating at different speeds, ensure that the drive does not generate any resonance. All of this adds up to a ferociously stable platform that spins the record at an absolutely constant speed.

The arm-mounting plate is the only part of the system that has been designed to lose energy. Khoubessarian opines that the least deleterious place to dissipate the extraneous energy that cartridges produce is at the point where the tonearm meets the turntable plinth – hence the carbon-fibre/acrylic sandwich construction of the tiny arm-board.

Our review Saffire came fitted with a tonearm that would be very familiar to any fan of Sondek in the 1980s and 1990s – the venerable Linn Ittok LVII. The Ittok was a great arm, but it had a tendency to be a little 'zingy'. This annoyance could be reduced by removing the arm-rest from the Linn's arm-board along with the lift/lower mechanism. This wasn't the most practical of solutions though, because it left one's cartridge exposed to potential damage. The Funk Firm's answer is rather more radical and involves replacing the arm-tube.

The Ittok F-dot-cross tonearm modification (you have to supply the Ittok) retails at £700 and features the ultra stiff, carbon-fibre with crossed I-beams arm tube construction of Funk's new ANTI (Advanced Neutral Transcribing Instrument). The supplied arm also came re-wired and with a £399 Wraith Flexi Link interconnect, using rather delicate, air-dielectric, flat conductor wiring. Along with transmitting maximum amounts of data from the cartridge it's also said to negate the problem of the Ittok's performance being dependant upon careful cable-dressing though that is hardly a major consideration with the skeletal, unsprung design of the Saffire. Sadly, ours got damaged in transit and so we did our listening with a standard Linn lead.

SOUND QUALITY

Fitted with a Dynavector 10X moving coil, and sitting on a mix of Hutter and Mana supports, the Saffire/Ittok's sound displays a

Q&A

We spoke to Arthur Khoubessarian, the former main man at Pink Triangle and now the designer and driving force behind the Funk Firm



HFC: What attracted you to the Ittok as a tonearm?

AK: It's not a current product, but there are many of them in circulation so we didn't have any reservations about playing with it. Given that its bearings are well-sorted and that it's a nice product to use, I thought we'd try addressing the perceived sting in its sound using the F-X (F-dot-cross) arm tube technology from the Funk ANTI. It worked out rather well and the arm is proving very popular on the LP12 Vector turntable. We imagined it might make for an interesting review turntable if we fitted it to the Saffire. We think that they work rather well together.

Do the LEDs in the Saffire plinth serve any useful purpose?

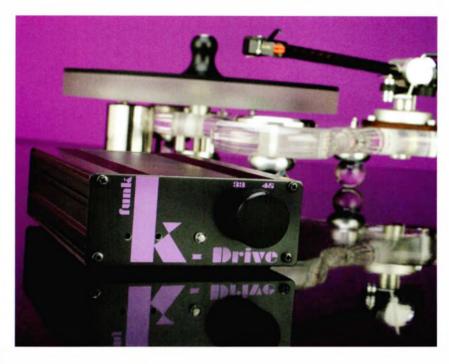
The lighting is purely a bit of fun. Why are cars styled so exotically? It's primarily because people want something they can feel pride of ownership in and which looks different from what their neighbours own. It's the same idea and a feature we added once we had sorted out the performance of the deck

Are the spherical feet a similarly connectic feature or do they influence the humisable's performance?

The Saffire is sensitive to the support upon which it is placed, which is why we have produced an isolation platform specifically for it. However, many people like the way it performs and looks just the way we've supplied it to you

Is the black Adiromat any different to the blue version was acquired a year or two ago and have been using on the Vector LP12?

No, they all sound the same. We only make black nowadays, but in two thicknesses. The standard Achromat is 5mm thick, but we also make a 3mm version for owners of Rega decks. This means that they don't have to mess about fitting shims to their arms to reset the VTA (if they want to audition the mat) because it's the same thickness as the Rega felt mat.



wonderfully sure-footed, firmly rooted quality: there's a sense of real substance and solidity about it. Every voice and instrument is sturdily planted in the soundstage and presented with a credible three-dimensionality and conviction that make the suspension of belief delightfully easy. Even when playing frenetic punk or crazy free-form jazz, the Saffire exudes an air of untroubled relaxation and calm composure. There is none of that "will it manage to hold on?" tension that accompanies the performance of such music on lesser turntables.

Aiding it in this respect is an equally delightful ability to reveal nuances and detail in an unforced but genuinely insightful manner. This is not the kind of over-egged detailing that some high-end hi-fi can overwhelm listeners with; rather it's an

approach that listens to a piece of music and the subtle differences in the way that the performer plays his instrument or sings a particular line and then reproduces it in a completely natural way.

Nor does this turntable have any problems with conveying rhythm and timing information. In fact, it emerges with often shocking clarity thanks to the deck's seemingly complete absence of extraneous noise. With many deck and arm combinations there's a near constant, albeit typically very low level, background hash that masks and blurs subtle timing clues. The Saffire/Ittok, however, sounds markedly quiet and that absence of noise is apparent from the first time the stylus hits the groove. This is not an artificial cleanliness: you still hear imperfections on a disc but the Saffire does



not make a meal of them, dealing with clicks and pops quickly and quietly, which is always an encouraging sign.

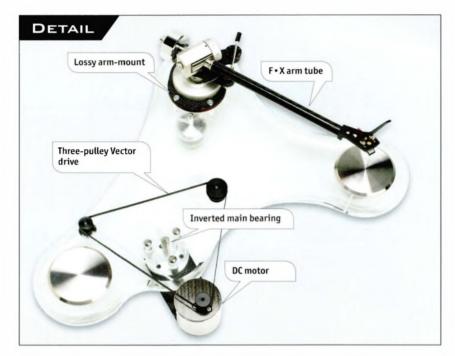
Doubtless the K-Drive system plays a huge part in this as it certainly does in the Saffire's rock-solid portraval of the piano. This challenging instrument's pitch never wavers. And this dogged nature also helps the deck give wonderful renditions of vocalists. If, for example, you ever doubted that Ella Fitzgerald's voice was anything less than a divine gift, take a listen to her singing on the 1957 Verve album Ella and Louis Again Vol 2. The deck traces every inflexion and modulation in each phrase she sings, while displaying her flawless intonation perfectly. What's more, the Saffire extracts the full emotional content from the songs on this album, recorded with Louis Armstrong and Oscar Peterson's trio, which, as you might expect from the calibre of the performers, isn't exactly short of feeling.

The deck's speed stability naturally helps it accurately portray note shape. While this is, perhaps, most apparent with instruments such as the guitar, it also enhances its portrayal of instruments with less sharply defined leading edges: for example, the Saffire provided a

TONEARM

Certainly the most noticeable feature of the Ittok F-X (F-dot-cross) is the carbonfibre arm-tube, which includes technology first employed in the Funk Firm's new ANTI (Advanced Neutral Transcribing Instrument) tonearm. Carbon fibre, though, is only part of the story. There's much more to this design than merely a flash-looking Formula-One-style skin. Inside that thin-walled tube, which readily resists torsional stresses, there is a crossed pair of "I" beams to counter the inherent tendency of even very stiff tubes to flex along their length. So, the tube resists twisting while the crossed beams resist length-wise bending. The result is a near completely inert platform, free of high Q resonances to support the cartridge firmly while it traces the record groove. The Funk Firm argues that no other manufacturer thus far has succeeded in virtually eliminating tonearm resonances, which can produce 30dB peaks in the midband region, regardless of the exotic materials used in the arm's construction. Many rely upon conventional damping techniques, which, says Funk, do not work: they simply add mass and move the problems further down the frequency range.

F-X technology, Funk insists, uses only basic physics, but provides an extremely effective answer to the complex problem of eliminating resonance in tonearms.



"...the Funk Saffire proves to be a highly capable, entertaining record spinner and the lttok makes a surprisingly neutral partner."

highly realistic performance of sax-player Andy Sheppard's *Java Jive*, capturing the timbre, attack, delay and release of each of the variety of horns in the ensemble. Even trombone slides enjoyed razor-sharp definition.

Another major factor in this turntable's success is its sense of balance and lack of exaggeration. Tonally, it doesn't favour any part of the spectrum, which means that it will happily play any recording of any genre you throw at it. It treats all music with equal respect: for example, it switches from Oscar Peterson to The White Stripes with equanimity. which is just as well because Icky Thump currently tops the playlist. The Saffire's controlled nature works well here portraying Meg White's heavy-footed drumming and Jack White's often feverish guitar playing with noticeable composure, while easily maintaining the dynamic contrast of tracks such as the 300mph attack of Torrential Outpour Blues.

We conclude our listening with *The Devil's Right Hand* from the Webb Wilder and The Beatneks album *It Came From Nashville*, a slice of no-nonsense, country-flavoured, Southern rock 'n' roll that demands no intellectualising: it either sounds right or it doesn't. On the Saffire it comes across just as it should – like an extremely tight band playing live in a Tennessee bar and having a great time doing it. Interestingly, the deck gives one of the finest portrayals of the song's drum patterns we've

heard. Feet were tapping so furiously that one laptop came very close to forsaking its lap and meeting the floor. The sheer power, impact and weight of the drums also shines through on the White Stripes disc, which suggests that the designer's claims about the Saffire's speed staying absolutely constant under dynamic load are truthful.

All round, the Funk Saffire proves to be a highly capable, entertaining record spinner and the modified Ittok makes a surprisingly neutral partner for it. Whether your tastes favour raucous rock or calmer classical, this funky record player deserves a place near the top of your need-to-audition list. HFC

Malcolm Steward





Back with a bang

After a long gap, Yamaha gets back into component high fidelity with style

PRODUCT Yamaha A-S2000 and CD-S2000

TYPE Integrated amplifier and CD/SACD player

PRICE (A-S2000) £1,499; (CD-S2000) £999

- (CD-S2000) Size (WxHxD): 43.5x 13.7x41.8cm
- Weight: 15kg Stereo-only CD∕SACD player
 Digital outputs: 1x coaxial, 1x optical Analogue outputs: RCA phono, Balanced (XLR) Full stage 4 balanced signal transmission CD Text

CONTACT № 01923 233166 — www.yamaha-uk.com

amaha's contribution to the world of high fidelity has been distinctive, sometimes even distinguished, but also

more than a touch patchy, with long barren spells punctuating the infrequent highlights. The latter include true world beaters such as the CT1000 tuner and the beryllium tweeter equipped NS1000. But ambitious mainstream high fidelity components have been noticeable by their absence; the new 2000 series components you see here being their first important new introductions for many years.

Now the deed has been done, it has, at least, been done properly. First impressions on decanting the two components are that Yamaha really means business. There are no short cuts here. They are unfeasibly heavy, superbly built and have the kind of fit and

finish that usually eludes most Western producers, even the more exotic names. The CD-S2000 is the disc player and is designed to play stereo CDs and SACDs, with outputs in single-edged and balanced form. In common with many other high-end SACD players, there is no provision for multichannel playback. The A-S2000 is a fairly powerful integrated amplifier, subjectively better endowed than the numbers suggest.

Yamaha's notes covering these two product make much of the fundamental technologies. Most amplifiers these days that are not digital use a fully complementary configuration, utilising matched pairs of NPN-PNP transistors

Yamaha A-S2000 integrated amplifier and CD-S2000 CD/SACD player Review

The ASA21000 uses a different approach, which Yamaha describes as a balanced noncomplementary 'pullable' rather than pushpull design that is fully balanced from the input (actually just after the input for the single ended inputs) to just before the speaker terminals. This is to distinguish it from those amplifiers with balanced in/outputs, but where the internal architecture is singleended. The configuration has all the usual benefits of balanced operation, in particular rejection of noise on the signal or earth lines imposed from external sources. Yamaha also use a more sophisticated than usual power supply which has constant current and

also uses the Pure Direct circuit from Yamaha's home cinema components, which functions to to turn the display and the digital outputs off.

Other points include the use of a number of specialised components, some designed and manufactured specifically for the 2000 series. The units are extremely heavy, largely amplifier in particular is also a talking point. Another really neat feature is the equipped bottom sections which can be

due to massive power supplies and, as noted earlier, they have unusually fine standards of fit and finish. The retro-styling of the design of the feet, which are adjustable and have round flat, neodymium magnet-

"It's obvious that the new Yamaha combination is a very welcome addition to an area of the market short of real stars..."

constant voltage characteristics, regardless of the draw placed by the audio circuits. Also, because the amplifier is not push-pull, but push-only, crossover distortion is not an issue. Mains earthing is separate from the signal returns. Finally, the volume control, bass, treble and bypass switching are all mutually isolated. Consequences of the design are that the volume control has virtually zero tracking error (even at very low volume levels) and the headphone amplifier is also fully isolated and not potted down from the main output.

The disc player uses most of the same ideas, adapted to the voltage and current requirements of a disc player. In this case, the analogue and digital circuits are completely separated. The DAC stage uses separate highprecision converters for the +ve and -ve going side of the signal, which are input into isolated low pass filters and transmitted from there to the output in fully balanced form. The player

removed, exposing spikes. The mechanism and loader are also rather special and feature a 'silent' loader.

SOUND QUALITY

On request, Yamaha supplied a pair of the Soavo 1 floorstanding speakers, along with the electronics (which we thought should make a good match) and sure enough they turned out to be right on the button - on price at least. Other components used included Mordaunt-Short Performance 6 loudspeakers, a Denon DCD-SA1 CD/SACD player and PMA-A1 integrated amplifier and various cables, concentrating this time on the excellent Atlas Mavros balanced interconnects (the single-ended counterpart was also available for comparison) and matching bi-wire speaker cables. Yamaha make explicit recommendations for running-in both items, with good reason as it turns out -

thirty hours for the player and fifty hours for the amplifier - and these were duly observed.

We were curious about some aspects of the Yamaha's performance, first how singleended might compare to balanced mode interconnections and how SACD compared to CD. This is a particular preoccupation of this writer, because the world of SACD seems to belong almost exclusively to classical music. Other types of music often use recording techniques that detract from the feeling of naturalness, a quality that is under appreciated these days. We've a particular liking for SACD, but continually hear about the format's supposed inability to 'play tunes'. This is unacceptable, although we do concede that the kind of music that SACD excels at, is often relatively short of the kind of musical architecture that requires qualities of this sort.

It's obvious that the new Yamaha combination is a very welcome and sophisticated addition to an area of the market that is short of real stars, but there are potential sticking points, the most obvious being the importance of using balanced interconnects, more important here than with most of Yamaha's competitors. In fact, whilst the Yamaha player works well playing CDs, it is much better with SACD. We assessed the player using dual-layer hybrid discs (which, in principle, should sound very similar in the two formats) and also with alternative recordings of the same work

In each case, the high-resolution recordings sound sharper, leaner, more controlled and are reproduced with greater presence. With one piece, Bruckner's 4th Symphony in admittedly completely different versions (Gunter Wand on SACD and Simon Rattle on CD; both with the Berlin Philharmonic orchestra), the difference was simply extraordinary, the SACD sounding much more alive as a performance and as a presence in the listening room. In this one case (among many), the high-resolution recording sounds palpably more dynamic with better, more propulsive timing. A definite no contest type situation.

Be this be as it may, the uber-balanced internal architecture make it predictable that balanced interconnects are not merely an option, but de riqueur and we were surprised to find the combination sharpened up its act considerably when used this way (using the same Atlas cable stock in both cases). Using single-ended, the sound is just a little slacker and the silences between notes less inky black, though higher background noise levels (a known single-ended issue) are not immediately obvious. This, in itself, is





Interview with Terry Murphy, Product Manager of Yamaha UK

HFC: Please explain some of the thinking that underpins the 2000 series.



TP: It is a long time since Yamaha was fully involved in component high fidelity outside the budget area, but the introduction of the Soavo speaker range made some electronics capable of complementing their performance a near necessity. The 2000 range was mostly designed in Japan and is intended to appeal primarily to users with more disposable income. We quickly found, when we started listening, that the speakers are unusually responsive to the source and amplification. You can really hear what's going on.

What are the key design ideas?

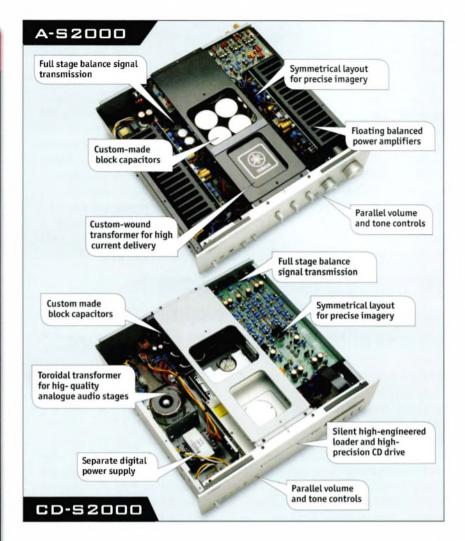
We were mainly interested in simple, but well optimised circuit blocks. Hence the use of a push' type amplifier circuit, which is not prone to crossover distortion, or the strictly enforced separation between different areas of the circuit. This, as well as the use of fully a balanced operation, which is not the case with some nominally balanced components. In our case, everything, bar the phono input and the singleended line inputs, is fully balanced - the signal is converted to balanced immediately upstream of the inputs. The grounding of the audio circuits is also different, with a separate ground on the central rail unconnected to the audio signal paths. We've also designed a number of possible components especially for the new series.

In what areas are these changes particularly noticeable?

We found that the bass response and level of detail retrieval is more consistent, though the new electronics and the elimination of the usual push-pull architecture in the amplifier means that switching distortion, as the two halves of the audio signal are joined together, is simply not an issue.

Will there be any other new products featuring similar design ideas for other areas of the market?

Yes. We have designed some slightly simplified components, namely the A-S1000 amplifier and the CD-S1000 SACD player at £899 and £799 respectively, which include as much of the 2000 series thinking as we could include within their tighter budget constraints. They will be launched very soon. There will eventually be other follow-on components too.



not a surprise, balanced mode does yield reduced background noise and grain, but the differences often only make their presence felt subliminally.

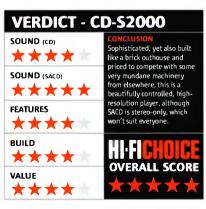
The 2000 amplifier is in the same class as the SACD player. It's a very strong performer – muscular, with plenty of presence, yet velvety when called for and an excellent foil for the disc player. It has the knack, (available to a small number of quality products) of being able to acquit itself with virtually any kind of music. Is it a classical music amp? Yes, 50 is it a rock music amp? Yes, it's that too.

Thinking through these two components, our overall reaction is that they are remarkably good value. Being the progeny of a powerful mainstream producer like Yamaha, the company's designers have been encouraged to pull out all the stops, without fleecing the buying public. We certainly rate the two as equal overall to some considerably more expensive components from other prestigious brands. The feature count is just right, although we could have coped without the tone controls. The user interfaces are sleek and well organised, while build quality and the

various retro-inspired features (rocker switches etc) are very impressive. **HFC**

Alvin Gold







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We take a closer look at two of the five recently revamped Epos M-series speakers

PRODUCT Epos M5i and M16i

TYPE Standmount/floorstanding loudspeaker

PRICE (M5i) £425 per pair, (M16i) £850 per pair

KEY FEATURES (M5i) Size (WxHxD): 17.4x32.5x23cm

● Weight: 6.5kg ● (M16i) Size (WxHxD): 17.5x88.5x21cm ● Weight: 15.5kg ●Sensitivity: 87/88dB

CONTACT 2 01442 260146 sq www.epos-acoustics.com

his bumper review covers two of the five new stereo pairs in Epos' M-series. Distinguished from their predecessors by an 'i' (for 'improved') suffix, the overall outline of each model looks very similar to its predecessor, even though a considerable number of detail changes have been

implemented to improve both the appearance and the performance.

The same size as their predecessors, the small two-way M5i standmount now costs £425 per pair (up from £350 for the M5 in 2005), while the floorstanding two-and-a-half-way M16i costs £850 per pair (£800 M16 in 2007).

Both models use what appear to be identical bass, mid and treble drive units and both bass, mid drivers are loaded by similar size enclosures – rear-ported in the case of the small M5i, but a sealed sub-enclosure in the case of the larger floorstanding M16i (which has an additional port-loaded, bass-only driver occupying the lower section of the enclosure).

The tweeters all have 25mm metal dome diaphragms, while the cone drivers have 135mm frames and 95mm diameter moulded plastic cones. Those operating up through the midband also have 'bullet' phase plugs fixed onto their central magnet polepieces, whereas the bass-only drivers have a regular dust cover attached to the cone.

If the outlines are similar, the changes are numerous. The cabinetwork is particularly impressive considering the prices, with curvaceous vertical edges. Improved quality book-matched real wood veneers come with smooth finish for the cherry and a fabric red cherry optional grille, though fixed perforated metal covers protect the metal dome tweeters.

The 56Hz port tuning ensures plenty of midbass output wherever the speakers are placed, but there are difficulties further up the band. In free space, there's a lack of output at 60-250Hz. Close-to-wall siting was preferred on balance, as this usefully helps lift the M5i's bass output, but leaves it rather too lean through the upper bass and broad midband (100-800Hz) and more exposed in the upper mid (800Hz-1.5kHz). Furthermore, the treble (4.5-10kHz) looks significantly stronger than average.

Through the bass and midrange, the M16i measures exactly like its predecessor. However, the change in tweeter and its associated network has wrought a dramatic improvement in the response above 2kHz, completely avoiding the deep suckout centred on 3.5kHz found in the previous version and also usefully extending the top end.

Although the overall in-room averaged frequency response is impressively smooth and flat above 120Hz (albeit a slightly prominent 700Hz-1kHz), the bass alignment

consonants) on speech. Although detail is always explicit, the tendency towards edginess and 'splash' on percussion instruments like cymbals inhibits the enthusiastic application of volume for fear of inducing fatigue.

The M16i is significantly more palatable overall and while it does share some of the characteristics (as well as the ingredients) of its smaller brother, these are somewhat less extreme with an end result which is more enjoyable as a consequence. Sibilants remain quite strong, but are certainly more acceptable, and speech retains that attractive openness, but some 'cupped hands' coloration is also audible in the voice band.

The overall character remains a little on the thin side overall, which can become a trifle wearing over the long haul, while on some tracks a degree of bass 'thump' can become intrusive, especially if the speakers are too close to a wall, though this does go some way towards 'balancing out' the fairly strong top end.

Overall the M16i gives a pretty good account of itself, aided by fine mid-to-treble openness and neutrality, but finding ideal locations for the speakers proved quite difficult under our listening conditions. While the cabinetwork on both of these Epos models is quite exceptional, the same cannot be said for their sound quality. The M16i certainly passes muster, especially if the bass end interacts well with the intended listening room, but our samples of the M5i proved disappointingly thin and bright. HFC

Paul Messenger

"While the cabinetwork on both of these Epos models is quite exceptional, the same cannot be said for their sound quality."

The tweeters themselves are significantly different from before, with metal faceplates in place of plastic and double ferrite magnets in place of neodymium, both of which add to the heatsinking, improving thermal stability and power handling.

The M16i is now supplied with a plinth already fitted to the enclosure. Although the latter ensures secure spike fixing, it has exactly the same small footprint as the enclosure, and therefore does nothing to improve the very questionable stability – the likelihood of it passing the EC 'knockover' test seems remote.

The bi- and tri-wire terminal pairs are now mounted through a flat alloy panel, optionally connected by brass links. Superior polypropylene capacitors in the crossover networks replace the bipolar electrolytic types that were previously used.

Our measurement regime clearly shows that the changes introduced in these i-suffixed versions are much more than skin deep. Examining the M5i first, the impedance is now altogether easier to drive, staying above six ohms throughout (rather than falling to four ohms minimum) and the overall averaged in-room frequency response is less uneven and more extended at the top end.

again proved problematic under our room conditions. The 45Hz port tuning interacts with a room to create a substantial excess around 50Hz, even when the speakers are positioned well clear of walls, leaving the 60-120Hz octave too lean and rendering close-to-wall siting inappropriate. Furthermore, the load dips briefly below four ohms in the low bass region.

The various balance anomalies, especially the rather strong treble, proved problematic in the listening tests. A bright top end is sometimes acceptable, particularly with tweeters of the highest quality, provided the bass and lower midband add a corresponding warmth at the other end of the spectrum.

Unhappily that is not the case with either of these Epos models. Both tend to be a little lean through the mid and upper bass, but the situation with the small M51 is much more serious than with its bigger brother. Here the sound imposes a cool, thinned and bright character to all kinds of music, due as much to a lack of punch and authority through the lower registers as the strong top end.

Diction is open, clear and articulate, but there's an obvious tendency to over-project the voice band in general and to overemphasize the sibilants and fricatives (forced







PRODUCT Cambridge Audio Azur 840E and 840W

TYPE Preamp and power amplifier

PRICE (840E) £800, (840W) £1,200

KEY FEATURES (840E) Size (WxHxD): 43x11 5x36 5cm

○ Weight: 8 7kg ○ Inputs (8) inc. 2x XLR balanced

○ 1x RCA phono ○ Display can be dimmed or switched off ○ (840W) Size (WxHxD): 43x14 8x36 5cm

○ Weight: 19 6kg ○ Power output: 200 watts stereo, 500 watts mono ○ Will operate in balanced mode

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he 840E and 840W amplifiers see Cambridge Audio topping off its successful Azur range of products with a high-powered and highly flexible pre/power combination. Traditionally, Azur products have been at the budget end of things, but these amps represent something new and hit £2k.

As well as acting as a straightforward stereo power amplifier, the 840W can be used in either a bi-amped or bridged mono configuration. When bi-amping, one 840W of the pair powers each speaker so that its tweeter and woofer each has its own dedicated amplifier channel. Alternatively, the bridged mono mode allows two 840Ws to be used with each configured as a 500-watt monoblock. With the flick of a few switches and the repositioning of a few interconnects you could have four (or more) of these economical fire-breathers configured

so that you have 500 watts on tap for every individual drive unit.

There's no doubt that there's some very clever electronics lurking within the 840W. The amplifier uses Cambridge's second generation proprietary Class XD technology (see boxout opposite), along with a new output stage that has been carefully adjusted to integrate with this novel topology.

The power amplifier, though, doesn't have any monopoly on advanced technology. The 840E preamplifier boasts its own share of sophisticated circuitry. For example, rather than use commonly available, off-the-shelf op-amps for the critical low level gain stages, Cambridge

brewed audiophile modules, called Terrapins, which it designed with the sole aim of extracting the best audio performance from the amplifier (see boxout opposite).

The 840E uses a sophisticated resistor ladder and relay-based attenuator for volume and balance control. Although this provides 1dB incremental volume adjustments, we found that much of its range seemed wasted in our system: with Mute being at -95dB and our normal listening level being around -20dB, that's 75dB of attenuation that we were never going to use. Even at our late-night-listening level of -30dB that is still a whole bunch of resistors hanging around doing nothing. Each channel features an individual array of relays

shebang in balanced mode with the flick of a few tiny switches on the rear panels.

The preamplifier also incorporates RS-232 and multiroom connections to enable it to be used in custom installations: it will integrate with multiroom entertainment systems and touch-screen control panels. Naturally, it is fully equipped for use with Cambridge Audio's Incognito system.

To conclude this section on a practical note, do be careful if you need to lift these units: the power amplifier, in particular, is uncommonly weighty for its size. Both units have substantial chassis, facia panels and, inside, beefy transformer and heat-

"You could have four (or more) of these economical fire breathers so that you have 500 watts for every individual drive unit."

and resistors to enhance the preamp's stereo separation and imaging performance.

All the information the user needs is presented through a customisable front panel display, which can be dimmed or switched off when not needed. The display, which is described as user-friendly – as is every display these days - actually is and is a joy to use. Inputs can be renamed with more informative names than 'Input 1' or 'Input 2'. On that subject, the 840E provides eight line-level connections, two of which can be balanced. The preamp offers a balanced output and the power amplifier has balanced input connections, so one can run the whole

XD TECHNOLOGY

XD stands for Crossover Displacement, a technology that delivers pure Class A operation at low levels before sliding into an enhanced version of Class B at higher levels. This is not the same as regular Class AB, which generates inherently greater distortion than a pure Class B design at high levels.

Class XD feeds a controlled current into the amplifier output stage actively displacing the crossover point, so that the usual Class B crossover no longer occurs at zero volume which Cambridge argues is the worst possible position in terms of distortion - but at a significant output level. The result, according to the company, is a smooth and linear transition between the two modes of operation. To enable this, the amplifier features an oversized toroidal transformer, incorporating a silicone-steel screen, which probably explains why the courier had the devil of a time getting the box to our front door.

SOUND QUALITY

Given that the 840W, in standard mode, delivers a very respectable 200W into an eight ohm speaker, we picked a model that, while not difficult to drive in the accepted sense, readily demonstrates its disapproval of any amplifier that cannot exert strict control over it. We connected a pair of MkII Neat Petites to the 840W with bi-wire Chord Company Epic cables. The main source was a Naim CDS CD player wired to the 840E with Chord Company Indigo interconnects, which we also used to connect the pre and power.

It was obvious from the outset that this combination required a good amount of running-in from new. The sound initially was thin and ethereal with a distinct shortage of presence and solidity in the upper bass: sure, there was upper bass present, but it sounded rather fey and half-hearted. As the amplifiers played in over the course of a day's Red Hot Chilli Peppers on repeat, the presentation gradually became more evenly balanced and naturally weighted. By day three, we felt the amps had been sufficiently run-in from new for some critical listening.

When thoroughly warmed-up the system demonstrates a very composed, civilised character that seems far better suited to some discs than it does to others. The politeness, for want of a better word, doesn't do justice to the B-52's generally up-beat Good Stuff album: tracks such as Is That You Mo-Dean? come across as a little too laid back rhythmically. The same is true of Rage Against The Machine's eponymous album, which, while it is difficult to fault in hi-fi terms, doesn't generate

"The 840E is a high-end preamplifier which uses Cambridge Audio's new proprietary Terrapin™ modules for unprecedented audio fidelity...," proclaims Cambridge in its publicity material. But what exactly is a Terrapin™?

Rather than use common op-amps for the critical low level gain stages of the 840E (and 840W) Cambridge Audio decided, instead, to design its own very low-noise and distortion amplifier modules that would outperform the usual devices. (The name began life as an internal engineering nickname, due to the 10 pins, that stuck). Two modules exist: the TPA amplifier, which is configurable for any gain and the TPB buffer, which has fixed unity gain. Both modules are optimised for their respective roles and come housed in an identical small plug-in module with an integral heat-sink. Internally, they feature individual left and right channel amplifier circuits on opposite sides of a multi-layer PCB with shielding between the layers to provide maximum channel separation.

the excitement of which the songs are capable. For example, Zack De La Rocha's vocals sound as though he's mildy peeved rather than seething with anger. Similarly Brad Wilks' drumming doesn't display its usual violent attack: even though it is physically loud its impact doesn't force you back into your seat.

Conversely, Aimee Mann's Whatever displays appropriate urgency and bite, probably because of the - much gentler - quitar driven nature of the music. Even so, there seems some diminution of leading-edge information evident, which reveals itself as a softened attack on cymbals and tambourines. As the CD progresses, it begins to seem that the amplifiers fare better with sparser mixes, greatly preferring the simple quitar, bass and voice intro to Stupid Thing to the more dense arrangement of Fifty Years After The Fair with its vocal layering and keyboards. We have no reservations, though, about the way this system handles Mann's superb voice: it's pitch perfect, beautifully dynamically shaded, and packed full of expression.

As the 840s appear to favour recordings with a bit of space around the elements we try Nic Jones' Canadee-I-O from the album Penguin Eggs. This outwardly straightforward quitar and voice recording shows off these amplifiers to their best advantage. They create a realistic portrayal of both Jones' guitar and his voice: furthermore, they easily convey his characterful playing, which uses techniques not usually employed by folk musicians. The 840s expose these subtleties with alacrity while imbuing his steel-strung acoustic with a vibrant tonality and vivid dynamics. In fact, after a couple 🔼

Q&A

We spoke with Matthew Bramble, the technical director at Cambridge Audio, about the background to the 840E and W.



HPC: How did the 840F and 840W come to be?

MB: The 840W came out of our Class XD development programme. For quite some time we've been working on this technology, refining various aspects and trying new ideas. The 840W is, in effect, a showcase for this development and uses Cambridge Audio's second generation Class XD circuits – our best yet. The 840E came about as we required a preamp of sufficient quality to match the 840W. Fortunately, we already had the Terrapin modules in development and the project all came together nicely.

Is there a particular type of customer to whom the 840 combination aims to appeal?

While there's no 'typical customer', we're aiming this package at what we might call the 'budget audiophile'; someone who's quite sophisticated in their taste and knowledge, but perhaps without the budget for a really expensive, big-name box of tricks. There are also a lot of savvy customers who are looking for something esoteric, but at a level before the law of diminishing returns comes into play.

Can we expect further higher-end Cambridge equipment to accompany the amplifiers: a 61,000 CD player or suchlike?

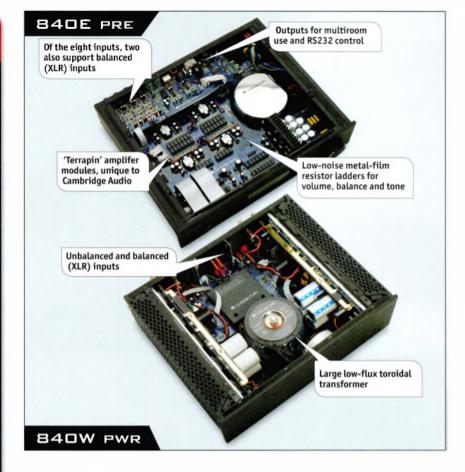
Even though we feel the step-up from an 840A V2 to an 840E/W setup is quite striking, we believe the 840C makes for an excellent front-end even at this level; hence all wear the 8 series nomenclature. That's not to say we won't ever develop an even more high-end CD player, but there are no current plans to do so.

If you had to recommend ideal speakers from West Coast reggae to classical, what would they be?

The 840W is able to drive most speakers with ease – even difficult loads – so it's largely down to personal preference. Our only advice would be that as the E/W combination is very neutrally

balanced without any deliberate artifice — and doesn't tend to colour a system as much as some other products — it will react nicely to some careful fine tuning by choice of cables, interconnects and, of course, the chosen loudspeaker type.





■ more tracks it dawns upon us that we are actually contentedly listening and tapping our feet to traditional folk music: this Cambridge duo clearly has a rare talent!

Playing Hugh Masekela's rather busier Stimela from the CD Hope, it strikes us that the 840 pairing might appreciate better recordings and not suffer those that are less well put together. It does not simply favour uncomplicated mixes over more intricate arrangements, but it appears to relish the finer examples of the recordist's art. The Masekela disc demonstrates that the amplifier does not sound over-polite or soft on drum and cymbal strikes as it had with the Aimee Mann disc. Nor does it require a percussive or stringed instrument to produce leading edge information as Masekela's assertive horn stabs

and vocalising demonstrate on this faultlessly produced live recording.

The new 840E/W represent a new era for Cambridge Audio in terms of price and performance. Owners of the *HFC* Gold Award winning 840A v2 (£750) will find the duo a noticeable step-up. Audiophiles who aspire to the high end but only have modest spending power will welcome the performance per pound the duo offers, too.

Although we found the amps preferred well recorded discs, we'd encourage a lengthy audition with a wide range of music to see just what the 840E and 840W can do. **HFC**

Malcolm Steward

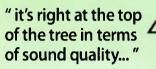




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Hi-Fi World, May '08, Adam Smith



VERDICT ASSA

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Paul Messenger, Hi-Fi Choice July 2008



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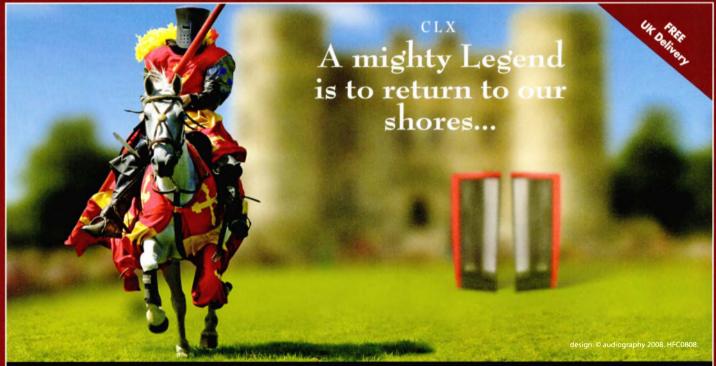
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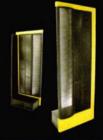
The iTransport, which is certified Made for iPod®, turns any currently available iPod player into a highend media server by providing a bit-perfect digital audio output to an audio/video system, bypassing the player's internal D/A conversion and output stage. Subsequently, the audio signal remains clear and unadulterated throughout the path. The iTransport is compatible with all currently available (Q2 2008) iPod players, as well as iPhone® and iPod Touch® models.





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Getting ahead

magazine

end headphones, but it has five models on offer at present, plus three in-ear designs. This particular contender is an all-new model and sits one rung down from the range topping (and more expensive) AH-D5000

Like the D5000, the D2000 is a closed-back model, the main advantage being the degree of isolation from exterior sounds. A few closedback models we've tested recently had next to no attenuation of outside noise, but while the D2000 is hardly in the 'sensory deprivation' league, it does (thanks to its close-fitting ear cups) cut out a good deal of peripheral interference. It's also comfortable to wear, with soft padding on both cups and a spring-forced headband that's nicely balanced between security and a vice-like grip.

Naturally, a major contributor to the sound of any headphone is its drive units and Denon has apparently used some form of microfibre composite for the membranes, with a voice coil driven by a neodymium magnet. Something called an 'Acoustic Optimizer' helps maintain a neutral balance (closedback headphones can be at a disadvantage because of the enclosed space behind the diaphragms). The driver housings are usefully non-resonant, too.

Lots of little touches complete what is a very upmarket-looking package. The cable is made of high-purity copper and is sheathed in a business-like braid, although the noise it makes when rubbing against clothing is a bit disconcerting. At the end of the cable is a 3.5mm jack plug, a top-quality metal item with a screw-in quarter-inch adapter.

SOUND QUALITY

Having just mentioned that warning note about coloration from closed-back cans, we are delighted to report that this model seems almost entirely free from any such effect. It is, in fact, one of the most neutral closed

grounds with the best open-back models. The only slight blemish is a hint of shyness in the upper midrange and lower treble. So many transducers, especially loudspeakers, have something of a peak in that region and we thought (at first) that the D2000 was unusually honest, but careful listening to recordings of familiar sounds (including speaking

Very high treble, however, is superbly open and extended, while lower frequencies are also very well served. Bass is completely effortless, but very powerful when required. The result giving an unusually satisfying feel for the visceral impact of percussion (even though it's one area where headphones must inevitably bow to the superiority of speakers).

voice, a very searching test of headphone

the response.

tonality) confirmed that there is a small dip in

Detail is another area in which this headphone scores very highly (with just a touch less insight than we've heard from the very best open-back models). The real glory of the D2000, though, is its imaging. This is a bit of an odd one as headphone imaging works differently from loudspeakers and results can certainly be expected to vary from those heard via speakers, although this works very well indeed. Instruments are clearly defined spatially, with good lateral placement and excellent depth. This, without doubt, is due to the high levels of detail and low levels of resonance in the D2000, which allows sounds to project clearly from their place of origin.

Headphone listening isn't for everyone, but models like this can only help widen its appeal. If you're already a convert, you'll need little persuasion of the virtues inherent in this model once you've heard it! HFC





Poundstretcher

Advance Acoustic slashes the cost of two-box amplification

PRODUCT Advance Acoustic MPP 206 and MAA 406

TYPE Preamplifier and power amplifier

PRICE (MPP 206) £350; (MAA 406) £550

KEY FEATURES (MPP 206) Size (WxHxD): 44x11x35cm

- Weight: 5kg
 Inputs: 4x RCA phono
 1x MM/MC phono
 Outputs: 2x balanced XLR, 3x RCA phono
 Active filter output
- (MAA 406) Size (WxHxD): 44x15x43cm
- Weight: 19kg Power. 150 watts per channel (8 ohms), 220 watts (4 ohms) VU meters
- Inputs: 2x RCA phono, 2x balanced XLR

hirty years ago Japan rocked the economy of the UK's hi-fi industry and now it's the turn of the Chinese. With products like this latest pre/power pairing from Advance Acoustic being offered for under a grand, times are extremely tough for domestic manufacturers of audio electronics.

Against that background and given the value of the Euro these days this latest offering from Franco-Chinese company Advance is nothing short of staggering. The MPP 206 preamplifier has four line inputs and a phono input that caters for both MM and MC cartridges, it has balanced and single-ended outputs and can be fully operated by remote control.

It's boasts a solid case and is professionally put together. To get this sort of build and feature complement elsewhere would cost you literally twice as much (the £750 Cambridge 840E preamp for example). And although Cyrus and Russ Andrews have lower-featured designs that are less expensive they still don't dip below the £600 mark. On paper, at least, this preamp appears to be a serious bargain.

There is, of course, Advance Acoustic's own MPP 505 (£600), which appears to be the same preamplifier with the addition of digital inputs and DA conversion. The MAA 406 power amplifier is clearly also a great-looking deal. This is specified as delivering 150 watts into eight ohms with the aid of an 800VA transformer and weighs a convincing 19 kilos. It too has balanced and single-ended connections and sports the biggest pair of VU meters we've seen since the last far eastern audio invasion - an era when Technics (remember them?) had a penchant for such devices. Such things went out of fashion because they serve no purpose aside from making what are otherwise rather featureless boxes look more appealing.

Advance Acoustic MPP 206 preamp and MAA 406 power amp Review

A thorough search does turn up a couple of potential competitors for the power amp, notably NAD's 150-watt C272 at £475 and Rotel's RB-1070 which gives you 130 watts for the same asking price as the MAA 406. Neither sport UV meters, however, but sonically this could be to their advantage.

The MPP206 has a couple of unusual outputs next to the traditional types, one is called 'sub out' presumably for connection to a subwoofer, while the other is called 'hi-pass out'. According to the manual, if our French is correct (we didn't get the English version), you use both in conjunction when running a sat/sub system. There is also a button that switches between 75Hz and 150Hz crossover

component) allow a manufacturer to offer higher quality components. To establish whether Advance Acoustic's two-box approach was a sensible one, we initially brought out a favourite integrated in this price area, the Cambridge Audio 840A (£750). It doesn't offer quite as much power (130 watts) but is very well featured and a useful benchmark. Nevertheless, it is one that the AA pairing manages to surpass with surprising ease, delivering a smoother result with fuller bass and significantly improved timing. There is also clearly more power on tap than the 30-watt increase would suggest because the bass has greater weight and yet remains timely, allowing you to follow bass lines without

"This pre/power pairing proves you can get a decent two-box amplifier for under a grand without having to compromise on features."

points for these RCA phono outputs. This is an unusual feature that could be of use if you want to add a subwoofer to regular loudspeakers and don't have the option of running the sub from the power amp's speaker terminals.

Build quality is good for the money, the steel casework of the preamp sounds undamped under the knuckle test, but we'd be shocked if this were otherwise. The power amplifier runs quite hot and thus is not all that green, although it does have a standby mode so there's no need for constant power unless you want best results straight away.

SOUND QUALITY

At this price point, £900 all in, we would normally recommend an integrated amplifier because the saving made in casework costs (usually the most expensive part of any hi-fi

having to try too hard.

Imaging is pretty good for the money, too with reasonably precise placement and, more importantly, a high fun factor with great pieces of music such as that produced by Israeli jazz band, Avanim, where the AA's smooth character and good grasp of tempo allows you to enjoy the trumpet driven grooves to full effect. There is a slight sense of thickness to the sound however, which makes these amplifiers better suited to open and lively speakers such as those from PMC and Focal. We tried PMC's new OB1 i floorstanders and were very happy with the balance; the MAA 406's generous power reserves helping the combination to deliver a big soundstage with the aid of Fink's Biscuit's for Breakfast album. We like the way that the sound has good edge definition without glare and can produce reverb in such a spacious fashion.

The slight warmth in the AA's balance has one advantage in that it allows you to play loud without the sound getting hard. After all, why would you want an amplifier of this girth if not to play loud?

To see how the MPP 206 preamp fares in the grand scheme of things a Russ Andrews HP-1 was brought out to take a turn driving the AA power amplifier. This little preamp has only two inputs and no remote operation, yet costs £499. It's rather more open sounding than the MPP 206 and delivers more low-level detail; basically it's more transparent. Substituting a Russ Andrews PA-1 power amplifier (£699) for the MAA 406 results in more openness and greater realism, but a curtailing of bass weight as a result of the drop in power to 60 watts. We were surprised however that the dearer RA pairing did not offer a significant increase in timing quality, which supports the impression that this is a strongpoint of the Advance Acoustic pairing

In fact, with the less-than-easy to drive B&W loudspeakers in use, the combination of RA HP-1 and AA MAA 406 worked the best, which is a credit to the big power amp as such beasts are rarely very nimble.

Using the slightly easier load presented by the OB1i gives the little Russ Andrews power amp the edge it needs to reveal its greater grasp of dynamics and speed, combined with a significantly increased sense of clarity to the result. But it costs you another £150 and doesn't come with big meters (or big anything for that matter).

This AA pre/power pairing proves that you can get a decent two-box amplifier for under a grand without having to compromise on features or power. Some care has to be paid to speaker matching, but this is often the case. And then there are those VU meters; they may not be necessary, but we have to admit that they do look great. HFC

Jason Kennedy





amphion



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BEST BUY

magazine

Self build

Russ Andrews has been tweaking again...

PRODUCT Russ Andrews SP-1

TYPE Standmount loudspeaker

PRICE £399

CONTACT № 0845 345 1550 € www.russandrews.com

uss Andrews has realised that the most cost-effective way to get a product to market is to take someone else's kit and tweak the sound to personal taste. Russ did this with Stello electronics when he produced a range of desktop electronics and he's done it again with Focal, in order to supply an equally compact speaker to match. Such 'modding' achieves a build quality that would otherwise absorb a huge amount of time and money, plus it's far easier than starting from scratch.

For the SP-1, Russ took the diminutive Focal 705V and removed its crossover and wiring. replacing them with Kimber Kable 4PR and a single capacitor to form a high pass filter for the tweeter. The cabinet has been damped and the wadding replaced with real wool, (presumably of the Cumbrian variety). The most radical step, though, is the removal of the filter network that usually sits between input and midbass driver - a network that Focal employs to maintain phase between drive units - but as Russ proves, not one that is fundamentally essential to the operation of the driver (which now rolls off mechanically and presumably at a rather higher frequency than it usually does). The fact that he has done this with Focal's blessing is, however, encouraging

It's this change that lies behind RA's claimed increase in sensitivity, from the 89dB specified by Focal, to 95dB; which seems optimistic in the extreme when you consider the volume of the box and the size of the main driver!

On the outside, this is a badged Focal 705V - a vinyl-wrapped cabinet with a 100mm polyglass cone midbass unit and an aluminium and magnesium inverted-dome tweeter. It has threaded inserts in the base, a single pair of speaker terminals and a hook so that you can hang it on the wall, should you wish to

SOUND QUALITY

Russ supplies specific set up instructions with the SP-1. These suggest placement on either side of the room and close to the back wall.

The instructions are comprehensive and even suggesting how far you should place the listening seat from the end wall. Accordingly, we followed the instructions and got a result that would suggest Russ knows what he's talking about. We also used Russ's DAC-1 converter, HP-1 preamp and PA-1 power amp

What first strikes you about the sound this set-up produces is its scale; the speakers fill the space between them producing an image as wide as the room. With most discs each speaker also manages to disappear in the process; this is a trick that small speakers find easier to pull off, but these ones do it in impressive style.

The image is not, perhaps, as deep as it would be with more space behind the speakers, but the vivacity of sound is a very good distraction from this. The SP-1 has a degree of transient speed that you don't expect at the price, it approaches what can be achieved with single driver designs without the balance compromises that they usually bring. It also makes for highly entertaining listening. This compact system from Russ is one of the most entertaining and affordable we've come across in recent times, and the most powerful.

Its quality is due to the immediacy and midband clarity on offer. Although limited, bass extension is good and there's enough to reveal what bass instruments are doing Occasionally you come across an instrument It's about making listening to music enjoyable and in that respect it's a total success. HFC

Jason kennedy

that sets off a resonance in the speaker, the quitar on Gillian Welch's Time, for instance. along with a Rotel RCD-06 CD player. but this speaker is not about total precision.

VERDICT PRO Produces a huge image **** when set up correctly and delivers a lively, immediate FFATILRES sound that makes for high musical entertainment in a $\star\star\star\star\star$ compact package BUILD ☑ CON The preferred set up will not be practical in some rooms and it's not the most VALUE controlled sounding speaker Russ has done a remarkable job with this little Focal speaker, combining the good build and finish of the original with a sound that is immediate, engaging and most importantly, great fun. It's further proof that Russ is the king of tweakers.

OVERALL SCORE

Xenophilia

One of the best looking three-ways around, Amphion's Xenon has several unusual features

PRODUCT Amphion Xenon

TYPE Floorstanding loudspeaker

PRICE from £2,599 per pair (depending on finish)

KEY FEATURES Size (WxHxD): 19x107x36cm

- Weight: 30kg 25mm aluminium tweeter
- 165mm aluminium midrange 200mm bass unit
- 'Hypercardioid' dispersion
 Adjustable bass level
 Sensitivity: 86dB
 Impedance: 40hms

CONTACT № 01623 517000 ∰ www.amphion.fi

Finnish brand that has been around for about a decade, Amphion is more successful than most at distinguishing its speakers from the market stereotypes, through a variety of interesting techniques. This Xenon is the second Amphion to come *Hi-Fi Choice*'s way in recent months and is an altogether more substantial package than the Prio 520 we reviewed in *HFC* 302.

Indeed, at £2,599 or £2,899 per pair (in

painted or real
wood veneer finish
respectively), the Xenon
was the top model in
the Amphion line-up
until recently. (That is
until a Mk2 version of
the still larger Krypton
was introduced at the
German High End Show
in April.)

Our birch finished example must be one of the prettiest speakers on the market, in part because of the classy way the veneer is laid, in a series of five narrow vertical stripes across the front and three broad stripes on the sides. Add in the clever way the front veneerwork follows the contours of the large waveguide surrounding the tweeter and the deep triangular vents let into the sides next to the midrange driver and the net result is both elegant and contemporary.

This is a substantial three-way design, turning the scales to a hefty 30kg. It looks attractively

slim from the front, yet is quite deep, allowing a good size (200mm) bass driver to be

mounted in the side. To maintain symmetry, the speakers are built as a mirror-image pair, so they can be used with the bass units directed inwards (the normal way), or outwards – an option worth exploring in situ. Two hefty steel bars are mounted laterally onto the base

for spike accommodation and the combination of good depth and extended width ensures excellent footprint stability.

The 200mm bass driver has a 155mm metal cone diaphragm and is port-loaded at the rear. The 165mm midrange driver has a 115mm metal cone diaphragm and is mounted at the top of the front panel, above the large sculpted waveguide that surrounds and recesses the 25mm metal dome tweeter.

The midrange occupies its own sub-enclosure at the top, but this is neither sealed nor reflex-ported. The triangular grilles on each side back from the midrange driver provide resistive leakage of the out-of-phase sound radiation from the back of the cone. This is a modified form of dipole (open-back) radiation, which according to Amphion results in a hypercardioid sound radiation pattern. The claim is that this distribution characteristic allows the speaker to be sited close to a wall without generating the reflections that cause midrange coloration.

A solitary pair of high-quality WBT socket/binders supply a crossover network that operates at 150Hz and 1.2kHz, the relatively low mid-to-treble crossover point facilitated by the influence of the tweeter waveguide, which also serves to increase the effective diameter of the tweeter and match its dispersion to the midrange unit in the crossover zone. Next to the terminals is a little rocker switch that Amphion calls its bass Adjustment System (BAS), which subtracts some 3dB from the bass region.

Although the steel bars at the base provide fine lateral stability and threaded holes that can totally secure the spikes, regrettably the spikes themselves have rather short shafts and lock-wheels that cannot be properly tightened.

SOUND QUALITY

One of the disadvantages of metal — even aluminium — diaphragms is that they're heavier than other commonly used materials and one consequence of this tends to be a lower than average sensitivity. That's true enough in this case, as Amphion quotes a modest 87dB. Whereas our tests suggest that 86dB is a more realistic figure, at least as far as the midband is concerned. Impedance is quoted as 80hms,





"...the Xenon is something of a mixed bag and reveals very clearly the strengths and weaknesses of an all-metal diaphragm."

which is fair enough through the midband and treble, but there are two 4-50hm minima in the bass region, at 90Hz and the port tuning frequency at 25Hz. Pair matching was good at low and mid frequencies, but showed some discrepancy in the treble.

Placed in the positions normally used in our listening room, the far-field in-room averaged power response showed an impressively smooth and even balance through the midband and treble (above 250Hz), but some bass alignment difficulties below 250Hz, due to room interaction effects. Frequencies below 80Hz were about 5dB too strong, while the zone from 80Hz up to 230Hz was a 4dB too light

Moving the speakers further out into the room helped to even out the bottom end somewhat, indicating that the Xenon is likely to be best suited to free space siting in large and very large rooms. That, of course, somewhat contradicts the alleged benefit of the hypercardioid midrange radiation - the bass alignment simply makes close-to-wall siting impractical, under our room conditions at least. The BA5 bass adjustment also turned out to offer little practical benefit, as its main area of activity seems to be in the region 70-

150Hz, where output already tends to be rather weak

The Xenon clearly wasn't too well suited to our 4.3x2.6x5.5m listening room, but even with that handicap it was still capable of very respectable results. Bringing the speakers right out into the room might have helped even out the bottom end, but the effect seemed rather cold and clinical and results were preferred overall when the speakers were positioned more normally, with their front panels about 1.1 m away from the wall.

The sound as a whole is crisp, clean and clear, underpinned by a plentiful low bass that brings a fine sense of scale to the proceedings. That said, it can sound a little ponderous on some material and the lack of some punch and drive in the upper bass does result in a slight loss of agility and lightness of touch.

Although there's some lack of dynamic tension and grip, it goes loud with good consistency and without complaint, and sounds quite sweet in a slightly clinical way. It has very good control, with quite effective 'bite', yet no unwelcome 'splash' or 'edge' on sibilants or hard-edged consonants

The impressively coherent mid and treble is undoubtedly partly responsible for the very

precise stereo imaging, which has fine focus and good depth perspectives. Although the overall impression is of a smooth and clean sound, there did seem to be some lack subtle inflexion and expression - a mild lack of delicacy on human voices, for example

Ultimately it has to be said that the Xenon is something of a mixed bag and one that reveals very clearly the strengths and the weaknesses of an all-metal diaphragm approach. Although the overall sound is impressively solid and weighty, it also lacks some delicacy and lightness of touch. Probably best suited to quite large rooms, care is needed to ensure good bass alignment compatibility with the characteristics of the particular listening room. HFC

Paul Messenger



Custom Design RS302

TYPE Loudspeaker stand

PRICE £120

CONTACT 20 0191 262 4646 @ www.customdesign.co.uk

s loudspeaker stands go, this is a simple enough design. Two medium-diameter pillars provide the support between a rectangular steel base and a small top plate. The top plate is unusual, though, in that it's not solid metal, but rather Custom Design's 'Acoustic Steel' - two pieces of steel sheet bonded together with a slightly soft adhesive so as to form a whole that is unusually nonresonant. Just about the only disadvantage of this and it's certainly very minor, is that it's not possible to put threaded holes in the top and the supplied speaker-mounting spikes must be fitted with two nuts, which is a slightly fiddly process. The floor spikes mount and lock in the usual way. The price does not include any filler for the pillars, which should be considered essential: CD's 'Inert' filler will add £32 to the price, but sand is much cheaper and does most of the work, if a little messy

Suitably filled, then, the stands gave our various loudspeakers a well-defined sound with plenty of detail and just slightly loose bass. There is no particular sense of coloration in the sound, indeed midrange and treble seem as neutral as we've heard from the respective speakers, but in the lowest couple of octaves there is some occasional insecurity. This is probably due to very minor rocking of the assembly, which is pretty rigid, but not quite up to the standards of the (much dearer!) Partington, for example. All the same, the stand is very practical, performs well and comes in at a good price. HFC

VERDICT

This stand is a very considerable upgrade on most sub-£100 models, with low coloration, if an occasionally touch losse, bass





Kudos S50

TYPE Loudspeaker stand

PRICE £175

CONTACT 2 0845 458 6698 # www.kudosaudio.com

e first heard of Kudos as a maker of speaker stands - decidedly upmarket at the time - some years ago. The company's range is still small, but has expanded to include a rather natty-looking modular equipment rack and five loudspeaker models. This stand is a simple design very much aiming at robust rigidity. A triangular base plate offers good stability even on uneven floors, while the large-diameter pillar is extremely stiff. It's not by any means acoustically dead, however, and Kudos strongly recommends filling it with sand or another filler. The top plate is small and, unusually, can be mounted either lengthways or sideways by using either of two pairs of countersunk holes. There's a small drawback in that the unused pair of holes allow sand to escape if the stand is ever tipped up! A spare pair of screws and nuts, or even some carefully applied Blu-tack, would sort that one out

As with the Custom Design stand, we found midrange and treble clear and open, but bass is decidedly more solid on the S50. Interestingly, we also became convinced we were hearing very slightly more open and airy treble from many discs. whether there's any real treble difference, or this is one of those cases where bass improvements aid treble sound, is anyone's guess. The sound of low percussion and tuned instruments alike is powerful and stable and despite the small top plate this stand seems happy – sonically at least – even with quite large standmount speakers.

VERDICT

A simple and practical support, suitable for smaller speakers, that offers good clear bass and also small improvements in the treble



Partington Dreadnought Broadside

TYPE Loudspeaker stand

PRICE £299

CONTACT 2 01474 709299 @ www.partingtonandco.co.uk

ost speaker stands these days are supplied partly dismantled and hence come in modest boxes. This one, however, is assembled, filled and sealed at the factory and comes in a large and very heavy package. The simple reason for this is that this stand is built for utter rigidity and stability beneath any standmount speaker, no matter how large or heavy. The rectangular central pillar is already very solid, but with the four outriggers the assembly could probably serve as a (short!) extension to a construction crane. Everything is well damped with sand and resin and when you tap it you aren't sure if the sound is coming from the stand or your knuckle. The floor-mounting spikes are tastefully hidden, which does make them slightly awkward to adjust, but is no big deal.

It's no great surprise that a stand built like this gives superb bass from the loudspeakers placed atop it – the laws of physics, and experience, both point that way. Larger speakers firm up and gain extra definition, while smaller models suddenly discover an extra half-octave of extension that before was only hinted at. What we hadn't quite predicted was the extent to which the rest of the band improves at the same time. Extra little details suddenly appear in the midrange and treble, while images seem distinctly more precise than previously. It's also worth experimenting with different supports between the top of the stand and the speaker: Partington supplies little metal support cones, but a thin compliant layer (strips of neoprene sheet) also gave us good results. HFC



n offer and any decent





Quadraspire QX-600L

TYPE Loudspeaker stand

PRICE £250

CONTACT ☎ 0117 986 3228 @ www.quadraspire.co.uk

here's not much we can add to the evidence of the photograph as regards the originality and distinctiveness of this design. What we can tell you is that this is very much flat-pack furniture for the terrified – each stand consists of just two pieces of laser-cut Perspex that slot together. No tools, no fasteners, no fuss, just a pair of strategically placed grippers that hold the assembly together. The result is both gorgeous and practical, though it's not anything like as rigid as the more conventional stands in this group. The Perspex pieces have been carefully designed so that they give sort-of spikes at top and bottom corners, not exactly carpetpiercing, but certainly helpful in steadying the assembly on soft floorings. If the price seems high for what's on offer, do reflect that, first, Perspex is expensive stuff and, second, completely neglecting the hi-fi aspect for a moment, you can pay a lot more for highfashion furniture (which this arguably is) for less utility!

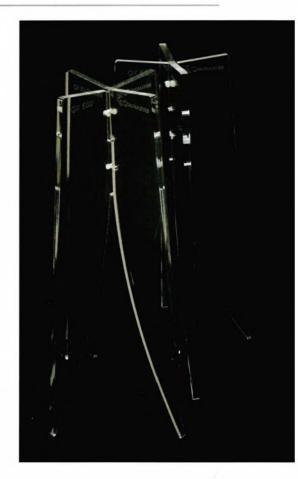
As for sound, it's not as extended or crisp in the bass as some of the other stands, nor is it as well defined in the midrange. But, it's almost entirely free of added colorations, which is something to be grateful for and it has a pleasing lightness and clear, bell-like treble that nicely complements the kind of smart, upmarket, mid-size speaker that's likely to be put on this stand (a larger version is also available for £320). The stands can be placed either x- or +-ways under the speaker, though soundwise we didn't have a preference. **HFC**

Richard Black

VERDICT

There's no doubt that form precedes function here, but sound is very decent and makes a case for hi-fi looking, as well as sounding, beautiful





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M J Acoustics



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Onkyo

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Leema Acoustics

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Atacama



The design approach is certainly outside the box with the stand's column a clear glass cylinder and the base a clear glass teardrop with integrated spikes. The top plate is robust and the stand is held together with a central chrome tension tube which also doubles as a cable management.



Constructed from silver plated, oxygen-free copper covered in a white polythene jacket. This cable manages to deliver the smallest of details combining this with smoothness and fine control. Bass is substantial, mid range boasts bags of drive, a superb cable for the price.



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Shure

IN-EAR HEADPHONES SE420



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FOR PRICE

EARPHONES SUPERFI.4VI



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Grado

HEADPHONES SR60



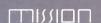
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Infocus'

TEAC



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GROUP TEST: JASON KENNEDY & LAB REPORTS: RICHARD BLACK

TURNTABLES

Six sensibly priced turntables are put to the ultimate test



inyl has been enjoying a renaissance over the past five years and this has encouraged new music lovers to dabble in the only analogue format still supported. In turn, manufacturers who had otherwise avoided the format have been inspired to dip a toe in the water.

It's not difficult to see why vinyl refuses to go away. Even if you discount sound quality (which we certainly don't), the scale and quality of album sleeve artwork, the ritual of playing an LP and the sheer aesthetic appeal of a nice turntable are all-important factors in its long-term survival.

As this group of mid-priced turntables quite clearly shows, build and finish quality has never been higher manufacturers can no longer cut it if their product doesn't have enough aesthetic appeal. The extensive use of acrylic is something that used to be the preserve of the high end, but it's now making affordable turntables look great too, and of these six decks on test, only two eschew the material. One of these, the aptly named Funk V, is so shiny it might as well be acrylic and the other, Rega P3-24, sticks to the traditional styling guns that the brand has become known and admired for.

One thing that the Rega benefits from has that most of the others do not, is a dust cover - all of the rest, except the Pro-Ject, remain open to the elements. Aftermarket dust covers are available, though, and the neatest universal option we've seen is the reasonably priced sheet of bent acrylic made by Michell, that covers platter and tonearm.

All of the assembled turntables were supplied with an arm and cartridge with the exception of the Michell, for which a

Dynavector DV10X5 was borrowed from Pear Audio. The prices reflect the full package and, in most cases, a less expensive cartridge could be used. However, as this is a fundamental part of the system any change will be obvious.

All six are belt-drive designs offering 33.3 and 45rpm operation. Those that allow you to change speed with a switch gained a 'Features' point, as did the models which offer a dust cover, arm cable and VTA adjustment. Rega does not believe that VTA is important, however, but it is the only manufacturer to publicise this opinion. HFC

EQUIPMENT USED

- Trichord Dino+ phono stage Classe CP-700/CA-2200 pre/ power amplifiers
- B&W 802D loudspeakers
- **O** Custom Design Icon equipment
- Townshend VSSS equipment
- Van den Hul Spindle Oil
 Dynavector DV 10X5 MC cartridge

MUSIC USED

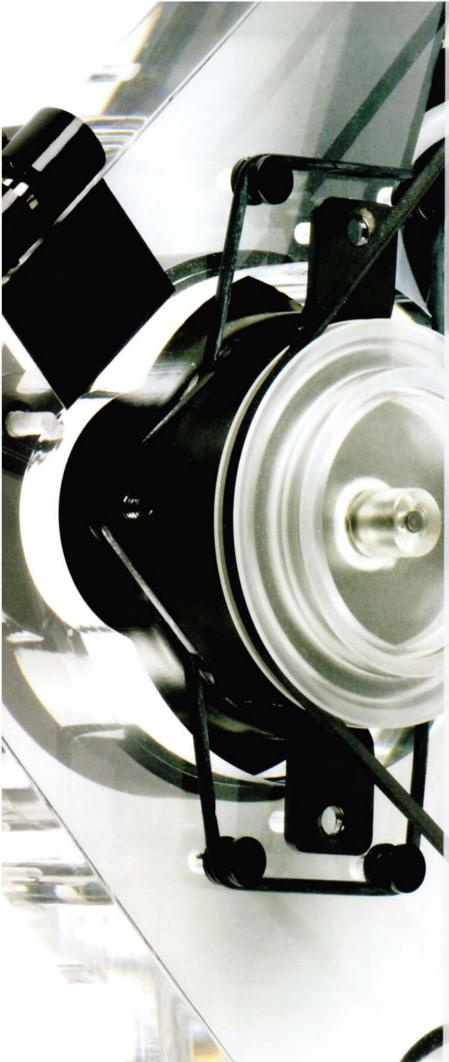
- **⊘** Keith Jarrett Standards, Vol.1
- Lou Reed TransformerTaj Mahal Recycling The Blues And Other Stu
- Joni Mitchell *The Hissing Of*
- Summer Lawns
 Felix Laband Dark Days Exit

EARS USED

be possible without the generous assistance of those who give up their time to take part in the blind listening Our thanks are due to:

Andy Craig (dps) Reuben Klein (ECS/Wireworld) Keith Tonge (PMC)





LISTENING TESTS

As a point of reference, we played one track from CD prior to each turntable in an attempt to avoid merely comparing each deck with the one that came before. As turntables are highly sensitive to support, each turntable was auditioned on both the spring-suspended Townshend VSSS and the more conventional Custom Design Icon rack. As well as the blind tests, each turntable was assessed individually with a wide variety of material, to fully assess its potential.

LAB TESTS

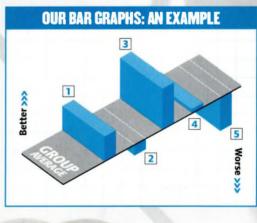
Various tests were carried out to check for accurate and constant speed, extraneous vibration from the motor, bearing and surroundings, damping of resonances within the disc and in the arm and other parameters such as arm friction. Test equipment used for this included a specially cut test lacquer and a separate custom-made test disc, commercial test discs, a rumble coupler and a high-resolution digital recorder, the A/D converter of which (linked to a PC running various bits of analysis software) made interpreting measurements a vastly simpler and quicker process than it used to be!

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

LAB REPORTS: THE BAR GRAPH

Our 3D bargraphs are a simple way of showing how the products compare across five technical parameters. In each case, a percentage is given that falls above or below the group average. In this case, the parameters are:

- 1) **Speed accuracy:** Simply a question of how close to the nominal 33.33RPM the platter goes round (for turntables with synchronous motors which follow mains frequency, itself subject to variations of up to 0.25 per cent, this is corrected to mains at exactly 50Hz).
- 2) Wow and flutter: A measure of how much the platter speed 'wobbles' about the nominal 33.33RPM. Wow is low-rate variations and flutter high-rate. This causes pitch instability, so good measurements are important.
- **3) Rumble:** The background low frequency noise the deck itself produces due to bearing friction and motor noise.
- **4) Arm resonance:** The arm must hold the cartridge still against the reaction of the stylus in the groove. Mechanical resonances in the arm degrade this and are measured by applying a known impulse to the arm and measuring cartridge output.
- **5) Vibration breakthrough:** The degree to which vibration from the floor gets through to the disc and stylus, via the turntables feet and suspension.





Price: £915 (inc. arm and cartridge) 🕿 01252 702705 # www.clearaudio.de

CLEARAUDIO EMOTION

The clean lines of German craftsmanship

learaudio is a company that just loves acrylic and makes some pretty outrageous designs using stacks of the stuff. It also makes some rather tasteful-looking turntables that are, considering the value of the Euro these days, very competitively priced.

Emotion is a simple solid plinth design with minimal apparent means of keeping out vibration. Its three legs are turned acrylic cones that look great and have a rubber O-ring underneath to keep unwanted vibes at bay. It would be wise to site it well away from loudspeakers and decouple it from suspended floors.

It has a freestanding AC synchronous motor (with an on/off switch at its side) that drives the 18mm-thick acrylic platter via a round section belt. The bearing is described as being 'maintenance free' and consists of a hardened steel pin in a sintered bronze housing.

The Satisfy tonearm is unusual in having Clearaudio's distinctive headshell, whereby a top plate bolts to the cartridge and both elements are aligned with one bolt. It has gimbal bearings and a clever, if bulky magnetic anti-skate system. It doesn't come with interconnect cable, but has phono sockets at the arm base so you can choose your own.

The Aurum Classics wood-bodied cartridge is an moving magnet (MM) design that tracks at 2.2grams and delivers 3.3mV output, which will suit any MM phono stage.

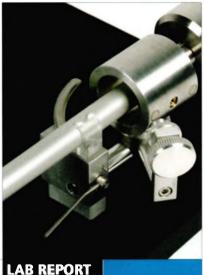
SOUND QUALITY

In the listening room the panel found the Clearaudio to be an appealing and enjoyable record player. They liked its ability to keep the bass in proportion and in time, commenting on the good overall integration of the sound. One listener suggested that there was, "a touch of velvet to every frequency", however, which he meant as a complement, but is also an indication of the 'halo effect' that acrylic platters tend to bring to the party. They can produce a subtle glow to the mid and top that adds extra scale and openness to the sound that's is not entirely accurate.

Another listener suspected that the turntable had more energy storage than its predecessor on the day (Rega P3/24), which probably indicates the same observation in a different way. If anything, the Clearaudio has less potential in this respect than the Rega as it's a little bit lighter in terms of platter mass.

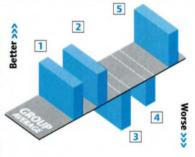
The Emotion had the advantage of a better interconnect than the competition (because we had to supply it), which will have helped its undoubtedly good treble extension and tight bottom end. The midrange is very good at projecting detail as well and, while it's not as rich as some, it remains in control despite nothing serious in the way of isolation.

One thing we noticed when re-packing this turntable was the selection of tools supplied and the quality of packaging. The attention to detail Clearaudio brings is extremely high, resulting in impressive build quality. This welcome standard of manufacture, allied with sound that, while not entirely neutral, is engaging and revealing in equal measure, results in a very classy package for the money. **HFC**



Speed is spot-on (given it runs off direct mains it will be subject to the variations in that, typically a few tenths of a per cent) and wow and flutter are the lowest in the group. The weakness is rumble, specifically mechanical hum breakthrough from the motor, which entirely accounts for the relatively poor figure on that account. However, because the motor is freestanding this will, in practice, vary considerably depending on the surface supporting the motor and deck – on our super-heavy isolation platform the measurement looks better, while very lightweight supports may measure slightly worse. Vibration breakthrough is a little higher than most, while arm resonance is good thanks to Clearaudio's lightweight, well-damped arm tube design.

HOW IT COMPARES



- 1] Speed accuracy >> +40%
- 2] Wow and flutter >> +40%
- 3] Rumble >> -50%

VALUE

4] Vibration breakthrough >> -30%

5] Arm resonance >> +	40 %
SPECIFICATIONS	
Measurement	Actual
Speed accuracy	0%
Wow and flutter	0.03%
Rumble	-67dB
VERDICT SOUND	Beautifully built and designed this entry point into the Clearaudio range gives a good idea of company standards. Its sound is open emphasising mid and top, but delivering nice timely bass.
FEATURES ★★	
BUILD	





Price: £1.065 (inc. arm and cartridge) № 020 8697 2705 @ www.thefunkfirm.co.uk

FUNK V

A turntable for the design-conscious vinyl fiend

he 'V' in this turntable's name stands not for 'vendetta,' but rather 'vector'. This is because the drive-belt does not loop around the sub-platter in the traditional fashion, but passes around two idler pulleys as well as the drive pulley, and drives the sub-platter at three points. The reasoning behind this is that you get an even drive force that doesn't pull the bearing toward the motor, avoiding the lateral movement that this induces.

Its platter is quite odd, too; it's made of expanded vinyl and is aerated a bit like an Aero bar, albeit less chocolatey and more plastic-like. It's also very light to minimise energy storage. Funk calls it an Achroplat, after achromatic or colourless. It sits on an acrylic sub-platter with a sapphire bearing that's bolted into a slab of shaped MDF along with the compliantly mounted motor and arm board. There's not a great deal in the way of vibration resistance beyond Sorbothane mountings for the round acrylic feet, which are so softly couched that they tend to splay out if not stood on rubber O-rings.

Speed control is via a large knob that's precariously close to the cartridge, care being required when setting the arm up to make sure the two aren't overly close.

The arm is a Moth RB250 with the oldstyle Rega mount, but the existence of an arm board means that different arms are more easily accommodated than Funks of yore. The cartridge is that 1960s throwback the Denon DL103 - a spherically tipped MC with a lowish output.

SOUND QUALITY

Funk makes the point that the power supply needs to be warmed up before the speed is adjusted, but failed to put enough oil on the bearing for it to turn consistently! Once lubedup, it managed to spin at the requisite 33.3, something that you are able to adjust with the aid of a 50Hz strobe light.

This turntable inspired all of the panellists to comment on a lack of solidity in the bass, the word 'loose' being bandied around with unusual consistency. They are right, or we agree, the Funk does lack extension and control in the bass even when you stick it on a well-isolated rack like the Townshend VSSS. But, the Denon DL103 has a less than powerful bass, however, so this is also a factor. What they do possess as a combination is considerable finesse and coherence across the rest of the band, imaging, for instance, was considered to be very good as was detail resolution, which makes up for its low frequency shortcomings quite well. You are charmed by the midband enough for the grunty bits to be less of a concern.

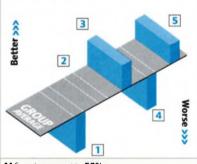
It times well too, which clearly helps. In fact, it has a more upbeat and on-the-money sound that most thanks to clean, crisp top end and, probably, the lack of deep bass. Detail levels are better than average, delivering the intimacy of the Taj Mahal recording and more of the atmosphere of all the software we played.

This will not be a turntable for all; its softly couched feet and insubstantial feel do not suggest great value, but the finish is excellent and the sound unusually timely and coherent, few could deny its charm. HFC

LAB REPORT

The idea of the Vector Drive is to give stable rotation, so it is rather ironic that this turntable scored rather poorly for wow and flutter. It was obvious from inspection that part of the reason. for this was the drive belt, which was visibly twisting as it came off each pulley. A replacement belt only gave a slight improvement. It's not just short-term speed stability that's at issue, as speed varies over time and indeed over the course of an LP side. This is frankly not acceptable in a quality turntable and we hope Funk will address it as a matter of urgency. Vibration breakthrough is a little higher than average, while arm resonance seems for some reason slightly low in level than other Moth arms

HOW IT COMPARES



- 1] Speed accuracy >> -50%
- 21 Wow and flutter >> 0%
- 3) Rumble >> +30%
- 4] Vibration breakthrough >> -40%
- 51 Arm resonance >> +20%

-		
SPECIFICATIONS		
Measurement	Actual	
Speed accuracy	See text	
Wow and flutter	0.04%	
Rumble	-76dB	
VERDICT		
SOUND	This decidedly odd slab of a turntable produces some extremely beguilling music in	
FEATURES ★ ★ ★	the context of an inexpensive arm and cartridge. It can do	

BUILD $\star\star\star$ even better with dearer ancillaries and can be forgiven its foibles





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WWW.SUPERFI.CO.UK



Price: £886 (inc. arm and cartridge) ☎ 020 8953 0771 ⊕ www.michell-engineering.co.uk

MICHELL TECNODEC

The engineering approach to vinyl reproduction

his neat little disc spinner is the least expensive model in Michell Engineering's range and does without the suspension and fancy platters of its brethren, instead relying on goodquality engineering to make its sonic case. This refreshing approach delivers a cleanlooking turntable that, while perhaps not guite as elegant as some of the competition, is still honest and well-executed.

It is very similar to the Clearaudio Emotion in its approach; the plinth is a slab of acrylic (this time 11 mm thick) that stands on three aluminium legs with soft rubber feet to provide a degree of isolation. The platter is made from a compound of carbon and vinylloaded acrylic, a mix that produces a matt finish and a medium weight platter. This sits on an inverted bearing that, thanks to some clever machining, pumps oil through the weight-bearing interface of thrust ball and phosphor bronze seating. Michell does not supply a clamp with the TecnoDec, but has one that can be used on this and all of its turntables.

The platter is driven by a DC motor that's mounted in a beautifully machined aluminium case, the finish being considerably more attractive than anything offered elsewhere in this Ultimate Group Test.

The Tecnoweight is a replacement for the standard Rega counterweight that places the mass below the bearings for greater stability. It is supplied with alternative size counterweights to suit different cartridges. In this instance, Michell also supplied its threaded collar, which allows VTA adjustment on Rega arms such as the RB250.

The Denon supplied DL103 cartridge is a classic low-output moving coil that although lean, is very well priced and we felt well suited to the overall character of the turntable.

SOUND QUALITY

All of the panellists managed to agree on one thing about this deck: its unusually neutral balance. Some commented that it was very similar in sound to the CD reference, while others found the balance to be "quite correct". Which might seem like damning with feint praise, but lets the TecnoDec deliver an impressively revealing result. Joni Mitchell's voice is open and finessed to a remarkable degree, while the accompanying bass line is nothing short of lush. It keeps things in perspective and doesn't overemphasize brighter instruments like trumpets, although the clear-cut nature of its sound means that it's better suited to a more relaxed cartridge, such as the Denon DL103 we ended up with, rather than the Dynavector DV 10X5 used initially.

Its neutral balance is good for keeping the various elements consistent with one another and it makes a clear case for itself next to a more affordable deck like the Rega P3-24, thanks to a decent grasp of timing. Some will prefer a warmer sound, perhaps, but that's a matter of cartridge choice and while the Denon DL103 may not have the power in the bass offered elsewhere, its sophistication through the mid and top make it hard, if not impossible to beat at the price.

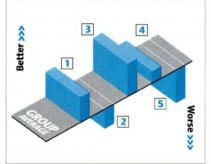
With its minimal energy barrier it needs a better support than most, but keep it away from resonance and you have a very fine turntable for the money. HFC



LAB REPORT

Two surprises came out of this deck's measurements. First, the arm - structurally much the same as that on the Funk and Rega models seems to be distinctly more resonant. Second, the wow and flutter is dominated by a once-per-rotation variation, suggesting that Michell's famously strict quality control may have nodded over the platter fitted to the review sample. Speed accuracy, however, is excellent and should not alter with mains voltage or frequency as the motor is a DC type fed from a stable supply. This motor has minimal mechanical noise and that, plus its heavy housing, helps keep rumble to a level below that which we can measure accurately; the figure given is a worst-case estimate.

HOW IT COMPARES



- 1] Speed accuracy >> +30%
- 21 Wow and flutter >> -20%
- 31 Rumble >> +40%

SPECIFICATIONS

- 4] Vibration breakthrough >> +10%
- 5] Arm resonance >> -40%

measurement	Actual
Speed accuracy	+0.05%
Wow and flutter	0.06%
Rumble	-80db
VERDICT	1,0
SOUND ★★★★	This nicely engineered baby in the Michell range needs careful partnering,
FEATURES ★★★	but can deliver a very sophisticated result for the money. Just keep it away
BUILD ★★★★★	from resonating surfaces for optimum performance.
VALUE ★★★★★	HIFICHOICE SCORE



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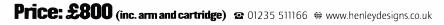
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PRO-JECT X-PACK

The X-pack redefines turntable value for money

ro-Ject is not a shy retiring turntable maker. It has pretty well transformed the market since the introduction of its first model ten or so years ago and there are plenty of brands that have struggled to compete. The X-Pack is a good example of how Pro-Ject has achieved this; not only is it a great-looking turntable and arm with a rock-solid Ortofon cartridge, but it also sells for a price that few competitors can make an acrylic turntable for.

The turntable is the acrylic version of the Pro-Ject Experience, which is also available in some attractive wood veneers. It is a solid plinth design with screw-on feet that offer some isolation thanks to a layer of energy-damping Sorbothane above the aluminium cone. The motor is suspended on a rubber mounting in order to kill any vibration it might emit and it drives the periphery of the platter via an acrylic pulley. There are two drives on this pulley, but as the X-Pack is supplied with a Speed Box for electronic speed change, you only need the smaller one.

The Pro-Ject 9c tonearm has a carbon fibre tube and gimble bearings, while the two-kilo platter is made of MDF and mates directly to the vinyl with the aid of a screw-down clamp.

The Ortofon Rondo Red is a pretty useful moving coil cartridge with a body made from "powered hardwood" and an elliptical tip that produces a half-millivolt output.

SOUND QUALITY

Blind listening tests have their limitations and the noisy screw-down clamp of the X-Pack meant that the listeners had a pretty good idea that here was a turntable they had not been presented with before. They did not allow this to undermine their opinion of its capabilities, however, and gave an all round thumbs-up, thanks to its mix of good balance, impressive bass extension and ability to present a coherent, well-proportioned soundstage.

It has wider bandwidth than most other turntables, thanks to the qualities of the Rondo Red cartridge and the panellists appreciated its ability to produce a crisp top end. This factor is a key one if you want well-defined bass and good imaging. In this case it also helped to produce high-quality vocal definition and above average width and depth of image.

The X-Pack can deliver a surprisingly refined result for its price and, while the Rondo Red clearly helps here, it wouldn't be able to do so if the turntable and arm weren't providing the mechanical precision required. This can be heard in the realism of voices and the overall solidity of the sound. It also manages to be both smooth and unflustered with lively material as well as picking up on the snap of percussive instruments. While it clearly responds positively to good isolation, it is not as sensitive as some of the competition, which suggests that the rubber-mounted feet do manage to provide some decoupling.

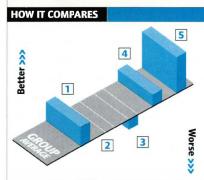
Timing is not, perhaps, in the top league, but there is an assurance to the result that helps it stay in control. When the going gets lively, you'd be hard pressed to make the midrange sound hard, for instance.

Pro-Ject has a knack for making competitive turntables and this transparent beauty is no different, it delivers the sonic goods in no uncertain fashion and at a very good price. **HFC**



LAB REPORT

Although vibration breakthrough scores only average and rumble just below, this turntable returned a good set of measurements overall. That breakthrough figure reflects the fact that while the spectrum of the vibration reaching the cartridge is relatively inoffensive – more bass than midrange or treble – its level is on the high side. Rumble doesn't entirely vanish, but its spectrum is mostly harmless, principally 100Hz hum from the motor. Best of all is the arm resonance, which is the lowest of the group. The well-damped arm tube contributes little character of its own and there's no doubt that this will have helped the deck achieve the detailed and realistic sound noted by the listeners.



- 1] Speed accuracy >> +20%
- 2] Wow and flutter >> 0%
- 3] Rumble >> -10%
- 4] Vibration breakthrough >> +10%
- 5] Arm resonance >> +50%

SPECIFICATIONS	
Measurement	Actual
Speed accuracy	+0.1%
Wow and flutter	0.04%
Rumble	-73dB
VERDICT	
SOUND	The X-Pack combines
****	some very strong elements into a killer package that
FEATURES	takes top honours for
****	sound and value. Build and
	finish isn't super slick, but
BUILD	is easily good enough for
***	the money.
VALUE	HI-FICHOICE OVERALL
****	++++
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REGA P3-24

A new lease of life for a classic design

ew will need any introduction to the classic Rega P3. However, its latest revisions have been far reaching; this is not the deck that we grew up with, but rather a carefully refined variation that happens to look very similar. The 24 in the name indicates that the motor runs at 24 volts rather than the 110 volts of vore. something that has trickled down from the P9, where 24 volts was first used to reduce the amount of energy being fed into the plinth. The plinth is now lighter than before and the RB300 tonearm has been replaced with the RB3001, a design that no longer attaches to the deck with a huge nut, but rather with one that is screwed down This will doubtless irritate the small army of companies out there who make VTA adjustment devices for Rega arms, however, Rega considers it an important step for sound quality

This P3/24 still has the 12mm float glass platter and felt mat of its forebears, but that's where the similarities end. It can, for instance, be upgraded with the TT PSU outboard supply that offers switchable speed change and reduces motor vibration by an impressive 50 per cent.

The Elys 2 cartridge supplied is Rega's stalwart MM; a fixed stylus design with a third mounting point to give ease of alignment and a rigid fixing

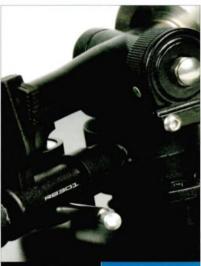
SOUND QUALITY

Being the least expensive turntable package in this group should have made life difficult for the Rega and there were areas where its shortcomings were noticed by most of the panel. However, it certainly delivered the goods in other important respects, especially in its natural presentation of bass. Walk On The Wild Side sounded more in keeping with the recording than the CD we used as a reference. The way it stops and starts with heavy material like Felix Laband was also appreciated, but there was a fair amount of criticism when it came to imaging, which was considered shut-in and restricted in width due to a lack of extension in the treble.

The panel considered the balance to be dry, meaning that harmonic detail or richness of tone is not quite as well rendered as it could be, which might explain why the listeners thought it a little flat compared to the competition.

On the positive side, this is clearly a neutral-sounding deck with decent timing and bass that, while not all that substantial, is fairly well controlled. It has a lightness of foot that stops the music getting muddled and, while imaging may not be spectacular, it does project voices with reasonably good definition.

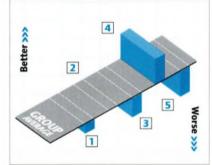
It's always difficult in these situations to weigh up the price against the quality of sound, this combination is nearly half the price of the dearest in this bunch, yet its sound (while not in the same league) is clearly better than half as good. The P3/24 did well when we gave it a solo test and it's not hard to hear why – this is a steady turntable that is extremely well thought out and delivers an evenhanded sound that's strong on timing and bass definition. **HFC**



LAB REPORT

As the only turntable in the group not to use a solid plastic platter, the P3 might be expected to have a very different disc impulse characteristic from the others. In fact the level of the signal excited in the disc when subjected to an impulse (we simply bounce a small metal ball off it) is a little higher than in the other decks, but the spectrum is not much different. Absolute speed on our sample came in a rather inconsequential 0.3% fast, while the wow and flutter figure is good, better than we've seen from Regas in the past, though whether that's down to the power supply or just better mechanical tolerance on this sample is pure conjecture. Vibration breakthrough is quite low in level and arm resonance a little higher than average.

HOW IT COMPARES



- 1] Speed accuracy >> -10%
- 2] Wow and flutter >> 0%
- 3] Rumble >> -20%
- 4] Vibration breakthrough >> +30%
- 5] Arm resonance >> -30%

SPECIFICATIONS	
Measurement	Actual
Speed accuracy	+0.3%
Wow and flutter	0.04%
Rumble	-72dB
VERDICT	
SOUND	The latest incarnation of this

★★★FEATURES **★★★★**BUILD **★★★★**

classic deck builds on its strengths in the timing department and produces an engaging, if less than precise sound that will continue to win listeners over to the vinyl path.





DEFINITIVE AUDIO



Main image: KSL Kondo Gakuon Mono Valve Amplifiers























ROKSAN RADIUS 5

Wobbly motor technology and a unipivot to boot

oksan got its start in hi-fi with a pretty radical turntable called Xerxes. It had the motor mounted on a bearing with only a spring to stop the whole thing spinning around. The theory being that variations in torque caused by different degrees of stylus drag are taken up by the spring, thereby allowing the motor to turn at a constant rate.

The Radius 5 sports a variation on this theme, with the motor able to wobble on its mounting to achieve the same result. It seems a bit odd when you thread the belt around it, but the sound would suggest that something is making a difference. Other contributory factors include a two-part acrylic plinth with three compliant fixings between the slabs and a motor and power supply fixed into the lower one. It stands on three pointed feet that can be placed in supplied brass pucks to avoid marking the equipment rack.

The Nima tonearm is a unipivot design made from acrylic, stainless steel and aluminium. It features a PCB track, where you would expect arm wiring and the counter-weight's mounting hole is off-centre, so that you can twist it to align the cartridge vertically (azimuth).

The Chorus Black moving magnet cartridge is Roksan's variation on a Goldring design with a Pocan plastics body and removable stylus.

SOUND QUALITY

On the sonic test-bench that is *HFC*'s unsighted listening panel, the Roksan sounded bright and a little hard; a view shared by two listeners, while the third

went the other way considering it to be reasonably neutral, but not very involving. Changing the supplied brass pucks to felt-covered two-pence pieces did seem to tame this quite well, with the second presentation received a significantly more positive response.

Imaging was considered to be better than average with several enthusiastic comments on depth and width. Its noise level was also very low and there was none of the slight hum that afflicted some of the competition. This should help it to deliver more detail, but alas it is not in the same league as the less expensive Clearaudio in this respect.

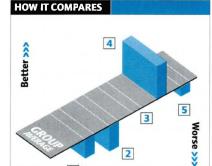
One thing is for sure and that's if you want to hear what's going on at high frequencies this is the turntable for the job. This could be down to the fact that the cartridge requires more running-in. Using this turntable and arm with a Dynavector DV 10X5 MC cartridge results in a very substantial and real sound that majors on dynamics and is pretty neutral (for a record player). The panellists who were familiar with this brand were surprised that its timing was no better than the other decks, this being a quality that many associate with the dearer Xerxes design. Clearly the changes required to make the Radius at this price have taken their toll in this respect.

Roksan's most affordable turntable is very nicely put together with a potentially sophisticated sound. However, this is something that the Corus cartridge doesn't entirely make the most of which rather lets the side down. **HFC**



LAB REPORT

The suspension in this deck is basic, but it's more than the others can offer and it's therefore no surprise that the vibration breakthrough is lower in level than from the others. There's a little resonance visible in the spectrum of the breakthrough, but it's very low frequency and we doubt it will become an audible problem in practice. Also low in frequency, in context, is the principal resonant mode of the arm – around 180Hz – and this rings on for a relatively long time. Speed proved to be just a shade fast (mains-dependent again so slightly variable over time) with wow and flutter just on the high side. Given the period of the speed variations, we suspect the drive belt. Rumble (motor break-through) is good, once again mostly 100Hz hum.



- 1] Speed accuracy >> -20%
- 2] Wow and flutter >> -30%
- 3] Rumble >> 0%
- 4] Vibration breakthrough >> +40%
- 5] Arm resonance >> -10%

SPECIFICATIONS Measurement Speed accuracy Wow and flutter Rumble VERDICT SOUND **** FEATURES *** BUILD *** *** ** ** ** ** ** ** **	
	Actual
Speed accuracy	+0.15%
Wow and flutter	0.07%
Rumble	-74dB
Measurement Speed accuracy Wow and flutter Rumble VERDICT SOUND ★★★★ FEATURES ★★★ BUILD ★★★★ BUILD Combined with a good intrinsic design, the Radi for sophistical and revealing results. Although this was not the case with the Chorus Blacartridge we used.	W. Fr
SOUND	Very decent build quality
****	combined with a good
	intrinsic design, the Radius
	5 is capable of sophisticated
***	3
BUILD	
***	cartriage we used.
VALUE	HI-FICHOICE OVERALL

CONCLUSIONS

Six decks and three clear winners in this revealing test

e have reviewed most of these turntables in solo or *Ultimate Group*Tests in previous issues of *HFC* and it's a relief to see that the results are reasonably consistent. It's always more difficult to assess a component's relative quality in isolation, however, and this is probably why the Rega did rather better in its first solo test than within this competitive group.

Out of interest, we pulled out an old Pro-Ject Expression II to see how compared and at less than half the price of the Rega set-up it was not surprising

to hear a far cruder and weaker result. Then again, the Michell combo put at least the same gap between itself and the Rega, hence the lack of a flag for this old favourite.

In past reviews, we have been so swept up by the Funk V's finesse through the midband, that we've been more than happy to recommend it for that impressive strength alone.

If you are after a full-bandwidth experience, however, you will need a better cartridge than the Denon we tried; the deck is still a charmer though.

Likewise, the Roksan is capable of fine results with the right cartridge and although we were surprised that these were not forthcoming with the Chorus Black cartridge, that's how it fared with our 'blind' panel. It is an extremely well put together turntable and arm, though, and one that is capable of delivering the goods in the right company.

The Clearaudio is the best looking example of the art on offer and has a clear and open sound that, while not entirely neutral, is very pleasant indeed. It also has a first-class cartridge, which always aids performance.

Michell continues to make remarkably well-engineered decks for a very reasonable cost, an approach that results in precise and clean sound, so long as you avoid interference from resonant supports.

Which leaves us with Pro-Ject's keenly priced X-pack. While the Euro has pushed the price up a little in the last month, it's still got the best cartridge of the group, which makes it hard to beat. **HFC**

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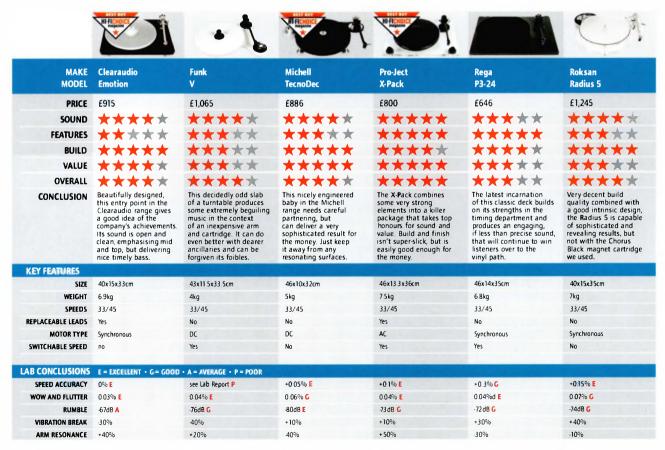
PMC FB11 £1,850

Combine this speaker with the Sugden amp and bathe in the sonic space.

HINTS AND TIPS

- >> Place turntables as far away from loudspeakers as is practical, there's nothing that undermines their sound more than vibrations
- >> It makes sense to use a wall shelf or a sprung suspension system. Also make sure the support is perfectly level
- >> If replacing or providing cables from the arm ensure they are shielded to minimise hum and don't forget the earth connection
- >> With hard-topped platters keep them clean so that dust isn't forced into the grooves by a clamp, for instance.

TURNTABLES AT A GLANCE

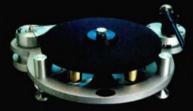






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Despite the emergence of new formats and the resurgence of an old one (vinyl), CD is still the king of formats if you require breadth of choice. And despite the fact that other sources will play CDs, if you want to hear your discs at their best, there's little substitute for a dedicated CD player.

It's also the most enduring format on the market. Despite high-resolution contenders like SACD and DVD-Audio, nothing has been able to undermine this universally popular format.

CD players work by reading a stream of 1s and 0s off a disc that spins at a constantly changing speed (to counteract the increasing length of 'groove'). This bitstream is then digitally filtered before undergoing digital-to-analogue conversion in the DAC (D-to-A convertor). Thereafter, the signal is filtered



again before being amplified and sent to the output sockets.

The processes of reading the disc and converting the data are sometimes split between a CD transport and separate DAC in so-called two-box players. A popular approach with very high-end kit, this separates the electronically noisy elements from the sensitive analogue stages, but can introduce timing errors known as jitter, therefore one-box players usually offer best results where budget is a consideration.

0&A

WHAT'S A DAC?

A DAC or digital-to-analogue convertor is a fundamental part of any CD player and converts the digits read from the disc into an analogue music waveform which is amplified to line level

WHY HAVE SEPARATE TRANSPORTS & DACS?

Discs are read by a transport or disc drive, which creates radio frequency 'noise'. Separating the DAC means the conversion can be done with less

CAN I USE AN OUTBOARD DAC WITH MY INTEGRATED CD PLAYER?

Yes, if it has a digital output - and most do.

DO I NEED DIGITAL CABLES FOR A CD PLAYER?

No. All analogue cables are suitable for connecting a CD player to an amp. Digital specific cables with 75ohms impedance are useful when connecting the player to a digital recorder or DAC.

WHAT IS OVERSAMPLING/UPSAMPLING?

Oversampling involves multiplying the sampling frequency by a whole number, usually between four and 32, but sometimes higher, and is designed let the DAC to work in a more linear fashion. Upsampling is where the data stream is stretched out by interpolation and is typically used to refer to large changes in sampling rate such as from 44.1 kHz to 192kHz.

CAN I PLAY SACDS ON A NORMAL CD PLAYER?

Yes. The vast majority of SACD discs are hybrids, with a CD layer that all CD players can read.

CAN I PLAY DVDS ON A CD PLAYER?

No, the same applies to DVD-As. But you can play CDs and DVD-As on normal DVD players.

SUPER AUDIO CD

SACD or Super Audio CD is a relatively new audio-only format introduced by Sony and Philips. It offers higher resolution than CD in the form of considerably greater bandwidth and improved dynamic range. It also has the potential for uncompressed surround sound using up to six

channels, and most new discs take advantage of this. SACD discs are usually hybrids and will play on normal CD players, but you won't be able to appreciate their highest quality or their multichannel capability without an SACD-compatible player. Some SACD players also play DVD and even DVD-Audio - these are listed in our DVD section.



Rega Apollo £498

Rega's latest entry-level player is a splendidly musical performer, given its modest price. Bass is good, midrange is great and high frequencies are truly exceptional.



Cambridge Audio Azur 840C £750

Sitting at the top of Cambridge Audio's Azur range, the 840C is a technically innovative player with a sound that belies its sub-£1,000 price - open, subtle and refined.

Ö	r favourite		rno.			SPECIFICATIONS						
	D PLA			SACO COMPATIBLE	ELEC DIG OUTPUT	OPT DIG OUTPUT	CD-RW COMPATRLE		BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTPUT	week
\u d	io-only CD and SA(CD pla	ayers	MPATE	OUT	OUT	MAJI	MICO	GUE (800	OUT	DOUE NUMBER
	PRODUCT	E	COMMENTS	E E	ğ	ij	E	8	Š	Ĥ	S.	9
UP TI	Arcam DIVA CD73	450	Algative built and well exponented player that's encogially aged at born and timing, with datal bardly loss assured.		0	0	0	0				30
	Audio Analogue Rossini	450 850	Neatly built and well presented player that's especially good at bass and timing, with detail hardly less assured Valve-sporting player delivers a warm, engaging sound, but mediocre remote and no optical out may limit appeal		0	-	0					29
]	Cairn Tornado	850	The Tomado is a full-on experience that shuns compromise and delivers intensely real sound for its price		0	0	Ť				ò	30
	Cambridge Audio Azur 740C	500	Very flexible, this innovative upsampling player sounds exceptionally neutral and highly informative							0	-	2
					0	0	0		0	-		3
	Cambridge Audio Azur 840C Creek Evo	750 495	Ultra-civilised sound is not to every taste: rhythm-lovers may find this player frustrating			è	8		-			2
	Denon DCD-500AE		A minute treble lift: otherwise this is a very capable player that offers fine value		-	0	0					2
	Denon DCD-700AE	160	Cheap, well built and good, if slightly soft-edged sound quality		0	0	0			÷		2
	Marantz CD6002	250	Excellent entry level quality CD player lacks for nothing. Musicians please note: even has variable speed replay.		0	0		0				3
	Naim CD5 <i>i</i>	280	A hint of treble unevenness is the only specific flaw; performance is class-leading in most areas		9		0			0		3
	Quad 99CD·S	850	Its strikingly competent musical performance comfortably exceeds the expectations of an entry-level player			0	0		0			2
		650	Revels in big music thanks to fearless presentation: smaller-scale works can lack focus		8		0		-			2
	Rega Apollo	498	Unless you can't abide top-loaders, check this out: musically it's a highly praiseworthy performer		0	0		0	٥			
	Sony SCD-XA3000ES	800	A good, if not truly great, all-rounder with CD and fine multi-channel SACD performance	0			0					6
	Vincent CD-S6 MkII	999	With its tube output stage, a beguiling midrange, sweet highs and attractively figured lows plus fine dynamics		0				0	0		2
Te-II	Bryston BCD-1	0.050	Not as a second of the second		ala	49			6			2
			Not as open as some but rather more timely than most, it sounds a lot more gripping than it looks		43)				480			3
	Cairn Fog 3		Ergonomically challenged, high energy player with Gallic charm and digital preamp on board. The detection detection of the tree of the tree.		47	69			53		0	3
	Chord Red Reference CD Classe CDP-102		The definitive statement in Red Book CD playing, this player's look and sound places it at the top of the tree			0						+
2			Rich, dynamic CD/DVD player with a full bottom end, impressive dynamics and a luxurious yet revealing balanced		**	20	9		0		0	6
	Classe CDP-202		CD/DVD-A player with brilliant sound, if sophistication is your bag. Includes S-video and composite outputs		**	\$	47		8		0	2
	Copland CDA823	1,750			00		0		0			2
	Cyrus CD8x/PSX-R				4	0						2
c] a	EMM Labs CDSA		Classy, stripped down to basics SACD/CD player with some excellent engineering below decks	t/S	80	78	47		*			3
	Esoteric X-03SE	4,995	Resolution and musicality close to the top of the game. For out and out transparency and build quality it's hard to beat	0.	30	**	70)					2
c	Gamut CD3	3,500	Superb resolve of fine detail combined with a perfectly judged balance and an ability to draw you into the music		<u>se</u>		60		60			2
	Leema Antila	2,495	, 333, , , , , , , , , , , , , , , , ,		29	0	0		39			2
	Leema Stream		The most timely disc player at its price point has tactile imaging and good dynamics, but unusual control system		69		89					
	Linn Majik	1,950			80	.54	8					6
]	Marantz SA-7S1	5,000		8y	50			9				2
]	Marantz SA-1 1S2	2,500		鬱	*	89	0					(
	Meridian G06	1,695	Highly refined player with a combination of analysis and self-effacing response to musical demands		0-	100	8					2
	Rega Saturn		Good detail, lively natural bass, and good integration of musical strands without losing their individual character		20)	oğ.	0					6
-1	Roksan Caspian M Series-1	1,250	An exceptionally fine CD player that provides a high-end and musically rewarding performance		*							(
	Shanling CD-T1000SE	1,600	Commendably committed player which gets right to the heart of a wide variety of musical styles		22		0			0	0	3

SPECSICAL SACD COMPATIBLE Plays high-resolution SACD discs in multichannel and/or two-channel mode ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a DAC or digital recorder OPT DIGITAL OUTPUT Optical Toslink output for digital connection to a DAC or digital recorder. CD-RW COMPATIBLE Will play CD-RW (rewritable) discs, most CD players can cope with CD-Rs. CD TEXT will display album and track titles from inserted disc. BAL ANALOGUE OUT Balanced XLR output connections for similarly equipped amplifiers.

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



This distinguished, yet minimalist Scandinavian CD player combines a real ear for detail with full-scale dynamics and an effortless musical style. A genuine hi-fi star.



Esoteric X-03SE £4,995

 $Esoteric's \, entry-level \, CD/SACD \, player \, delivers \, astonishing \, sonic \, detail \, and \, precision, \, and \, continuous \, detail \, and \, precision, \, detail \, and \, continuous \, detail \, continuou$ coupled with a gorgeous sense of musical structure. Truly, it's brilliant.

DVD PLAYERS

Disc players for audio and video

Although players featuring both DVD-Audio and DVD-Video are thin on the ground, the universal disc player (that also supports SACD and CD alongside the DVD formats) continues to dominate the worlds of audio and video alike. In fact, it's rare to find a DVD player that doesn't support DVD-Audio and SACD these days.

So, what advantages do universal disc players hold over traditional CD players? Put simply... choice. A DVD player or universal offer the listener the chance to use far more than just your CDs and build up a wider collection of music and video, all played through one device. The technology has matured now, and the performance of all formats played through these devices gets surprisingly close to dedicated players these days. The same cannot be said of Bluray or HD DVD players, many of which are not yet good enough to play CD well.

0&A

WHICH AUDIO OUTPUTS **GIVE THE BEST QUALITY?**

Use the analogue outputs for CD, DVD-A and SACD, and the coaxial digital output for DTS and Dolby Digital movie soundtracks.

WHICH VIDEO OUTPUTS GIVE THE BEST QUALITY?

The best connection is HDMI, then component video, followed by RGB Scart. All these are clearly superior to S-video and the basic composite video option.

DO I NEED A MULTICHANNEL AMP TO USE A DVD PLAYER?

Only if you want to hear music and movie soundtracks in multichannel surround. DVD players can be used with stereo amps and just two speakers to great effect, but you'll only get stereo, not surround sound.

WHAT IS 1080P?

HDTV is defined by the number of lines the picture creates and whether it's interlaced (like old TV) or progressive scan (like a PC monitor).



DVD-AUDIO, HD DVD AND BLU-RAY

DVD-Audio is a high-resolution music format that offers multichannel, stereo and Dolby Digital tracks on dedicated DVD-A discs. The discs can be played on any DVD player, but can only be appreciated at their best with a DVD-A or universal disc player. In fairness, the DVD-Audio format has not proved to be a resounding success, and SACD discs are more readily available.

The two new kids on the block are HD DVD and Blu-ray. Both the same physical size as the CD and DVD disc, these formats offer even more data storage capacity than DVD (up to 50GB instead of DVD's 8.5GB). However, these formats are the exclusive domain of home cinema and gaming fans. Sadly, the possibility of super-high-resolution music-only Blu-ray or HD DVD discs remains distant at best.

CONNECTIONS



that carries digital audio and video, like a digital SCART lead. Arguably the best choice for HDTV pictures.

HDMI LINK: A flat, multi-pin socket VIDEO CONNECTIONS: Yellow socket is composite; red, green and blue sockets are for component; the small black multipin socket is S-Video; the big one is SCART.

DIGITAL OUTPUTS: For Dolby Digital, DTS and PCM audio bitstreams.

ANALOGUE AUDIO OUTPUTS: For stereo and multichannel connections, use these for best results with DVD-Audio, SACD and CD.

Our favourite 📃 BEST BLY 🔯 EDITOR'S CHOICE DVD PLAYERS ISSUE Audio/Video disc players BADGE? PRODUC COMMENTS UP TO £1,000 Arcam DiVA DV135 900 Unchanged looks and stereo-only DVD-A/SACD, but the overall performance is great across all formats. Stunning picture, too 296 Denon DVD-1920 Respectable (if unexciting) and flexible audio player, but something of a star from its HDMI equipped upsampling video subsystem . 276 Marantz DV7001 600 Enhanced model based on DV6001, but with various improvements, including superior CD replay capabilities 0 • • 296 Marantz DV7600 600 A mid-market cracker, with sound and picture quality that generally exceeds expectation 0 . NAD T585 294 800 Easy to live with universal player that shows clear signs of rejuvenation of the Classic range Onkyo DV-SP503E 300 Budget Onkyo universal player is a straightforward Pioneer based implementation, which performs well with audio and video 275 Pioneer DV-LX50 450 306 Nicely built universal player for those who value finesse over speed and energy. Decent picture too 0 Yamaha DVD-S2500 700 Universal player, slightly stronger with video than audio, but well turned out with a wide range of analogue and digital in and outputs 280 ABOVE £1,000 EC Accustic Arts Surr Player 1 4,495 A very high-quality Pioneer-based machine, excellent sound from both hi-res and regular formats 63 635 299 Arcam DIVA DV137 1,250 Good overall audio performance and excellent upscaling HDMI DVD-Video player, but stereo-only SACD playback at time of writing 0 285 Denon DVD-3930 1,100 Well engineered universal player, with useful bypass facilities for pure audio, and unusually powerful wdeo image processing 287 This highly engaging multiformat non-video player doesn't have huge transparency or a fancy box, but is musically addictive Linn Akurate CD 3 985 299 Marantz DV9600 1,500 With excellent, next-generation picture and impressive sound quality on CD and SACD, this sets a very high standard to beat 280 Meridian G98AH Meridian's most widely compatible G-Series DVD player – groundbreaking DVD-Audio replay and a fine CD player too 265 Naim DVD5 2,565 Naim's first DVD player is a real success, notable for its class-leading sound with CD and (optional) multichannel DVD-Audio 263 T+A SACD 1245 R 2,000 Dedicated stereo only/SACD/CD player avoids the usual compromises. It does a limited job, but it does it with fine fidelity 279

EXECUTE: 107 DVD-A COMPATIBLE Plays high-resolution DVD-A discs in two and multichannel modes. SACD COMPATIBLE Plays high-resolution SACD discs in two and multichannel modes. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a multichannel amplifier or receiver OPT DIGITAL OUTPUT Optical Toslink output for digital connection to a multichannel amplifier or receiver HEADPHONE SOCKET Quarter inch (6.3mm) headphone jack fitted to the DVD player

3,000 A universal machine that excels with music and is quite exceptional with good oil stereo CD

Townshend TA 565 CD







Stereo-only SACD and DVD-A, but excellent performance with audio and video.





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CD PLAYER

NAD C515BEE

"Vivid and persuasive imaging gives a luxuriously widespread sound... A big, bold and entertaining sound; good level of clarity... If you value emotional communication over everything else, it's the best player. - WHF? S&V magazine

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AMPLIFIER

NAD C325BEE

"Those who enjoy the NADs mellow approach to the material will find much to admire in the superbly communicative midrange, the rigorously defined soundstage and the effortless way the system exposes the finer details of the recording." - WHF? S&V magazine

Richer Sounds Low Price £249.95

SPEAKERS

TANNOY F1 CUSTOMS (Pair)

"What they have over each and every one of their rivals is an unquestionable all-court game... the Tannov's have the sort of fluency and honesty that's usually the preserve of loudspeakers found in the next price point up.

- WHF? S&V magazine.

Richer Sounds Low Price £109.95

SYSTEM USUALLY £529.85



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SAVE £500 ON 'BEST BUY' **CAMBRIDGE/KEF SYSTEM**



CD PLAYER

Cambridge Audio Azur 740C

"Very flexible, this innovative upsampling player sounds exceptionally neutral and highly informative." - Hi-Fi Choice magazine

Usual Price £499.95

AMPLIFIER

Cambridge Audio Azur 740A

"Excellent treble, very good imaging and a real sense of musical involvement are all well above the class average." - Hi-Fi Choice magazine

Usual Price £499.95

FLOORSTANDERS

KEF iQ7 (Pair)

KEF speakers are world renowned for their quality and innovation and, with speakers like the IQ7, it's easy to see why.

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SYSTEM USUALLY £1499.85





CD Player &

Amp together

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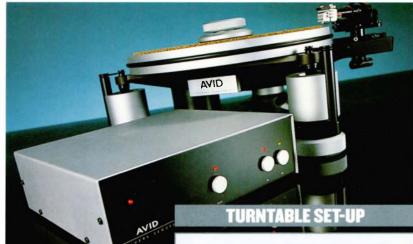
VINYL

Turntables, cartridges and phono stages

Record players or turntables offer the digital revolution serious competition when it comes to sound quality. Even a modest model can turn musical tricks that most CD players struggle with. Some call it vinyl warmth, but in reality it's a lack of digital hardness that makes the format so engaging. True, the software requires a bit more care, but even a knackered LP is more playable than a scratched CD.

Record players are made of three, perhaps four, fundamental parts. The turntable is the plinth and platter, usually also containing the motor and any suspension system. A tonearm sits on the plinth and allows the cartridge to trace the vinyl groove by pivoting or parallel tracking over the record. The cartridge contains the means of turning the mechanical movement of the groove wall into an electrical signal

A fourth element is an amp dedicated to the delicate job of amplifying and equalising the cartridge's insubstantial output. This is called a phono stage and can be found in some integrated amplifiers and preamps, but is



increasingly purchased separately for use with line-only amps.

There are two types of phono cartridge: moving magnet (MM) and moving coil (MC), and with a few exceptions the latter outperforms the former. But MCs produce a lower output and require better-quality amplification to be heard at their best. As a general rule, MCs offer a broader bandwidth, greater dynamics and more detail, but the better moving magnets do most things well enough to distract you from your CD collection.

Setting up a turntable varies from model to model, but the general principle is to level the platter by adjusting the suspension or, as with solid platters, the surface it sits on. Sprung suspensions sometimes require a bit of fine-tuning to sound their best, but the principle is to achieve a smooth, pistonic bounce. Cartridge set-up is even more critical, as the angles at which the stylus traces the groove affects its tonal balance and levels of distortion. A good alignment protractor is essential if you are intending to set up your own cartridge, as is a degree of patience. In essence, there are two angles you need to get right: the tracing angle as the cartridge crosses the record if you are looking from above, and the vertical tracking angle (VTA), which is adjusted by raising or lowering the arm base to bring the arm parallel with the record surface.



Pro-Ject RPM 5 £400

Pro-Ject's entry-level RPM deck is a good-looking, great-sounding package that delivers terrific value for money. A class act and no mistake



The Funk Firm Funk V £760

The more costly of two turntables from The Funk Firm, the Funk V builds on its sibling's virtues to deliver a sound of sheer class - dynamic, detailed and refined



Clearaudio

Champion £1,475

Current king of acrylic, the Clearaudio deck, arm and cartridge combination turns in a beautifully well-balanced delivery, but choose your support wisely.



Avid

Volvere Sequel £3,500

Avid has been one of the most impressive exponents of the vinyl arts in recent years, and this mid-range deck is a stunning example of analogue engineering.

	r favourite				SPE	CIFIC	ATION	S	
	URNT	AB	ILES .		SUSP SUBCHASSIS	SPEED CHANGE	SUPPLIED WITH ARM	SUPPLIED WITH CAR	ISSI
Reco	ord players			SPEEDS	BOHAS	MACH	A HTIM	E E	SSLE NUMBER
BADGE?	PRODUCT	3	COMMENTS		SIS	AP.	Pay.	#	
EC	Avid Volvere	2,750	A combination of a heavy platter with a sprung suspension that makes the vinyl it spins sound powerful and solid	33/45					298
EC	Avid Volvere Sequel	3,500	Heavyweight turntable that will deliver more of what's in a vinyl groove than most of the competition	33/45					229
	Clearaudio Champion	1,365	Smart, practical and good-sounding, with impressively "deart" arm. Isolation recommended	33/45					268
	Clearaudio Performance	1,670	Ceramic-magnetic bearing spells a surprisingly uncolored performance. Good arm and cartridge	33/45			0		295
EC	Clearaudio Ambient	4,220	Innovative use of materials leads to a fast, precise and thrilling sound (tonearm extra)	33/45		0	0		271
EC	EAR Disc Master	7,695	Combines new 'no contact' drive technology and high quality materials to bring state of the art resolution	33/45/78		0	opt		276
	The Funk Firm Funk	450	You won't find another turntable at the price that can touch the Funk for dynamics, tone colour or detail	33/45		0	opt		279
	The Funk Firm Funk V	750	Vector drive brings a refinement to the standard Funk that increases resolution. For high-class analogue sound, it's a killer	33/45		0	opt	opt	284
-	Goldring GR2	265	Nicely finished Rega-manufactured deck with RB250 arm and an open, engaging sound quality	33/45				0	266
	Michell Tecnodec	767	Simple and smartly understated, performs above expectations – full-bodied and highly detailed	33/45					268
c	Michell Orbe SE	2,015	A superb turntable, able to mix it with the best at virtually any price. Now features new DC motor	33/45					235
	Pro-Ject Expression II	250	A smooth and engaging turntable with the ability to revel in the glory of vinyl, with upgradable arm cable	33/45			0		289
	Pro-Ject RPM 5	450	Great looks plus an on the ball, engaging sound that puts it in the serious league, needs good isolation for best results	33/45			0		279
	Pro-Ject RPM 6.1	600	With its minimal chassis and huge platter this is a steady design that's capable of fine results with a decent cartridge	33/45/78			9		294
	Pro-Ject RPM 9 X	1,200	A gorgeous turntable that sounds as good as it looks - vital and transparent! Price includes carbon-fibre arm	33/45		۰			268
	Rega P3-24	398	Very competent, uncoloured and musical, much improved by £148 outboard electronic power supply	33/45		opt			298
EQ .	Rega P5/RB700	698	Combines a great sense of timing with market-leading resolution and a phenomenal tonearm – a hard act to beat	33/45		0	opt		257
	Rega P7/RB700	1,298	A highly capable player that could hold its own in the most exalted company – a vivid and natural performer	33/45			opt		257
_	Rega P9/RB1000	2.498	Exceptionally elegant hi-tech player with complex outboard supply, ceramic platter and wonderful RB1000 tonearm	33/45					228
	Roksan Radius 5/Nima	895	Sophisticated design with accomplished sound quality, excellent imagery and good isolation (acrylic version tested)	33/45					248
С	SME Model 10A	3,411	Elegant and extremely capable design, tested here with Series V/309 hybrid arm	33/45					195
EC	SME 20/12A	11,133	Brings a calmness and precision to vinyl replay that we have rarely encountered, build quality is second to none	33/45/78					293

Ou	r favourite	BEST	T BUY TE EDITOR'S CHOICE				
		_	ARTRIDGES	S	PECI	FICATII 書	DNS Z
		U	AITTIIDULO			REPLACEASU STYLU	E NUMBER
MM	and MC cartridges			MM	NC.	SE	9
BADGE?	PRODUCT	£	COMMENTS				
10	Denon DL-103R	200	Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around				285
2.41	Dynavector DV-10X5	250	A high- output MC with superb dynamics and fine timing that's difficult to mount, but well worth the effort				307
	Grado Prestige Gold	110	Produces rich, open and expansive music with the minimum of fuss				235
100	Ortofon Rondo Red	300	Delivers detail, power and resolution and makes a good case for its price				307
-	Ortofon Salsa	200	Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile sound				290
110	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
EC	van den Hul Condor XCM	2,400	A stunning cartridge with stereo imaging, dynamics and detail resolution to die for				265
EC	Wilson Benesch Naked Analog	1,450	With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money				253

7,000 If you want to hear everything that's on a record then there's no better machine for the job (includes Excalibur II)

Townshend Rock V

Trichord Dino/Dino+

Ou	r favourite	BEST	BUY ED EDITOR'S CHOICE					
					SPE	IS		
P	HUNU	5	TAGES	MM PHON	MC PHON		ADJ, IN	SSUE
Pho	no stages			PHONO INPUTS	IONO INPUTS	ADJ. G	PEDAN	NUME
BADGE?	PRODUCT	3	COMMENTS	5/3	S	ž	R	9
ir.	Cambridge Audio 640P	60	An outrageously good bargain that suits budget systems, but can confidently survive upgrades before and after in the chain					305
	Creek OBH15	220	Practical and highly compatible unit offering fine detail and pleasing, mellow balance					305
	NAD PP2 phono stage	50	A fine buy for turntable users on a tight budget – open tonality and clarity is distinctly impressive for the money		0			245
	Tom Evans Microgroove	400	For dynamics and real bass extension with good tonal colour this is the one to beat. The Plus version (£700) is even better		0			234
EC	Tom Evans The Groove	1,800	Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for maximum information retrieval off any LP					201

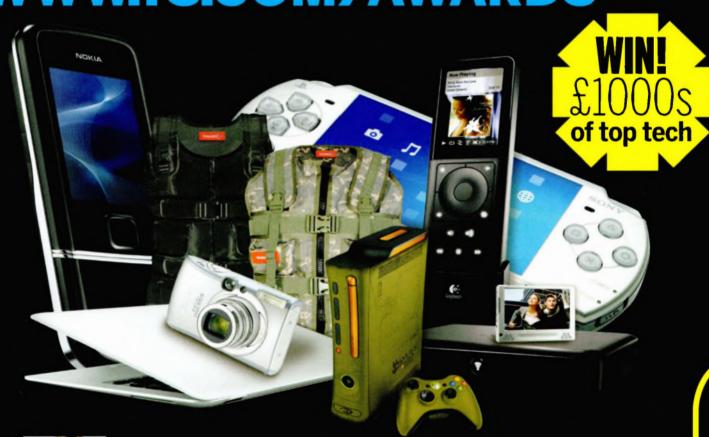
TURNITABLE SPECS KLEY SPEEDS Speeds offered in rpm. SUSP SUBCHASSIS Turntables with a sprung or suspended support for the platter and arm. SWITCHABLE SPEED CHANGE Some decks require manual lifting of the bett from one pulley to another to change speed, but not these ones. SUPPLIED WITH ARM Deck is supplied 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.

498 Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility

CARTINDES SPECS KEY 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 cartndges have separate styli for ease of replacement, but it compromises sound quality



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GARMIN.

RADIO TUNERS

FM and DAB hi-fi separates



Radio is a fantastic musical resource that's in danger of being taken for granted, but whatever

your tastes there's someone out there catering for it. If you haven't got a decent tuner hooked up to your hi-fi already, you're missing out!

DAB or FM?

Digital Audio Broadcasting (DAB) is now said to be available to more than 80 per cent of the population and the long-term plan is to switch public broadcasting over to digital entirely, but hardware prices have yet to come down to a point where this would be acceptable. Its advantages over FM include hiss-free reception, the potential for a wider range of stations and the ability to display comprehensive programming information. FM's RDS system means that station name and occasionally track titles are displayed, but the range of information is fairly limited.

Where FM scores over DAB is in the lower

cost of hardware and the greater reception area. It can also provide higher sound quality if reception conditions are favourable. Absolute sound quality judgements are muddied by the fact that you are listening to different forms of compression and processing at the studio for each station.

What is clear, however, is that there are more and more radio stations broadcasting on DAB that aren't available on FM. So if it's variety of programming you're after, they have a lot to offer.

RECEPTION

The quality of signal you feed a tuner will dictate its sound quality. So serious FM listeners should get a decent external aerial and connect it with as few junctions and splits as possible. Every time you split the cable (ie take a feed for another tuner) you halve signal strength! With DAB the same applies but get a DAB-specific aerial. See www.bbc.co.uk/digitalradio for details.





Denon TU-1800DAB £250

Combines DAB with FM/AM reception and good all-round design at a tempting price.



Creek T50 £550

A thoroughly accomplished AM/FM tuner with a substantial and detailed sound.



T+A T1210R £1,000

This FM tuner looks, feels and sounds top-notch – great detail and imaging.



Magnum Dynalab MD 90T £1,195

FM tuner with valves – 'affordable' for an MD, but still streets ahead of most radios.

Our favourite BEST BUY (6) EDITOR'S CHOICE

	TUNERS M & DAB HI-FI SEPARATES GGZ PRODUCT TO COMMENTS		WAVEBANDS	PRE		REMOTE CONTROL	SIG STRENGTH METER	BOT, TUNING H	SSUE NUMBER	
		î	COMMENTS	NDS	PRESETS	BS	IROL IROL	EBIE	80NA	99
FMITT				W-01						
	Creek T50	550	Very fine results indeed with precision, polish and insight added to excellent basics	FM,M,L	128			0		251
	Creek Evolution	495	Sound is detailed, cohesive and extended both tonally and spatially – very classy	FM,M	80	0	0		0	308
	Cyrus FM-X	500	A classic no-nonsense FM tuner that achieves gratifying sonic results. Upgradable with PSX-R power supply	FM	7		0	0	0	283
	Denon TU-1500AE	130	Well attuned to the crowded modern FM band, this tuner produces clear, detailed sound with plenty of gusto	FM,M,L	100	0			0	281
211	Denon TU-1800DAB	250	There's a little grain on FM, but the decent performance on both bands makes this a great dual-band choice	DAB,FM,M	200	0	0		0	283
EC	Magnum Dynalab MD 90T	1,195	No remote or presets as standard, manual everything and valves but its sound is simply sublime	FM	opt		opt	0	0	257
10-	Marantz ST7001	300	FM reception could offer a little more detail and insight. DAB is fine, but near-identical Denon 1800 is cheaper!	200				0		283
-	NAD C422	180	Admirably free of roughness or other obvious nasties, with just a slight lack of clarity	FM,M	30	0		0		250
	Pure DRX-702ES	210	Apparently good value is restricted by persistent veiling on FM: 'PAC' on DAB mellows sound a little	DAB,FM,M	99	0.		0	0	283
	Rega Radio 3	398	Strong bass, clear treble and a high enjoyment factor make this an appealing FM performer	FM,M	20					283
	Rotel RT-02	279	A highly competent tuner which always sounds appealing and fuss-free	FM,M	30	0	0	0		242
	T+A T1210R	1,000	High-end looks are matched by the sound, which is detailed and sophisticated, with useful features too	FM	100	0				283
DAB T	UMERS			1000						
	Arcam DiVA DT91	450	Some grain at low levels, but sound is lively, large in scale and tonally very natural. Very smartly	DAB,FM	16			0	0	299
(80)	Cambridge Audio DAB500	150	Very good sound, plus optional response tweaks, and slickest operation yet	DAB	10			0	10	248
(0)	Denon TU-1800DAB	200	Very good detail and a highly believable impression of real musicians playing. Imaging can be a little constricted	DAB,FM,M	200	0	0		0	299
(0)	Marantz ST7001	250	Midband detailed and precise: treble can be thick but bass is extended, and sound generally energetic	DAB,FM,M	200				0	299
	NAD C445	300	FM is laid-back despite bright balance, but has good detail. DAB slightly livelier than most	DAB,FM	30	0	0		0	299
300	Dnkyo T-4555DAB	350	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard in all areas on	DAB.FM	40		0			299

SPECSIEY 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 filtes 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

STEREO AMPLIFIERS

Integrated and pre/power amps

Amplifiers come in two basic forms: integrated and preamplifier (pre) plus power amp combinations. Integrated simply means that both pre and power sections are in one box. There are definite advantages to separating the low level, delicate signals in the preamp from the radiations of a power amp, so the more ambitious designs come in two or more cases. In some cases, each channel has its own power amp called a monoblock.

Amplifiers use two basic technologies: transistors or valves. Transistors are popular because of their practical and technical advantages, but valves - aka tubes - live on owing to aspects of sound quality that trannies can't replicate. If you want to play your music loud, use trannies; if you appreciate acoustic music, try valves.

The fundamental of amp/speaker interfacing is power rating and speaker sensitivity. You can drive a high-sensitivity speaker with a ten watt valve amp, but it takes a 200W behemoth to get the best out of speakers which present a difficult load. As a rule, you can't have too much power.

How to choose an amp

The main areas in which amps vary are: timing, dynamics, stereo imaging and transparency. Timing is the ability to present the attack and decay of each note precisely; amps with strong timing have a snap and coherence that is very appealing.



Dynamics is a general term for the ability to portray variations in level between individual notes and is different to dynamic range (the difference between the loudest and softest notes). Dynamically strong amps tend to have more life and energy.

Stereo imaging is how solid or three-dimensional an instrument or voice sounds. The point of having two rather than one speaker is to make it possible to recreate the soundstage of the original recording, thus amps that have strong imaging skills can create a sonic space that seems to extend the room.

Transparency of detail is the most obvious difference between amps. One amp will present more subtlety than another, but the drawback with using this as your main criterion is that a forward or 'bright' sounding amplifier will emphasise detail at the expense of overall musical coherence.

SHOULD I LEAVE MY AMP ON **ALL THE TIME FOR BEST RESULTS?**

All audio electronics perform better when they are warmed up, and this is particularly the case when it comes to amplifiers. If there's no way that you can leave it on all the time, make an effort to switch it on at least 20 minutes before listening

WHAT IS BI-WIRING AND **BI-AMPING?**

Bi-wiring is when you run separate cables to the treble and bass/mid terminals on the speaker. In most instances, this improves sound quality so long as identical cables are used. Bi-amping is using two stereo amps to drive one pair of speakers, using one amp to drive the treble and the other for the bass/mid sections of the speakers.

WHY DO VALVE AMPS HAVE **SO LITTLE POWER?**

Valve amps are inherently low powered in absolute terms - at least when you compare them to their transistor-based cousins. But when partnered with high-sensitivity loudspeakers, they are quite capable of producing perfectly adequate head-banging levels.

AA STEREO

Stereo amps can be used in home cinema set-ups as well. You don't get the surround and centre channels, but well set-up stereo speakers do a remarkably good job of creating atmosphere for movies. Stereo amps

tend to be better at reproducing music as they don't have the (electrical) noiseinducing digital processing of AV amps. AV amps cost three to four times as much as stereo models of a similar quality.



If you thought the PM7200 was a great budget amp, just wait until you hear this! Its sound is so detailed and involving. you'll think it costs twice the price.



Cyrus 6vs2 £600

The latest 'singing shoebox' from Cyrus is an absolute peach! Strong rhythmic flow, tunefully extended bass and excellent stereo imaging are among the highlights.



Are you looking for an amp that combines weight and musical gravitas with rhythm, detail and subtlety, with gorgeous build quality to boot? In that case... here it is!



This amp's massively enjoyable musicality is hard to beat: all the effusiveness of a great valve amp and none of the stereotypical softness. Brilliant!

STEREO AMPS BUYER'S BIBLE

Our favou				IONS				
5 I E K Integrated amplif		AMPLIFIERS	LINE INPUTS	PHOND INPUT	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	SSUE NUMBER
BADGE? PRODUCT	£	COMMENTS	SIDe	B	ROL	S	3	要
UP TO £1,000								
Arcam DiVA A70	500	A smart and practical amp offering good snap and pace, with natural dynamics and good detail	6	MM	0	0	60	289
Adv. Acoustic MAP3	05DA II 600	A lot of amplifier for the money and capable of revealing and exciting sound in the right company. Includes 4 digital inputs	5	0	0		100	30
Arcam DiVA A90	850	Practical, affordable and impressively flexible amp with a laid-back approach but plenty of insight too	7	opt	0	0	100	30
Cambridge Audio 64	10A v2 300	Slightly cheap-feeling controls are the only real downside to this powerful and lively little amp	6		0	0	75	27
Cambridge Audio Azu	ır 740A 500	Ticks all the boxes for bass, clarity, imaging etc. and invites the listener into the music with uncommon grace	6		69	0	100	29
Cambridge Audio 84	10A v2 750	The biggest differences between this and most amps at twice its price are in looks and show-off factor. Powerful and detailed	8		0	0	120	299
Creek Evo	500	Not the most accurate, strictly, but it's lively, energetic musical presentation is entirely lovable	5	opt	0	K.	85	283
Cyrus 6vs2	600	Spunky little amp that reproduces instrumental timbres and acoustic spaces well, with real musical involvement	7			0	40	293
Denon PMA-700AE	250	One of a growing number of new low cost amps, it offers good timing and analysis at up to moderately high volume levels	4	ММ	89	0	50	284
Marantz PM7001Ki	550	A self-effacing amplifier which serves the music admirably with fine bass, sweet treble and unforced detail	5	MM	0		70	289
Musical Fidelity X-T100	S 899	By separating amp and TRIPLE-X power supply, this deceptively powerful valve-sporting amplifier is both enticing and musical	3	0	0		70	288
Naim Nait 5i	725	More versatile than previous Nait's, the 5 is a great all-round amplifier that offers vivid insights into all manner of music	4		0		50	308
Onkyo A-933	500	Puts the music first, with sound that delivers the basics correctly but above all involves the listener	5	0			80	278
Pioneer A-A9	600	Takes on the mantle of the legendary A400. Not as cuddly, but very resolute and revealing for the money. Has USB input	4	0		0	80	296
Unison Research Un	ico P 795	Sound belies indifferent measured performance with good detail, balance and flowing melodic quality	5	ММ			50	293
■ Vincent SV-236	999	Valve hybrid whose sound is as idiosyncratic as its styling, short on neutrality but high on sparkle	6				100	295
ABOVE £1,000								
EC AMR AM-77	4,400	A thrilling amplifier that brings you the dynamics of valves with the power of transistors in a substantial but well featured design	6			0	180	299
Ayon Spirit	1,745	Pentode or triode operation is available at the flick of a switch with this muscular integrated	4				50	303
Boulder 865	7,750	Extremely transparent to detail but less revealing of energy, high power, superb build but only balanced inputs	4		0		150	300
Copland CTA405	2,498	A musical and involving amplifier, which also has incredible insight and is user-friendly by valve amp standards	5	MM	0		50	305
Creek Destiny	1,100	A highly assured performer that doesn't superimpose its personality on the music	6		0	0	100	286
Densen Beat B110	1,200	Great bass provides firm underpinning for involving and enjoyable listening - real 'smile factor'	6	opt	0		60	292
Leema Pulse	1,195	An organic and revealing sound alongside good power reserves and superb features, including a great MM/MC phono stage	5		0		80	306
Moon Evolution i-7	4,750	Sophisticated, with an elegant build and sound quality, very limited features, even by high-end standards	5		0		150	288
Musical Fidelity A10	08 2,999	With DAC, phono stage and built-in valve buffer, this powerhouse amp can really grab hold of a loudspeaker	4	0	0		250	295
Mystère ia11	1,250	Small, deceptively powerful integrated valve amp with a crisp, pacy sound	4				40	302
NAD M3	1,899	Massive and flexible, it goes very loud with fine authority and dynamic range, but lacks some sparkle	7		o		180	285
Naim SuperNait	2,350		6		0	0	80	29
Pathos Classic One I			5				70	30
Primare (30	1,500		6				100	267
	1,100		3				30	298
Pure Sound A30		, , , , , , , , , , , , , , , , , , , ,	5	opt			21	296
		2212, 2212 2122 2122 2122 2122 2122 212		Jp.				
Sugden A21aL Serie		Very good detail and coherence. Togality is natural, imaging precise and deep, and dynamics are wide and unforced	6	opt			110	297
	econdo 1,200	Very good detail and coherence. Tonality is natural, imaging precise and deep, and dynamics are wide and unforced Massive and bulky valve amp sounds brilliant, with good power for a single-ended design, wide bandwidth and fine neutrality	6 5	opt	0		110	297

		Laction (Polestar I 1,200 Professionally presented, beautifully built and exceptionally revealing, this preamp achieves much by doing little session I/Polestar I 1,400 Compact pre/power combo with battery preamp and hybrid power, with freedom from timesmear, bass could be firmer 6 25 290 Vs2/6 Power 1,000 Pre offers stunning resolution and feature count for the money and power is subtle, open and musical 50 290 1,22x/NAP 150x 1,575 Musically rewarding with outstanding sophistication, grip and insight for such a modestly priced design 6 opt 50 287 290 1,650 Well thought out and well executed, with a strong, engaging sound and just a little veiling 5 136 256 256 26/RB-06 598 A capable and surprisingly powerful-sounding combination which offers real value 5 70 285 290 290 290 290 290 290 290 290 290 290								
Pre	Power amplifiers	Al		PREAMPLIFIE				REMOTE		ISSUE NUMBE
	£2,000	L	CONTROLLING		10	Cri			3	10
12	Arcam FMJ C31	1,200	Professionally presented, beautifully built and exceptionally revealing, this preamp achieves much by doing little			5	opt	0		273
100	Croft Precession I/Polestar I	1,400	Compact pre/power combo with battery preamp and hybrid power, with freedom from timesmear, bass could be firmer		-0	6			25	290
	Cyrus Pre Vs2/6 Power	1,000	Pre offers stunning resolution and feature count for the money and power is subtle, open and musical		۰		-01	0	50	290
EC	Naim NAC 122x/NAP 150x	1,575	Musically rewarding with outstanding sophistication, grip and insight for such a modestly priced design	0	0	6	opt	0	50	287
	Quad 99/909	1,650	Well thought out and well executed, with a strong, engaging sound and just a little veiling	0	0	5		0	136	256
	Rotel RC-06/RB-06	598	A capable and surprisingly powerful-sounding combination which offers real value	0	0	5	0	0	70	285
-12	Russ Andrews HP-1/PA-1	1,198	Simply featured, but sounds appealingly realistic and solid. Highly capable in all areas design	0	0	2		0	50	303
ABO	E £2,000									
	Arcam C31/P38	2,050	Very civilised sound, in the best possible way. Well featured and smartly built	0		7	opt	0	100	308

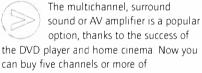
EFECS.KEY LINE INPUTS Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc PHONO INPUT Input sockets and onboard phono stage for a cartridge. Either MM (moving magnet) or MC (moving coil), occasionally both REMOTE CONTROL A remote control is supplied with the amplifier. HEADPHONE SOCKET To drive your cans with POWER OUTPUT Manufacturer's rated output in walts per channel

BUYER'S BIBLE STEREO/AV AMPS

Оп	r favourite	BEST BUY	EDITOR'S CHOICE							
						SPE	CIFIC	ATIO	IS	
2	IEKEU	A	MPLIFIERS continued	PR	POWE		P	REMOTE	POWER GUTPUT (M)	ILSSI
Pre/	power amplifiers			PREAMPLIFIER	POWER AMPLIFIER	TINE INDUIS	DEIN ONO HE	E CONTRO	OUTPU	NIN 30
BADGE?	PRODUCT	T.	COMMENTS	F	HEH	SIN	E E	RO	38	NUMBER
	Border Patrol Control Unit	2,995	Bluff looking valve preamp, with one of the most neutral yet dynamic sounds around	10		5	opt			277
EC	Bryston BP26 DA/2B SST	5,550	Bryston's top preamp is now a serious competitor. The power amp reveals a lot of signal and delivers serious grunt	0		6	opt		100	278
	Bryston BP26/3B-SST	5,300	The epitome of the iron fist in a velvet glove school of hi-fi. Dynamically superb and very detailed	0		8	opt		150	308
10	Chord Prima/Mezzo 140	6,100	Small, muscular, beautifully made and styled and sounds like a dream	0		5			120	269
20	Classe CP-700/CA-M400	13,350	Pre plus mono power combo with superb build, huge power and enormous flexibility. Sounds stunning, too			6	opt		400	293
EC	Cyrus DAC XP	2,200	A knockout DAC/pre with naturalness and resolution to die for and six digital inputs for signals up to 96kHz			2				266
	Densen Beat B-200/B310	2,300	Lively, energetic combination that bring a great sense of scale to familiar recordings			8		opt	80	276
EC	Densen Beat B-250/B-350	8,200	Upgradeable to surround, with sweet preamp and slightly coloured power amp, but sound is big and assured			6			125	270
EC	ECS EA-1	6,000	Understated monoblocks with real transparency to the fine detail, passion and energy in your record collection						180	253
EC	Gamut D3	3,430	Creamy smooth, yet lets you hear all the fine detail that goes to making a tonally rich, dynamically strong sound			5	opt			265
EC	Gamut D200 Mk3	3,950	A great power amp that's now even better – one of the best regardless of price						200	247
€C	Hovland HP-100/RADIA	12,745	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers			9	opt		125	250
EC	Krell FPB 700cx	14,998	Reference class amplifier may represent overkill in many systems, but when no compromise is called for, this is it						700	234
EC	Linn Klimax Kontrol	6,000	Beautifully executed example of Scots audio art, sounds as clean as it looks and is a lot more transparent than most	0		4				238
€C	Marantz SC11S1/SM-11S1	5,000	Preamp and power amp duo delivers high resolution and is consistent with different loudspeaker loads	0		6			220	304
EC	Naim NAP 500	11,875	Wonderful neutrality, bandwidth and dynamic range, plus Naim's traditional leading-edge definition						140	208
B	Roksan Caspian M Series-1	2,245	A well-matched, powerful and enjoyable sounding amplifier combo that brings out the strengths of its CD player	0	9	5		0	85	307

AV AMPLIFIERS

Surround sound amps for music and movies



can buy five channels or more of amplification for the price of two. Now that multichannel music is also on the agenda, there's a lot to be said for a good AV amp or receiver (an amp with a radio tuner built in).

So if you fancy hearing what DVD-Audio, SACD or even music DVD-Video can do, then check out a multichannel amp and speaker set-up - they're stunning with movies and none too shabby with music.

AV amps are usually designed primarily for movies and come with digital processing for the various soundtrack formats - Dolby Pro-Logic (analogue), Dolby Digital and DTS, which offer discrete surround sound in 5.1. and 7.1 channel formats. More ambitious designs also offer THX post processing, designed to emulate the sound of the mixing theatre at home.

Processing in AV amps is needed because the surround formats on DVD-Vs are



compressed, limiting their high-fidelity potential. This is why new formats SACD and DVD-A, which don't use 'lossy' compression, were created for music

All this processing power can take its toll on analogue formats. The best multichannel amps for music are often the simplest, but any that offer a complete bypass option with six-channel input are suitable. It's also worth looking at real power – five or seven channels of amplification are not easy to produce with a feeble power supply, and the cheaper amps in particular often fail to live up to the claims.

0.8.1

HOW MANY CHANNELS?

Depends on how many speakers vou want. Multichannel music discs come with six or 5.1 channels, but for new movies, 7.1 is where it's at. 7.1 set-ups also mean you have speakers directly behind you - preferable for music discs

WHAT'S THE DIFFERENCE **BETWEEN A PROCESSOR** AND AN AV AMP?

Processors don't have built-in amplification and you need separate power amps. AV amps and receivers have processing and amps in the same box.

WHAT DOES THE .1 IN 5.1 STAND FOR?

This is the LFE (low frequency effects) or bass channel that is reproduced by a subwoofer.

HI-FI MEETS SURROUND SOUND

With DVD-Audio and SACD offering highquality multichannel music, surround sound is no longer just a home cinema thing. An increasing number of people want to build a multichannel system that will do their music as well as their movie

DVDs justice, and the number of AV products delivering sufficient quality is on the increase. But most aren't cheap building a top-quality system with five or more channels is inevitably more expensive than sticking with stereo. There

are some very decent integrated options below £1,000, though the best (and most costly) route is to buy a separate processor and power amp(s). Or you can add AV amplification to a stereo model you can't bear to part with.

AV AMPS BUYER'S BIBLE



If you're looking for an affordable multichannel amp that's good with music as well as home cinema, this is a top buy.



DiVA AVR350 £1.500

Arcam's latest receiver offers a good helping of processing and connection options, with exceptionally musical sound



AVC-A11XVA £2.500

A splendid 7.1-channel amp that packs in the latest digital links and processing formats without sacrificing sound quality



SSP-600/CA-5200 £11,900

Anyone seeking a high-end multichannel solution that's equally adept with music and movies should park their ears here.

=		-	IFIFDA		SPE	CIEI	ATIO	IS
A	V AMI	L	IFIERS			7,10	5-CHANNEL POWER (W)	SS
Mu	ltichannel amplifiers			REO	LINE INFUTS	CCIMPATBLE	POWE	SSUE NUVBER
BADGE	? PRODUCT	£	COMMENTS	RECEIVER	FUſS	IBIE	R (W)	ABER
MUE	TICHANNEL INTEGRATED AMPS							
	Arcam DIVA AVR350	1,500	Sets the standard for music and movie performance at the price, although features count low and HDMI limited	0	7	۰	100	284
NO.	Cambridge Audio Azur 640R	600	Simple and elegant receiver. Attributes that reflect in good sound quality without the distracting toys you'll find elsewhere	0	7	0	100	292
EC	Denon AVC-A11XV	2,500	Sensible, real world derivative of AVC-A1XV, but still immensely flexible, and well endowed with digital I/o		11	۰	140	273
EC	Denon AVC-A1XV	4,000	Inelegant, but powerful and effective tool with excellent auto set-up and capable of driving two 5.1 systems simultaneously		0	۰	170	266
EC	Lexicon RV-8	5,000	Classy multi-zone receiver lacks high tech digital attributes (HDMI etc) but majors on very effective audio engineering	0	10	0	140	267
	Marantz SR-12S1	3,000	A multichannel amp that can be taken seriously in stereo too. Resources are in the engineering rather than the gimmickry		3	0	160	255
EC	Pathos Cinema-X	4,750	No processing, just sexy Italian style, a sextet of valves and the chance of 450 watts in stereo! Cultured sound, too		5		110	270
EC	Pioneer VSA-AX10Ai	3,000	State of the art one-box amplifier with enhanced sound quality, auto set-up and other enhancements		10	0	150	260
	Sony STR-DB798	250	Cheap but effective, and passably good with pure audio sources, but control system messy	0	7	٥	100	273
	Sony STR-DB795	300	A superb value little amplifier, well appointed technically and successfully tuned for UK ears	0	7	0	100	260
to a	Yamaha DSP-AX759SE	500	More a stereo amp with basic multichannel thrown in, but a great performer with music at this price	0	6	0	100	287
MUL	TICHANNEL PREAMPS/PROCESSORS	AND POWE	NAMES (1) AND STATE OF THE STAT	Й.	::E			
-	Arcam A90+7.1 mod, P90/3	1,920	Add Arcam's multichannel module and a P90/3 power amp to the A90 stereo integrated and you've got got superb purist 5.1		8	0	90	250
	Arcam AVP700/P1000	3,000	Cutting-edge processor/tuner with HDMI sounds great, but the matching Class H power amp lacks finess to match its power	0	8	0	135	275
EC	Arcam FMJ AV8/P7	5,750	High-quality preamp/processor (£3,150) and seven-channel power amp (£2,600). An excellent fusion of stereo and surround sound		7	0	180	235
EC	Classé SSP-600/ CA-5200	11,900	Subtle, exacting sound, tremendous flexibility and high power audiophile standard amplifier - lacks hi-tech digital interfaces		11	0	200	278
EC	Copland CVA306/CVA535	3,748	Tube analogue six-channel pre transforms multichannel audio from a novelty into a genuine advance for the high fidelity art		5		125	236
	Linn Exotik	1,750	Is hi-fi ready to make the jump to multichannel music? Linn think so with this musical preamplifier		4			260
С	Linn Exotik + DA	3,245	Good analogue preamplifier with multichannel in/out up to 7.1 and a home cinema processor of quality combine to make a tempting package		8	0		291
С	Meridian 861	9,833	Powerful surround processor with flexible modular construction, marvellous versatility to drive any speaker configuration		6	0		230
	Nam AV2/NAPV175/NAP150	4,175	First truly credible multichannel system from Naim is idiosyncratic but offers excellent basic sound with modest spatial steering		5	۰	50	238
EC	Parasound Halo C1/A51	7,500	Powerful and flexible processor/power amp combo with impressive sound. Excellent value – processor includes onboard screen		11	۰	250	243
	Primare SP31.7/A30.5	4.200	Great all-round system which brings the qualities of good stereo high fidelity to a multichannel world		5	۰	120	238

ESPLES INTO RECEIVER integrated multichannel amp with built-in radio tuner. LINE INPUTS input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc.

7.1 CHANNEL COMPATIBLE The amp either has seven-channel in and outputs or in some instances is equipped with seven channels of amplification

5-CHANNEL POWER (W) Power output in watts per channel of all channels driven by the amp

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New - Naim HDX Hard Disk Player



Also available for audition the Linn Akurate DS and Klimax DS music players

The new Naim HDX is an ideal product for those who value their album collection but want it all in one place with a flexible search facility while retaining that unique Naim quality. The HDX will play CD, most popular formats, store 600 albums, offers USB, extra NAS storage and helps grow your musical horizons with 6 streamed outputs. You can also upgrade the power supply. Contact us to audition this unique performance product. (For more info visit - billyvee.co.uk)

New - Naim Superline & PowerLine





The new SuperLine high performance Moving Coil phono stage with brass suspended chassis and a class A amplifier feeding 25 regulated supplies is awesome. - The new PowerLine cable is the most impressive mains cable upgrade we have heard, a must for all Naim owners at only £395. Visit billyvee.co.uk for more info or, come and listen.

BUYER'S BIBLE STEREO SPEAKERS

STEREO SPEAKERS

Speaker pairs for stereo sound



Box speakers are either designed to stand on the floor (floorstanders) or on a stand (stand or shelfmounts). Floorstanders have greater internal volume which can translate into greater efficiency and/or bass extension, but less substantial designs also introduce cabinet resonance and thus distortion. But they don't need stands and therefore have the aesthetic edge. Standmounts have less cabinet to vibrate and often score in terms of imaging and timing, but need good stands to work well.

Positioning

The closer the speaker is to a wall, the greater the reinforcement of bass. As all rooms differ, there's no simple formula for placement and experimentation will yield the best results. Altering the angle at which the speakers face the listener can also make a difference to balance and stereo image

Going multichannel

Many stereo speakers can be augmented with centre and surround channels from the same brand to create a multichannel system. The most important element is a centre channel, which needs to match the stereo pair as closely as possible. For the best musical results, surrounds should be as per the front left and right channels, but if space or funds don't permit, smaller designs can be used quite effectively.

POWER

Though some speakers have a power rating, this isn't as informative as a rating for how difficult they are to drive, nor does it indicate wattage extremes for the partnering amp. In practice, an amplifier cannot be too powerful. Our listings quote ease of drive to indicate how much power

your amp needs to avoid a mismatch. An above-average (A+) speaker will work with amps rated at 25W plus, while an average (A) speaker will need 50W or more, and a below average (A-) speaker could require 100W plus to sound its best. These are guidelines rather than rules



Choosing speakers

Because speakers and the rooms they are used in vary so much, choosing a pair tends to be quite subjective. To find some that will suit you, try to listen to a good variety to hear how they differ, and if possible. audition some at home. Tonal balance tends to vary the most, but is less important than more subtle factors such as timing and dynamics. Finally, listen with your ears not your eyes - great-looking speakers aren't necessarily great sounding

Spikes

Floorstanding speakers and stands have threaded inserts for spikes that allow rigid coupling with the floor. These have the advantage of draining resonance from the speaker and giving tighter bass, but can result in more vibration getting back to the electronics and often cause the floor to resonate as well

0&A

IF SPEAKERS ARE RATED AT **75 WATTS, DOES THAT MEAN** I NEED A 75 WATT AMP?

No, see the box on power for the full story.

WHICH SPEAKERS ARE BEST **FOR SMALL ROOMS?**

Those designed to work close to the wall will be smoother in confined spaces. Speakers that have relatively dry, tight bass will also sound better

WHICH SPEAKERS ARE BEST **FOR BIG ROOMS?**

Big, efficient, easy-to-drive designs are more likely to be able to fill a room better than compact models.

DO I NEED TO BUY CENTRE **AND SURROUND CHANNELS** FROM THE SAME BRAND AS **MY STEREO SPEAKERS?**

Yes, assuming that you're wanting to create a homogenous surround sound experience, where voices don't change when they move from one channel to another.

HI-FICHOICE BUYER'S BIBLE



Mercury F4 £350

Tannoy's Mercury speakers have a long history of 'quality' sound at low prices, and the latest range is no exception - this floorstander is thoroughly engaging.



DALI Ikon 6 £899

Complete with a ribbon super-tweeter, this is an exceptionally capable floorstander for the money, delivering a highly detailed and truly engrossing sound.



805S £1,600

A superbly well-engineered standmount that's capable of delivering magnificent musical communication, alongside superior subtlety and delicacy.



Mordaunt-Short

Performance 6LE £4,000 This extraordinary speaker stands at the pinnacle of Mordaunt-Short's current range. State of the art resolution and imaging are among its many attributes.

Our favourite BEST BUY CHOICE DITOR'S CHOICE

HI-FI CHOICE

CTFD	TEREO SPEAKERS			SP	ECIF	CATA	DMS	-	
SIEREU Stereo speakers		SPEAKERS		FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
ADGE? PRODUCT	£	COMMENTS	SIZE W.H.D (CW)	Ħ	×	\(\frac{1}{2}\)	£	Ê	Œ
Advance Acoustic	UM20 200	Classy styling and finish, with solid build and fine overall balance when sited close to a wall	18.30,21		А	43			30
Acoustic EnergyAe	egis Neo 3 370	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight	20,905,24	0	А	24	0		29
Acoustic Energy A		Wood-veneered all-rounder has exceptional neutrality with deep smooth bass	20,103,39	0	А	22	0		29
Acoustic Energy AE		Sharply priced classic replica has a beautifully balanced midband, wide dynamic range and little boxiness	18,29.5,25.5		A-	45	0		28
ALR Jordan Entry		Not the most pretty speaker but a sonic triumph, with a beautifully judged balance and impressive transparency	20,86,29	a	А	23	0		27
ATC SCM11	849	A very fine little speaker that's at its best with good, natural recordings where it adds little and reveals much	21,38,25		A-	55	0		29
Aurousal A1	450	Single-driver system is coloured but wonderfully coherent and very effective at communicating emotions	20.5,36,27		А	40			29
AVI Neutron IV	499	A great example of what can be done with a genuinely small speaker, but the warts-and-all balance won't suit all	15,27,21		A-	65	0		26
B&W DM303	180	Chunky looking and liuvely sounding, with deep bass, a fine midband and a restrained top end	30,33,23		А	23		0	22
B&W CM1	500	Luxury miniature has neutral, laid back sound, with low coloration, fine imaging but weak dynamics	16.5,28,28		A-	40	0		27
B&W 683	899	A fine all-round performer with high-class drivers at a very realistic price	20,99,34	0	Р	20			30
B&W 705	900	Deft, delicate and delightful, if a little bass light, with clever enclosure and driver engineering	22,42,29		А	35	0		25
DALI Ikon 6	899	Needs care with setup, but rewards you with impressively transparent and almost obsessively detailed sound	19,100,33		А	37			27
DALI Ikon 7	999	Bulky vinyl floorstander has high sensitivity and a bright sound with superior coherence, delicacy and transparency	20,114,34		Α+	22			27
DALI Monitor 1	1,000	Beautiful miniature with advanced drivers sounds marvellously coherent with fine vocal expression	16,32,24		А	40	0		2
Dynaudio DM 2/10	0 775	Unfashionably bulky standmount has fine dynamics, grip, bass and headroom and is delicate and well mannered	27.5,45,35		А	22	0		29
Epos ELS 303	399	Midband is impressively smooth, even and coherent, but the sound lacks some dynamic grip and top end detail	18,85,20	0	A-	28	0		27
Epos M5	349	Gorgeous miniature works well close to wall. Could be smoother but communicates with authority	18,33,21		A-	40		0	26
Epos M12.2	449	A true classic stand-mount with lovely presentation, fine sound balance, superior coherence and low coloration	20,37,25		A-	40	0		26
Focal Chorus 706	V 369	Advanced drivers deliver a smooth, even, overall balance with healthy dynamic expression and tension	22,39,25		А	30	0		30
Focal Chorus 816	V 1,000	Fine, warm balance, superior dynamics, and a sweet top end, but could be smoother	28,100,37.5	0	Α+	20	0		28
Heco Celan 300	595	Does tone colour, dynamics and detail with aplomb and communicates superbly in its +2dB mode. Sensitive, too	23,36,33		A+	40	0		30
JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch. Could be more transparent	22,99,37	0	А	25	0		27
KEF IQ3	280	Shapely, vinyl-covered stand mount has lively dynamics and fine imaging, but could be smoother and sweeter	22,37,33		A+	40	0		28
KEF IQ9	800	Shapely and solid floorstander has wide bandwidth and dynamic range with superior neutrality and sensitivity	22,94,33	0	А	25	0		27
Mission élan e34	400	A return to form for Mission with a pacey, vibrant sound matched to good looks	35,96,34	0	A+	48	0		29
Monopulse 42A	995	Uniquely different in style and sound, midband time-coherence is magnificent but treble is too restrained	26,110,25	0	Α+	28	0		27
Monitor Audio BR2	2 200	Good looking standmount has a muscular sound with superior coherence	18.5,35,25		A-	30		0	29
Monitor Audio BR5	5 400	Not the best dressed in its class, but detailed, bold sounding, good value and an easy electrical load	17, 85,25	0	A-	36	0		29
Monitor Audio GS	10 800	More neutral tonally than some recent MAs. Quality stereo design which take's up little room and is easy to drive	20, 36, 27		A-	40	0		28
Monitor Audio Silv	er RS8 800	Bold, dynamic sound marks it out from the crowd, and it's an easy load that works well in larger rooms	90, 18,27	0	А	33	0		27
Mordaunt-Short A	vant 906 350	The generous, well balanced sound shows good enclosure control, could do with more grip and better spikes!	165,85,295	0	Α	40			28

EFECSIVEY SIZE WXHXD (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 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).

After 5 years in production, the Dino is still one of the most popular phono stages around. Highly versatile with accessible switches on the baseplate to facilitate a wide range cartridges.

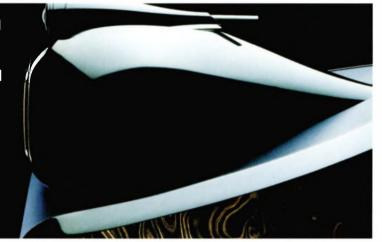
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BUYER'S BIBLE STEREO SPEAKERS

Our favourite 💷	EST BUY EC EDITOR'S CHOICE
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	reo speakers	U	SPEAKERS continued	SIZE WH D ICM	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SIMOR	CLOSE TO WAL	SSUE NUMBER
BADGE?	PRODUCT		COMMENTS	CMI	DEH	R	H	30%	MI	99
	PMC TB2+	795	Classy transmission line stand-mount has superior midband, restrained presence and a bright clean top end	20,40,30		А	28			275
1	ProAc Tablette Ref Eight	699	Stunning standmount with electrostatic-like imagery. Its Signature brother costs £200 more and is even better!	15,27,23		Α+	40			267
	Q Acoustics 1010	99	Neatly styled miniature has limited bass and power handling but fine midband voicing at a very sharp price	15,21.5,19.5		А	48			286
	Q Acoustics 1050	330	Great value, the sound lacks smoothness but has fine dynamics and impressive transparency	19.5,97.5,30	8	Α+	28			284
	Quadral Pico	849	Could be more muscular, but neutral and open with spacious imaging and little coloration	19,34,26		A-	30	۰		292
	Rega R1	298	Cute baby sounds busy, coherent and involving, if a touch thin. Sweet and delicate treble with even bass	15,32,24		А	50			269
	Revel Concerta F12	900	Massive multi-driver floorstander is not pretty, but has great headroom, bass weight and impressive neutrality	25,108,36	0	А	22			29
	Spendor S3/5R	725	Small, beautifully accurate monitors are excellent for speech, but not suitable for thrash metal in barns	17,31,19		А	90	0		306
	Tannoy Mercury F4	350	Floorstander has an engrossing sound with good dynamics and a warm, restrained output	20.5,97,29	0	A+	24			294
	Tannoy Revolution DC6	800	Pretty compact standmount likes wall loading, delivering a lively even bass and smooth coherent midband	23,36.5,23		А	40			307
	Totem Rainmaker	795	Standmount has a big sound, with a smooth midband and bright top. Could have more punch and warmth	17,35.5,23		А	25			291
	Triangle Antal Esw	995	Smoother than its predecessors, with a beautifully balanced bass and midband, though the top end is uneven	20,108,34	0	А	20	0		288
100	Wharfedale Diamond 9.1	180	Superior shape and finish at an exceptionally sharp price. Sound is laid back, but free from boxiness	19.5,30,28		A-	45			307
-1	Wharfedale Opus2-M1	1,000	Elegant mid to compact three way, a new direction in recent years for Wharfedale	23,51,36		A-	42	۰		302
ABOY	E £1,000			46.00					-	
E)	A2T Mezzo	2,000	Seamless overall coherence, with persuasive monitoring capabilities. Sounds a little mid-forward. Top could be sweeter	27.5,40,26		А+	40	0		281
4	Amphion Prio 520	1,600	Gorgeous styling and a lively sound with good voice band integrity and a sweet top end	16,104,22	0	А	40	0		302
63]	ALR Jordan Classic 5	1,200	Slim, laid back floorstander has sweet sound with fine coherence, imaging and dynamic range	17,99,26	0	А	28			275
	ALR Jordan Note 3	1,350	Costly but clever, adjustable ABR gives much of the weight of a floorstander with the agillity of a standmount	245,37,31.5		А	26	0		288
	ATC SCM16A	2,203	Makes a great case for the active speaker. Good value, including built-in amps, and fuss-free	27,45,33		ACT	42	0		300
	ATC SCM19	1.499	Super linear motor system, heavy weight construction and fabulous veneer that makes the ATC a pro favourite	22,44,31.5		A-	54			285
	Audio Physic Spark 3	1,499	Classy and discreetly laid back floorstander has delightfully neutral balance and surprising bass weight	15,98,22	0	Α+	27	٠		271
	AVI ADM9	1,000	Active mini-monitors that are exceptionally accurate and dynamic, and they give good iPod, too	20,30,26		ACT	60			301
	AVI Duo	1,299	Sophisticated floorstander, a natural partner for AVI's electronics. Unusually clean and honest musical presentation	19,77,28	0	А	50			280
EC	B&W 802D	8,000	Great firming, superior dynamics and a sweet top end all enhance musical communication. Makes sweet music	37,115,56	9	А	<20	٠		267
	B&W 805S	1,600	Classy standmount with excellent coherence and imaging. Can sound laid back but otherwise a real delight	24,39,33		А	25			271
	Dynaudio Focus 220	1,850	Cleverly tapered floorstander has a brilliantly smooth, neutral balance and very sweet treble. Could be more dynamic	20.5,98,29.5	0	A-	<20			281
	Focal Chorus 816WSE	1,399	The W cone treatment makes some of the qualities associated with Focal's high-end models more competitive	99.8,28.2,37.5	0	A+	39			308
	Focal Chorus 826 V	1,250	Times nicely, goes loud with ease and will produce precise imaging if appropriately set up.	28,104,37.5	0	А	45			287
	Focal Chorus 836V	1,549	Bulky, sharply priced three-way could be preffier. Has good bass with genuine grip, but top could be sweeter	28,115,38	٥	Α	28	0		290
EC	Focal Electra 1027 Be	4,000	Outstanding mid and top with fine delicacy and low coloration, but lacks some bass grip and drive	26.5,111.35	0	A-	25			276
-	Free FS1	3,000	An elegant active design for anyone after the minimum of wiring. Wireless with Sonos or Airport Express	16,87,27		ACT	35			301
EC 03	Gamut Phi5	2,550	Lovely and discreet floorstander has excellent sound and several very clever engineering touches	17,100,24		Р	20			305
EC	Jamo Reference R909	7,500	Top model (in a class of one) is open, full and easy on the ear, and surely a classic in the making	48,127,54		A-	25			280
FC.	KEF Reference Model 201/2	3,500	Very classy but costly three-way stand-mount with much improved Uni-Q, could be more transparent	25,42,41		А	30			298
	Kudos Cardea C1	1,450	A very pretty compact standmount with a delightfully subtle and delicate sound quality	20,35,27		А	40			304
	MartinLogan Source	1,599	Careful install needed, but capable of remarkable transparency at an extremely competitive price	24,120,37			42			303
	Meridian M3100	1,850	Attractive and capable active (125w) with great imaging and strong bass. High neutrality and good power handling	19,39,25		ACT	45		opt	280
	Monopulse 42A	1,495	Oddball styling, fine bass-to-mid balance and dynamics, and superb voice coherence, but untidy treble	26,110,25		A			- 1-1	302
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Our favourite	_		10000	SP	ECIFI	CATH	NS		
	U i	SPEAKERS continued	SIZE W.H.D. (CM	PLOORSTANDER	EASE	BASS FROM (HZ	Ŧ	CLOSE TO WALL	JUS: 1
Stereo speakers			H,D (0	STAND	EASE OF DRIVE	HOM (FREE SPACE	TO W	SUE NUMBER
BADGE? PRODUCT	£	COMMENTS	×)ER	¥	F	Ŕ	Ĕ	3ER
Monitor Audio PL300	5,000	Completely new level of sophistication from a brand best known for mainstream, cost effective designs	41,111,47	0	A-	28	0		30
Mordaunt-Short Perf 6 LE	4,000	Striking moulded enclosure minimises coloration, while overall balance is smooth, neutral and open	24,115,43	0	А	22	0		30
Neat Elite SE	1,499	Smooth and natural performer with notably expressive midband. Fine voice articulation and unusual sweetness	20,90,18	0	Α	25	0		26
Neat Motive 1	1,200	Beautifully neutral balance sounds open without aggression. Fine midband but could be more authoritative	16,92.5,20	0	A-	20	9		27
Neat Momentum 3i	1,745	Sounds a lot bigger than it looks, with good coherence and an impressively wide dynamic range	22,38,27		A-	23	à		30
Opera Seconda	1,295	Classy cabinetwork plus beautifully judged neutrality with crisp, clean and deep bass	24,102.5,31.5	0	Α-	20	0		29
PMC Wafer 2	1,650	Clever 'hang-on-wall' speaker has minimal sonic compromises. Smooth midband delivers impressive stereo imaging	33.5,57.5,10		Α+	45			28
PMC FB1+	1,695	Nicely proportioned floorstander has a sweet top and a beautifully natural, open and restrained midband	20,100,30	0	А	20			26
PMC EB1	5,950	The best argument for large speakers that we've heard in a long time	29,120,46.5	0	A-	19			29
PMC GB1i	1,275	Pretty little floorstander has great class with fine delicacy and sweet detailing	15.5,87,23.4		А	30			30
Quad ESL 2805	4,500	Uniquely wonderful natural realism, exceptional imaging, coherence and low level detailing	70,107,38.5		A-	45			29
Rega R7	1,498	Super-slim and super-smooth floorstander has fine agility with a slightly bright overall character	27,98,35	0	А	25			27
Rega R9	2,498	This subtle, laid back but very informative performer has a very superior dynamic range, especially in the bass	17,103,39	0	А	25			27
Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound	22,105,39		А	20	0		25
Revel M22	1,800	A remarkably clean and revealing speaker with superb tonal and microdynamic capabilities	22,37,30		A-	48			2
Roksan Caspian FR-5	2,000	Sharp looking speaker sounds exceptionally open and lively without aggression. Could be warmer and richer	20,100,25	0	А	22			29
Ruark Talisman III	1.499	No bass demon, but a sophisticated and agile speaker epitomising Ruark's design ideals	22,84,31	0	А	22			2
Sonus Faber Cremona Audit	2,690	Open, exciting and with surprisingly good bass this is 'The Little Speaker That Could' (stands £575 extra)	20,35,37		А	50	۰		30
Sonus Faber Grand Piano D.	2.498	The Grand Piano Domus has a fabulous physical appearance and delivers a clean, refined sound	21,106,31	0	A-	32	0		28
Tannoy Dimension TD8	4,000	This stylish speaker is a splendid all-rounder, with fine dynamics, precise imaging and minimal coloration	31,86,30	0	A-	25	0		24
Tannoy Glenair 10	2,999	With a 250mm dual concentric driver this is a generously proportioned, highly engaging speaker for a good price	36,100,35	e	Α+	38	0		29
Totem Model 1 Signature	1,595	Expensive, but very seductive miniature delivers a beautifully smooth and balanced midband	17,31,23		А	35			27
Triangle Genese Quartet	1,895	Great material value and a solid all round sonic performance with great loudness potential	23,117,37		А	25			30
Triangle Celius Esw	1,395	Not the smoothest sound around, but has great vigour and enthusiasm, plus good scale and weight	20,117,34	0	А	22			2
Triangle Magellan Concerto	14,750	New 'sw2' version is less immediate than its predecessor, but it's easier to live with and remains highly enertaining	60,160,45	0	A-	32	5		29
Usher Compass CP-6381	2,500	Lots of speaker for your money, with plenty of deep bass, unusual styling and massive build	35,127,65		А	20			27
Vivid Audio B1	7,750	Impressive cabinet design combined with hi-tech drivers to make truly world class speaker	27,110,38	0	Α-	40	0		26
Wilson Benesch ACT	8,400	Superb enclosure gives uncanny freedom from 'boxiness'. Well balanced, but top end might be sweeter	23,108,36	0	А	20	0		2
Wilson Benesch Curve	5,000	Much (but not all) of the ACT's performance in a much more compact and affordable package	23,91,37	0	А	28	0		2
Wharfedale Airedale Neo	9,000	Expansive yet relaxed sounding, the Neo is a coloured but surprisingly musical and enjoyable speaker	52.115.45		A-	25			29

	r favourite			SPE	CIFICAT	IONS	
Bas	UBWO s speakers			SIZE W.H.D. (CM)	POWER (W)	BASS FROM (HZ)	ISSUE NUMBER
BAUGE	B&W PV1	950	COMMENTS Gorgeously styled sub shakes the air but not the floor, delivering a very clean sound with negligible coloration	29,34,35	500	20	259
EC	B&W ASW850	2,000	Does all the things subwoofers should do with music and movies alike, but transparently and seamlessly	53,56.52	1.000		246
EC	Eclipse TD725sw	2,700	Delivers solid meaningful bass, but with unusual tunefulness, speed and articulation	52,47,50	500	40	287
	Monitor Audio ASW100	300	For the price, this compact subwoofer performs particularly well	32,32,34	120	27	225
EC	REL 305	795	Landmark mid-price sub, works particularly well with low crossover frequency, looks great too	32, 36, 34	300	25	284
6.3	REL Stampede	550	Few subs at this price match the Stampede's subtlety and ease of integration. Much more hi-fi than AV	28,40,29	100	18	257
63	REL T1	595	Standard setter at the price: flexible, easily set up and packs quite a punch	36,40,420	300	25	291
83	REL Strata 5	700	Highly musical sub-that integrates well but the REL Stampede offers near-identical performance for less money	32,46,33	150	18	257
	REL Storm III	900	Excellent sub with powerful, detailed and deep bass. Comprehensive facilities, including flexible filter adjustment	42,62,33	150	18	225
	REL Storm 5	1,000	Well engineered, good bass depth, appropriate for mixed hi-fi & home cinema/multichannel systems	34,52,37	200	15	267
E0.	MartinLogan Dynamo	449	Refined, compact sub brings established MartinLogan virtues to a new price and size point	293532	200	25	301
	Velodyne SPL-800R	699	Powerful, highly configurable sub with auto setup feature and attractive, compact packaging	26, 27, 33	1,000	28	286
EC	Wilson Benesch Torus	5,200	Amp and sub package built like a sophisticated pile driver, with deep, state of the art performance	45.33.45	1,000	10	290

1,200 Cunningly crafted stand-mount with a beautiful balance that always sounds lively, open and involving

SPECS KEY SIZE WXHXD (CM) Width, height and depth of one cabinet in centimetres. **POWER (W)** How many waits the onboard amplifier of active models delivers **BASS FROM** How low the sub-goes, the smaller the number the deeper the bass.

Yamaha Soavo 2

22,38,35

A 28

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HEADPHONES BUYER'S BIBLE

HEADPHONES

For your ears only



Headphones come in several varieties and some are designed for particular usage. The majority of 'cans' use dynamic cone and coil-type drive units and can be used with anything from a personal stereo to a dedicated amplifier. Other types also exist, most significantly electrostatics that use a charged panel membrane to produce a distinctly refined sound. These are supplied with their own dedicated amplifiers, which tends to increase the price

Cans are split into several types. There are open and closed-back designs, the latter being best for noisy (or noise sensitive) environments as they minimise leakage and intrusion. Open-back types tend to have a more open, less 'in-head' sound. There are also three variants of earpad design: circumaurals enclose the ear and press on your head, supra-aurals press on the ear and intra-aurals sit in the ear and are particularly popular with personal stereo users.

Getting the best from your cans

Getting a good result with headphones is not

quite as straightforward as it should be. Merely plugging them into the output on your CD player or amp will not give particularly engaging results unless you are very lucky. If you are planning on serious listening, invest in a dedicated amp - the increase in dynamics is not in the least bit subtle. A variety of models are made and prices start at around £80 for a QED, a little more for designs from, say, Creek or Musical Fidelity. And if you're really into cans, look up the valve-powered Earmax.

	r favourite			SPECIFICATIONS									
H	EADPI		DNES	ELECT	SUPI	CIRIO	0	CLO	<	3.5MM JACK	INSSI		
Ster	tereo headphones		ELECTROSTATIO	SUPRA-AURA	CIRCUMALIRAL	OPEN BACK	CLOSED BACK	WEIGHT (g)	JACK ADAPTOR	SSUE NUMBER			
ADGE?	PRODUCT	3	COMMENTS	TIC	A	A	8	9	(0)	OR	H		
	AKG K270 Studio	129	Pro oriented design which is very transparent and great with acoustic material			0		۰	270		23		
C	AKG K1000	650	Neutral, analytical and completely out of the head sound, suitable for connection to speaker outputs only						270		24		
	Audio Technica ATH-W1000	400	Superbly comfortable and very revealing. Long listening sessions are a pleasure with new musical insights			0			250		30		
	Beyerdynamic DT770	190	A touch coloured in the mid, but less than most closed cans; detailed and with excellent bass			0		0	290		28		
11	Beyerdynamic DT880	200	Informative, neutral and surprisingly close to good loudspeakers. Good for occasional and long-term listening alike			0	Φ		205	0	30		
	Grado SR225	180	Tonally shows the way to Grado's amazing GS1000 flagship, but detail and soundstage are not truly class-leading		-0		•		200		30		
	Grado SR325i	310	Highly sophisticated and detailed sound with great extension: check for comfort				•		200		27		
C]	Grado GS1000	995	One of the finest transducers on the planet, with detail to die for			0			250	0	28		
	Sennheiser HD485	65	A great all-round headphone for occasional or even heavy use, refined in sound and comfortable, too			0			220		29		
51	Sennheiser HD595	150	Technology from upmarket HD650 model makes this a very revealing headphone that's also extremely comfortable						270		26		
С	Sennheiser HD650	300	Astonishing resolution and hardly less impressive tonal balance make this a true hi-fi experience						260		25		
	Sennheiser PXC450	299	Noise-cancelling model: as good as it gets for making the most of listening in planes, trains and automobiles			0			240		30		
	Shure SE420	240	Expensive and no replacement for top conventional 'phones, but streets ahead of most in-ears with real refinement					۰	15		29		
	Shure E500PTH	420	Sophisticated in-ear design with three drivers, plus switchable 'voiceover' mic in the lead; high-quality stuff						20		28		
	Stax SR-001 Mk II	239	Expensive and power hungry, but this electrostatic drags personal stereo into the world of high fidelity	0					280		26		
	Stax SRS-2020 Basic Sys. II	349	Luxury option at its price, but the sound delivery is five-star quality all the way						205		29		

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

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BUYER'S BIBLE STEREO SPEAKERS

CABLES



Wires to hook your system together

Hi-fi cables come in two varieties: interconnects and speaker cables. Analogue interconnects come in preset lengths, generally with RCA (phono) plugs attached, though some equipment uses XLR connectors for balanced connection - this can be sonically advantageous, especially over

longer runs. Speaker cable is commonly sold by

the metre and can be used without plugs or can

be fitted with screw or solder-on types.

Choosing cables is not quite as straightforward as it might seem. One problem is that components interact with the cables you use and this often results in audible effects, but there are few cables that are fundamentally incompatible with any components, and we recommend the advice of a good dealer. In any case, you should look to spend as much as you can afford.

Digital cables come in two flavours: electrical and optical. In most instances electrical varieties sound better than optical, given the choice, but optical cables may be a better bet over long runs (10m+). Optical inputs/outputs usually use Toslink connectors, while most electrical types use RCA plugs, but some opt for BNC connection instead – check your components before you buy.

	r favourite				S	PECIF	ICAT	DNS	
nte	ABLES erconnects and spea	ker		STRANDED	SOLID CORE	COPPER	SILVER	DIGITAL CABLE TYPE	ISSUE NUMBER
ADGE	2 PRODUCT OGUE INTERCONNECTS	3	COMMENTS						
	Atlas Questor	70	Very open and informative at high and mid frequencies, with slightly dry bass, imaging particularly fine					П	295
	Audioquest Sidewinder	45	A lively and detailed cable, with fine tonality and excellent rhythm. Sight added upper-basswarmth does little to detract						297
	Black Rhodium Prelude	80	Practical and sensibly priced all-rounder that seems happily compatible with a wide range of kit	0					293
	Black Rhodium Coda	150	Superb bass and excellently neutral and detailed midrange: treble generally sweet with occasional slight constriction			9			29
	Black Rhodium Concert	255	This DCT cable from the Polar range gives a distinctively dark timbre, rich in detail, with low subjective noise						270
	Cambridge Azur Reference	50	Performance wouldn't shame a cable at twice the price: especially adept in the treble with no trace of dryness	0					290
0	Clearer Audio Copper-Line Alpha	50	Sounding like something a good deal dearer, this cable offers near high-end detail and seems highly compatible too						295
	Clearer Audio Silver-line	244	Complex, well-screened cable which offers good sound all round with exceptional bass – at a price!			0			279
0	CrystalCable Piccolo	260	Thin cable, but tougher than it looks, Piccolo has some qualities of a solid core type generically - notably resolution, focus and articulation						294
-	lxos lxotica IX1	200	Notable for its relaxing sound, this cable still presents plenty of analytical detail			0			283
	Monster M350i	45	Few cables at this price reveal so much about the recording space. Clear treble, too						28
ct.	Monster M1000i	200	Very capable, with only a hint of bass dryness to set against excellent results elsewhere						28
	Nordost Wyrewizard Dream	95	Slight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass						30
	Oehlbach NF214	63	The bass is a matter of taste, but suits many smaller speakers. Very good mid and treble						28
	Profigold PGA3000	60	Not the ultimate for lovers of clinical precision, its character is engaging and detail and extension are good						299
-	Supra EFF-1X	77	Lively-sounding cable which maintains a high level of detail and neutrality. Musically, a great all-rounder						301
	Townshend Isolda DCT100	99	Silky-smooth treble, with remarkably good detail too; midrange and bass also very fine						303
-	van den Hul Integration Hybrid	125	Bass is nothing remarkable, but mid and treble are outstandingly open and clear; very transparent						306
-	Wireworld Luna 5	30	Authoritative bass and clear treble outperform many cables at twice the price						273
	AL INTERCONNECTS		The state of the s						
	Atlas Compass	50	Slight improvement in detail over giveaway cables, plus distinctly more tuneful bass and more open treble, make this fine value					E	289
	Clearer Audio Silver-line	125	Very satisfying performance with finely-etched detail and sweet treble					E	278
	Supra AnCo	80	This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context					E	304
	Wireworld Starlight 5	90	Clear gains in detail and imaging precision are this cable's main strengths: good value and near-high-end performance					E	
DE AL	NER CAPLES PRICE PER METRE	00	ood ganomotan and imaging protective at the odd or man or origine, good at odd no roam night one ponomiation					_	
	Atlas Hyper 1.5	10	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	55	A highly analytical cable, with more bass extension than at first appears and very fine detail across the board						294
	Chord Epic Twin	40	Good all rounder, which generally sounds relaxed and musical, and a full bass that stops the right side of sounding blowsy						287
0	CrystalCable Piccolo		Tougher than it looks, Piccolo has some of the qualities of a solid core type generically – notably resolution, focus and articulation				۰		302
	Kimber 8PR	12	A cable that really enjoys the music, also admirable for the levels of analytical detail it allows through. Excellent value						299
]	Monster MCX-1s	8	Notable for its bass, which is perhaps a touch overdone at times but could be a good foil to small speakers. Good mid and treble						28
	Nordost Heimdall		Alternative to Valhalla, silver plated, micro-monofilament construction, low colouration, hi-res and suitable for exacting systems						27
	QED Silver Anniversary XT	5.50	Full bass and nicely detailed treble combine with good imaging - a budget bargain						271
]	QED X-Tube XT300	10	A natural and well controlled sounding cable that's cost effective for mid-priced systems		0	0			23
	Supra Sword	116	Zero inductance construction, medium resolution cable that has an excellent midband and is fundamentally musical		Ť				28
<u> </u>		50	·						24
•	Townshend Isolda DCT van den Hul The Bridge		Cryogenically treated 'impedance matched' cable with stabilising components added, great sound all-round Patter base than trable, with good datail though a touch of constriction at times.						29
	Wireworld Luna 16/4	6 5	Better bass than treble, with good detail though a touch of constriction at times Budget biwire cable offering tuneful and extended bass, good treble, and midrange with just a little lack of detail	0		0			29

SPECS KEY STRANDED Cable has a number of (usually) twisted strands to conduct the signal. SOLID CORE Cable has one or more individually insulated strands to conduct the signal. COPPER Material used to form the conducting element of the cable. SILVER Alternative material used to form the conducting element of the cable. DIGITAL CABLE TYPE E - electrical, 0 - optical Cables are one metre length unless otherwise stated.

STANDS AND SUPPORTS

Equipment racks and speaker stands



If you want to get the most from your source and amp components, it's important to consider good quality support. Dedicated equipment supports are racks and tables made specifically to hold hi-fi gear, and the best can have a profoundly positive effect on sound because, for example, they can help to isolate kit from ground-borne vibrations and mechanical or electrical interference. Equally, if you own a pair of small 'bookshelf' or 'standmount' speakers, it's important to place them on good quality, purpose-built speaker stands.

Our favourite BEST BUY EC EDITOR'S CHOICE

		_		SPECIFICAT		ATIONS			
E	QUIPN		ENT SUPPORTS	프	TOP PLATE		NUMBER OF	\$	ISSUE
Equi	pment supports			HEIGHT CMJ	SIZE (CM)	WELDED	SHELVES	SHELF TYPE	NUMBER
BADGE?	PRODUCT	3	COMMENTS	3	3	6			R
	Alphason A5-G	399	Nice looking, very solid and practical with a pretty well balanced sound, but lacks a little detail	80	66,46		5	Glass	247
	Atacama Equinox	280	Stable, modular design with style. Excellent bass transients and a fresh design concept	81	50,50	0	4	Glass	217
83	Audiophile Base Std Supp't	900	Not cheap and quite bulky, but it's all worth it as sound is unusually detailed and resonance-free	57	46,35		3	MDF	302
	Custom Design Icon Signature	330	Gorgeous wood and glass looks: sound lacks a little detail but is nicely lively	75	56,37		4	Glass	286
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal and largely harmless	65	60,42		4	Glass	293
112	Custom Design Icon 400	600	Beautifully built, conveniently adjustable and with little sound of its own, a very classy rack	75	57, 41		5	Glass	263
20	Custom Design Concept 400	700	Slightly drab looks, but great sound and efficient use of space ('Acoustic' version tested – standard version $£300$)	74	48,40		4	Metal	247
	Custom Design Milan	449	Respect is due to any stand that looks this good with nothing more to complain of than slight muddying of detail	57	48,39		4	Glass	302
	Custom Design Vantige	449	'Acoustic Aluminium' shelves plus steel supports equal practicality plus musical satisfaction: just a shade bright	62	49,44		4	Metal	271
	Partington Minim	420	Adds its own character to the benefit of rock most particularly, but slightly to the detriment of acoustic sounds	78	45,37	0	5	Glass	302
	Quadraspire Q4 Reference	480	Excellent performance from the school of wobbly racks. Natural sounding and plenty of detail	51.5	49,39.5		4	MDF	217
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49		4	Torlyte	240
68	RA Torlyte Platform	130	This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound	8	48,36		1	Torlyte	302
EC	Townshend VSSS	1,300	The Seismic Sink goes all glassy and attractive, yet retains the same excellent vibration-killing sound quality	76	35,50		4	Glass	273

Our favourite BEST BUY CO EDITOR'S CHOICE

_		E	R STANDS	HEIGHT	TOP PLATE S	77		NUMBER I	ISSUE 1
Speaker stands BADGE? PRODUCT			COMMENTS	HT (CM)	SIZE (CM)	FILLABLE	WELDED	OF LEGS	NUMBER
DAUGE	Anvil Sound Display Stand	226	COMMENTS A variety of smart looks available - sound is clear and precise	50	20,17			1	293
88	Custom Design RS300	110	An attractive stand whose lack coloration and ringing makes suits it to high resolution systems, at a tempting price	56	16.5,18			1	281
	Custom Design SQ402	100	More a range than a model, capable of fine results especially with Acoustic Steel top plates	62	18,16.5	0		2	299
EC	Custom Design SQ404	200	Robust four-pillar design gives very low coloration and maximises performance of speakers great and small	61	18,16.3			4	283
800	Partington Ansa 60	99	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15			4	232

IENT SUPPORTS SPECS NEY HEIGHT Of complete stand. TOP PLATE SIZE (CM) Width by depth of the supporting platform(s). Single figures indicate a square platform.

Partington Dreadnought BS 249 The Dreadnought Broadside is a superb stand for high-class standmount speakers - and it looks great too!

WELDED As opposed to bolt-together construction. NUMBER OF SHELVES To put your kit on (different configurations are often available). SHELF TYPE Material that shelves are made of

SPECKER STANIOS SPECS KEY HEIGHT Of each stand, not including spikes. TOP PLATE SIZE (CM) Width by depth of platform. Single figures indicate a square platform. Speakers generally overhang top plates

399 Robust to the nth degree, this stand helps produce very taut, precise bass and detailed upper frequencies

FILLABLE The stand can be mass-loaded with sand and/or lead to stop ringing. WELDED As opposed to bolt-together construction. NUMBER OF LEGS That support the stand

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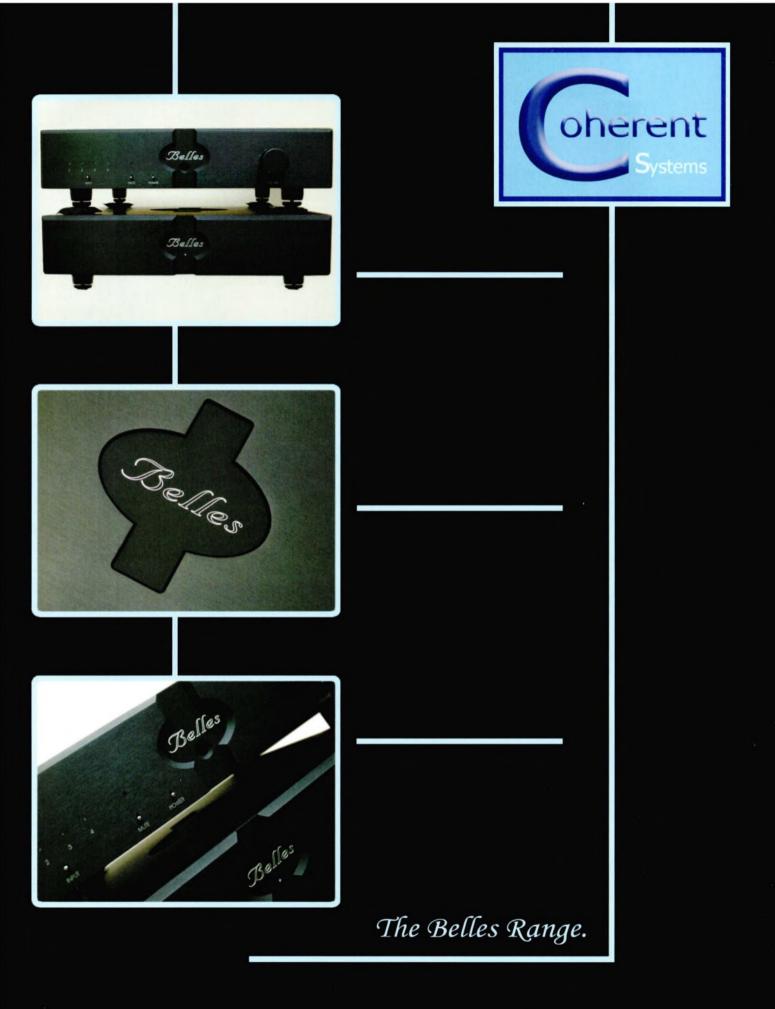
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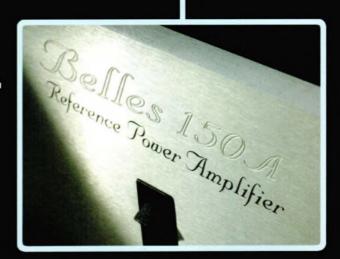


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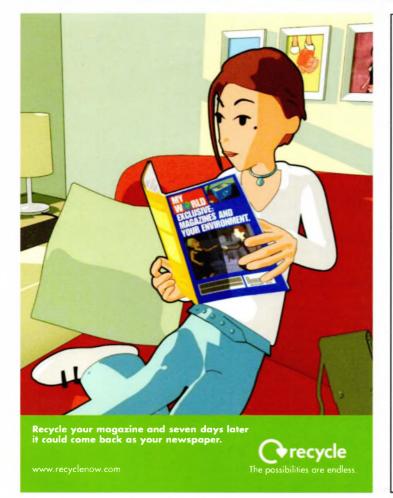
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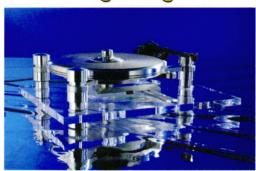
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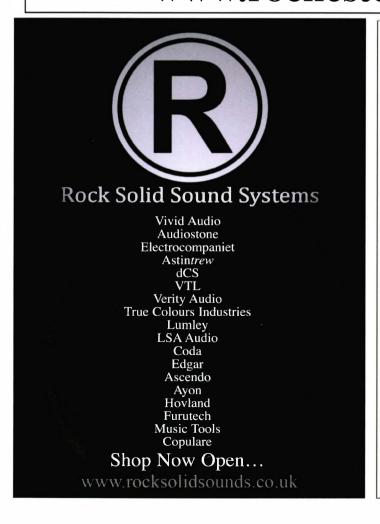
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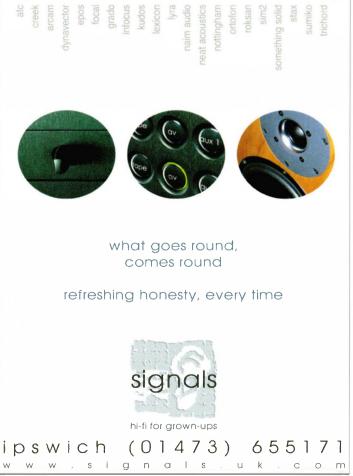


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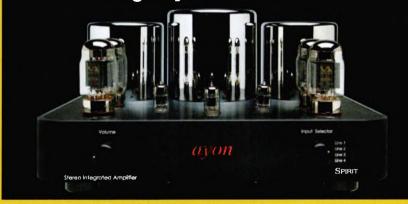
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2nd-hand shootout

Credit crunch got you looking for a second-hand turntable? Look no further...

ne of the best times to buy a secondhand product is just as the new replacement bows in. That way, supply is good as owners trade-up and dealers clear stock. Also, with the advent of a newer, shiner model, prices soften

A good example of such depreciation can be seen with the first of our £1,500 second-hand turntables. Although the Roksan Xerxes 20 was only launched in 2005, it has already been superseded by the "plus" version. Costing around £2,400 new, earlier models now fall within our price range. For this price you'll probably get one with a basic XPS7 power supply (originally £295 extra), but you can upgrade.

As any Naim owner will tell you, upgrading power supplies is one of the best changes you can make. Roksan will oblige with a range of supplies culminating in the £1,100 DX2. Other upgrades range from a TMS3 tungsten carbide bearing (£600) to an upgraded main bearing ball (£15). You can even upgrade the plinth for an additional £275. In short, if you like the idea of a tweakable deck, then the Xerxes 20 fits the bill. Roksan's Xerxes 20 and XPS7 have proved reliable with none of the old worries about sinking plinths. Although the original guarantee was only for two years it is, unlike some, transferable to other owners.

At the time of the Xerxes 20's launch, perhaps its greatest rival came not from homegrown rivals but from across the pond. Costing £2,245 new, the VPI Scoutmaster did, at least, include an arm; the unipivot JMW 9. Rather rare in the UK, but well worth looking out for are versions with the JMW 9 Signature or JPW

10.5i tonearms. The Signature offers Nordost cabling and adjustable damping for a more controlled, weightier sound. The 10.5i is an altogether more unusual beast in that its arm tube is 10-inches long. Although not as well known in the UK as the likes of SME, Linn and Roksan, the VPI shouldn't be ignored. The sound quality is tightly controlled and dynamic, yet grain-free – an ideal combination for long-term enjoyment. Service backup is good, with a fair number of UK retailers stocking the products. However, VPI encourage dealer rather than manufacturer contact, so it's worth being on good terms with your local VPI dealer. With Scoutmasters now available for under £1,000, our budget is enough for a two or three-year-old model, or an older version with a Signature or 10-inch arm.

For something a little more unusual, you may like to check out the Clearaudio Evolution with Tangent arm. This fabulous German turntable was launched in the UK in 2000 and cost around £2,300. What makes it different is the use of a parallel tracking arm. Although rather unpopular, parallel tracking arms do, after all, exactly follow the path gouged by the original



Above: Roksan Xerxes 20: the tweakable deck

watch and medical industries. The Evolution turntable is simpler, but no less well engineered. If anything, the large motor is rather more powerful than it needs to be but, again, this bodes well for long-term durability. One important point is to match the Tangent arm with a high-compliance cartridge. The Clearaudio Sigma is the default choice, but various models from Shure, Lyra and Music Maker are also worth considering. For our budget a good example should still be available, with some of the five-year guarantee remaining.

The SME 10 costs a tad more than the Roksan, but it's a testament to SME's low depreciation that older models are worth more than the Xerxes 20. Even a 1999 model will stretch our budget a couple of hundred quid but, for many, it's a price worth paying. Build quality is the best of the bunch here – and

"Fortunately, the Tangent arm uses precision parts from the watch and medical industries."

cutter. Of course, friction must be low and engineering tolerances tight – a decent parallel tracker doesn't come cheap. Fortunately, the Tangent arm is extremely well engineered and uses precision parts from the

that's saying something when the bunch includes a Clearaudio. There's also the reassurance that SME usually support their products for thirty or forty years. Like the others here, the SME comes without a tonearm. Our budget should be just enough for one fitted with a Rega or older SME arm.

The 10a model came fitted with a special arm derived from the 309. As with the turntable itself, SME arms can literally last a lifetime. Clearly, if you're after a long-term choice, the 10 is the best option here.

Four very different turntables, then, but each with something special to offer. If you're planning to upgrade then the Roksan and VPI offer the greatest scope. The Clearaudio is the most eccentric, but still charming. The SME will probably outlast them all, but isn't the last

word in excitement. The choice is yours. **HFC**Dominic Todd

Next month, tuner bargains



Above: The legendary SME 10

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Above: Cyrus CD8x CD player with PSX-R power supply

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TOTEM ARRO floorstanders. Totem Dreamcatcher centre, Totem Lynx dipole rears, all maple, boxed, mint (£2,400), £1,450. 07891 533084 (W. Glams).

USHER BE 7185 four months old, piano black, pristine condition, awesome sound and build quality, (£1,600) £1,275. 01822 860174/07771 701082 or email brockhillpayne@aol.com (Devon)

VAN DEN HUL CS122 speaker cable with Airloc banana plug connectors both ends, 2x8m lengths, (£10/m) £75. Spare Quad 99 remote control, £25. Spare Primare CDI10 remote control, £25. 023 8073 8935 (Hants).

wanted Audiolab 8000P power amp, 'E' serial number, with manual and box. Also Chord Odyssey 2 speaker cables 2x3m, Chord Chameleon Silver Plus interconnect (RCA) and PMC DB1 speaker wall brackets. 01234 302769 (Beds)

wanted Cambridge P40 amp (black) 1987, Dual System 2 (Separates from 1982), Marantz HD445 speakers. 01554 752275, between 12-1 pm (Dyfed).

WANTED Music library, LPs and 10" records from the 1960s and 1970s and related catalogues. 07807 866672 (Northants).

WANTED Top-quality hi-fi seperates and complete systems: Naim, Linn, Cyrus, Meridian, Arcam etc. Fast, friendly response and willing to travel/pay cash. 07815 892458 (Essex)

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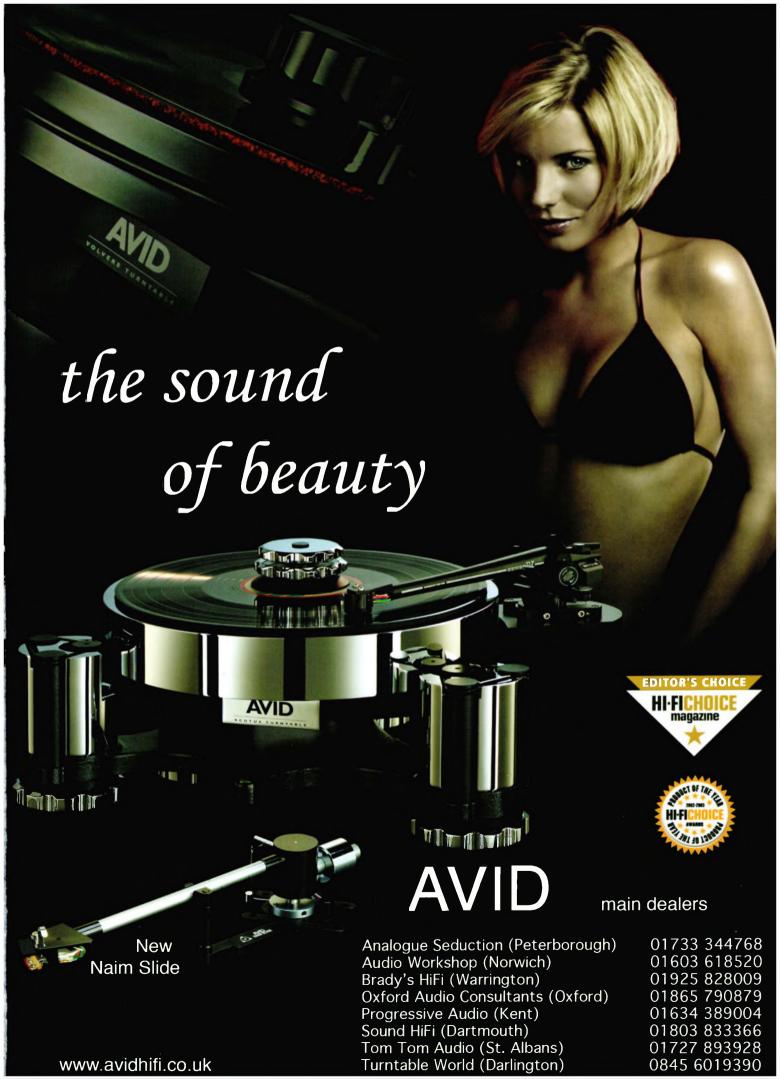
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