

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.

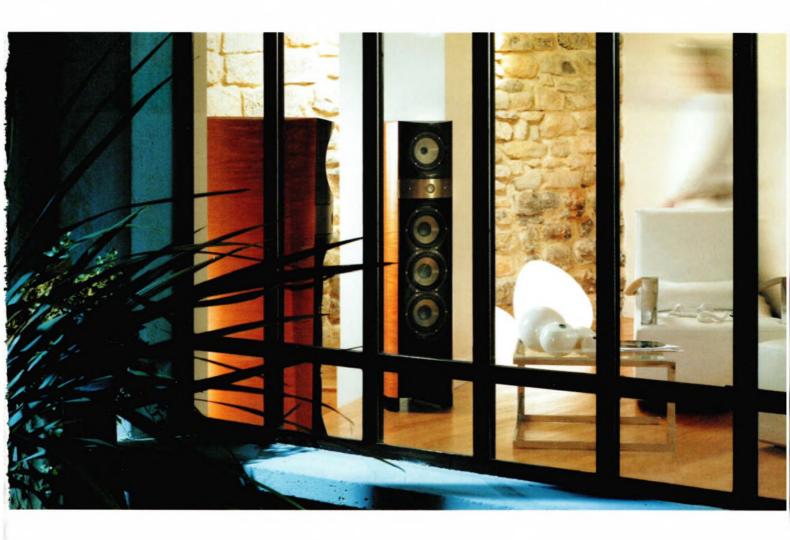
A new tweeter; an AL/Mg alloy unit in place of the exotic beryllium dome, anda simpler finish choice of Classic (left) or Macassar Ebony.

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

Simple.

Focal JMLab UK 0845 660 2680 info@focal-uk.com www.focal-uk.com

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 results are astounding".....

"The Focal Electra 1037Be offers superb measured performance.... That on-room response, one of the best I

- " 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





3 very exciting new performers from... In this has





McIntosh is one of the worlds most revered brands and nothing else can compare with it's unique mixture of visual image and organic sound.

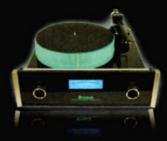
Already well established in the UK, the McIntosh brand is enjoying a remarkable renaissance partly due to it's exclusivity and part through new distribution and five star customer support. All McIntosh products are historically compatible and to this day, earlier models are still highly sort after.

Whether an existing or new customer to the brand, buy McIntosh with complete confidence now and for the future.

MT10

Precision Turntable

- Belt Drive
- Moving Coil Cartridge
- Precision Motor and Drive Electronics
- Illuminated Speed Meter



C2300

Tube Preamplifier

- Two Phono Inputs MM and MC
- Bass, Treble & Mono Settings Storable in Memory for Each Input
- Seven Inputs and Three Power Amps are Supported
- Angled Tubes are Visible from the Top Through a Window



MA7000

Integrated Amp

- Exclusive McIntosh Power Assurance
 System
- High Output Current Capability
- Wide Bandwidth
- Fiber-Optic Illuminated Front Panel
- 1/4" Headphone Jack



market leaders uk

McIntosh is distributed in the UK by Market Leaders UK.
Visit: www.marketleadersuk.org

Welcome to the issue ...

HI-FICHOICE APRIL 2008 ISSUE 305

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



You're holding something of a landmark issue this month. For the first time in the magazine's history, *HFC* 305 includes a review for an iPodrelated product! And who better to exploit the little music player than Krell? In our review on p40, Krell's UK distributor, Absolute Sounds,

has partnered the new KID (Krell Interface Dock) with a pair of active MartinLogan electrostatics and the results are simply amazing. Whilst the ElectroKID system will never be the sole set-up in *Hi-Fi Choice* readers' homes, it makes a fascinating second system and challenges the tired belief that iPods have no relevance to the hi-fi connoisseur.

But, if you're the type who'll skip these four glorious review pages, there's plenty of purist content elsewhere in the issue to keep you happy. Highlights this month include Naim's NAIT 5i, which can finally be described as an 'all-rounder', making an excellent starting point in Naim ownership. Elsewhere, HFC's own Paul Messenger has been rather taken with Gamut's new floorstanding Phi5. Waxing lyrical on this bold-looking newcomer, Paul has slapped five precious stars on the tempting tower, which is a no-nonsense performer of the highest calibre.

Finally, we've been heating up *HFC* towers with six of the woOrld's finest valve amps in our *Ultimate Group Test*. If you've been tempted (again!) by the charm of tubes, turn straight to p64 to find out just who has the most to offer. Our blind listening panel's expertise has once again taken the legwork out of buying new hi-fi, follow our tips and you simply can't go wrong.



Dan George Editor

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

- Since 1975, Hi-Fi Choice has delivered the world's most thorough, no-nonsense guide 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

Beautiful in-house photography, so you see the product in all its glory

Cherry picked kit -- only ---

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 hi-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



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



Former editor of FIFF Review magazine, Malcolm was one of the best known and most outspoken reviewers of the 1980s and 1990s. He currently edits hi-fi industry bible The Battish Audio Journal.



Alvin has been writing about his obsession for more than 20 years in that time he has contributed his encyclopaedic knowledge to almost every hirf periodical you can think of (and several more hes des).



Alan began his journalistic career in the early 1990s. Now a successful freelancer, you too can benefit from his extensive hi-fi knowledge, 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





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- Heed Questar MC
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ULTIMATE GROUP TEST

VALVE AMPLIFIERS £1,500-£2,500

- Ayon Spirit
- Copland CTA405
- Icon Audio Stereo 60 Mk2
- Melody Astro Black 50
- Pathos Classic One Mk3
- Unison Research Preludio

BUYER'S BIBLE

SOURCE COMPONENTS CD players

DVD players

Radio tuners

Vinyl

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

- **AMPLIFIERS** 100 Stereo amps
- 102 AV amps

LOUDSPEAKERS

- 104 Stereo speakers
- 109 Subwoofers

ANCILLARIES

- Headphones
- Cables
- Stands and supports

PRE-LOVED GEMS

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

- 123 2nd-hand shootout this issue, loudspeakers under £3,000
- 128 Readers classifieds

READER SERVICES

Our regular information service, including our official accessories store and latest subscription offer

- 80 How to subscribe
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tor de nodes avoidable

CLASSIC HI-FI SERIES



QC-twentyfour Valve line-only Pre amp



QC-24P Valve phono stage



II-classic 15W Valve mono power amp



II-forty 40W Valve mono power amp

"I know of no other speaker I'd rather own, regardless of price."

– Sam Tellig Stereophile Magazine



FOR THE TRUE MUSIC LOVER..



QUAD

Performance Series

For many customers, buying their first Quad product is a life-changing experience. Quite unlike most hi-fi companies, Quad products are designed to open a window on a recording—to reveal the natural texture and detail without imposing any character of their own.

Classic Series

This is no nostalgic nod to the past. Beneath the beautiful exterior of each product lies a powerful and superbly musical interior – critically acclaimed throughout the world as the finest in its class.

Reference Series

The new ESL-2805 and ESL-2905 Electrostatics are Quad's latest reference loudspeakers and like their predecessors should be regarded amongst the finest loudspeakers in the world today. In areas such as transparency, and lack of colouration, they are without peer.

Tel: +44 (0) 1435 865 212, Fax: +44 (0) 1435 865 213, www.sounds-of-music.co.uk



NEW PRODUCT SPOTLIGHT

ARCAM FMJ MS250

It has been four years in the making. The new MS250 from the FMJ series - the first-ever music server product from Cambridge-based hi-fi expert Arcam - must surely rank as one of the most significant product launches for the company since the Solo all-in-one system.

At the heart of the MS250 is essentially the meeting of audiophile-grade CD player with state-of-the-art music computer, complete with huge 400GB hard disk drive. That allows the server to swallow up to 640 uncompressed CDs, or as much as 80,000 songs in one of the many compressed audio

formats it supports. It even has the ability to simultaneously play in four zones, each one with its own independent music tracks.

To find out more, see our exclusive in-depth review in the next issue of Hi-Fi Choice

PRODUCT Arcam FMJ MS250

TYPE Music server

PRICE £3 000

KEY FEATURES Audiophile-grade CD replay stage 400CB hard drive • 640-disc storage capacity



A new star is born





Each year the European Imaging & Sound Association (EISA) assembles a panel of expert judges from some of the continent's leading hi-fi press to investigate the world's finest technology.

After rigorous evaluation they return to vote on one product in each category that they believe offers not only exceptional levels of performance but also provides incredible value. This year they chose the Cambridge Audio Azur 840A Class XD integrated amplifier.

"...a genuinely novel approach... a highly sophisticated, efficient and attractive-sounding amplifier" EISA CITATION







To find your nearest approved Cambridge Audio specialist, read extensive reviews and more, visit: www.cambridge-audio.com



NAD C355BEE INTEGRATED AMPLIFIER

Shaking up the budget amp sector in the next issue of *Hi-Fi Choice* will be NAD's new £400 integrated, the C355BEE.

The new BEE newcomer (the suffix comes from Bjorn-Erik Edvardsen, NAD's director of advanced development and designer of the classic 3020 amplifier) takes the strengths of the well received C352 amplifier and mixes in a sprinkling of the high-tech approach of the NAD Masters Series M3 amplifier. The result, it is claimed, delivers a upturn in performance that must be heard!

Turning in a healthy 80 watts per channel, the seven-line-input C355BEE also features

NAD's proprietary PowerDrive and distortion-cancelling circuitry.

To find out more, see our in-depth review in the next issue of Hi-Fi Choice

PRODUCT NAD C355BEE

TYPE Integrated amplifier

PRICE £400

KEY FEATURES Seven line inputs © 80 watts per channel © Front panel 'media player' mini-jack input © Tone controls with full defeat switch

RS232 and other custom install connections

CONTACT 22 01279 501111

@ www.nadelectronics.com



infile

NEW PRODUCT HIGHLIGHTS

RAYLEE REDKITE AND OTTER

Eccentric designer Hughley Dudwood has produced a range of custom-designed Eccentric designer magnicy badings.

| loudspeakers in the shape of classic sci-fi cyber-characters.

The new company - named after

Dudwood's two favourite dead quitarists, Stevie Ray Vaughan and Arthur Lee – are highly eco-friendly, being made of 100 per cent biodegradable bat quano (the products themselves are named after endangered species). The Raylee Redkite (right) is a



two-way standmount in the shape of the robot from Lost In Space, while the Raylee Otter (left) is an omni-directional Dalek-shaped floorstander, where each one of the small spheres contains a 75mm fabric dome midrange drive unit, arranged in the distinctive 2-4-5-T layout first used by guitar amp maker Orange

Other projects in the pipeline include the R2-D2-shaped Vole subwoofer, the Corncrake centre channel speaker, which is claimed to look like the Huey, Dewey and Louie 'Drones' from cult eco-sci-fi 70s flick Silent Running and the Hippo surround speaker, that looks a lot like Jean-Claude Van Damme in Universal Soldier. Price from £1,500 per pair Due now № 020 7555 2368 # www.tolodeabril.com

NAD VISO FIVE

In a bit of a departure for the brand, NAD has announced the Viso Five CD/DVD Surround receiver, or "command centre" according to the press release. The compact system combines CD/DVD player, AM/FM tuner, iPod and XM satellite radio connectivity and full 5.1 channel output. It can even upscale the DVD replay to 1080i high definition through its HDMI port.

Despite the small footprint, the Viso Five will feature full 24-bit/96kHz resolution DACs in all channels, with all the usual DVD-grade Dolby Digital and DTS decoders, plus NAD's exclusive EARS (Enhanced Ambience Retrieval System) mode, which enhances twochannel audio sources when played through a surround sound system.

The Viso Five also sports a module to accept XM Radio. Unfortunately, unless you live in North America, this is not much use. However, the Viso Five also accepts NAD's upcoming DB-1 DAB module (expected to cost £120) and also NAD's own iPod docking system, the IPD-1.

Price £900 Due now ≥ 01279 501111 @ www.nadelectronics.com



TEAC LP-R400

TEAC has reinvented the music centre with the £299 LP-R400 system. Combining turntable, CD recorder and AM/FM tuner, the LP-R400 even sports two 70mm 'full range' drive units, each powered by a 3.5-watt amplifier. Reminiscent of the Dansette player adorning every teenager's floor for a generation, the record deck section can play at 33, 45 and 78 rpm and the output of the vinyl spinner can be recorded through the CD section. The recorder also offers a useful track increment facility while recording, so no more having to stop the recording for every track. So far only seen in black, we'd love to see one in bakelite, cream plastic and red vinyl, with a gold grille, for that true 1950's appeal.

Price £299 Due now ☎ 01923 819630



EPOS MI SERIES

Epos Acoustics has revised its popular M series loudspeakers. Comprising two standmounts (the M5i and M12i), two floorstanders (the M16i and M22i,

both with built-in plinths) and a centre speaker (the £350 M8i). The M subwoofer currently remains unchanged.

From the outside, the products have been subtly cleaned up to eliminate the grooves in the front baffle and large radius edges and the traditional metal grilles have been replaced with more sonically friendly cloth designs. Similar

innovations have extended to the drive units, with an anodised silver tweeter replacing the gold of the previous series and improved voice coils, cones and surrounds, while the crossovers have been extensively redesigned and now sport all-film capacitors in the mid and treble sections. Even the input terminals have been improved. We hope to be testing Epos' new Mi models soon. Price From £425 (M5i) to £1,100 (M22i) per pair **Due** now

BRENNAN JB7

The new JB7 music server from Brennan is a small music server that is designed to rip and store CDs without need to connect to a computer. Available with a 40GB or 80GB internal hard disk drive, the JB7 combines CD player, server and even alarm clock and a 60-watt amplifier. The JB7 is designed with the emphasis on ease of use, with one-touch

MP3 encoding at 128, 192 or 320kbps. Lossless FLAC data compression is also available. At normal MP3 compression rates, the 80GB disc can hold up to 600 CDs. Despite having a footprint of just 16x22cm, the JB7 has a chassis made up of 1.6kq of steel and aluminium.

The Jukebox is available direct from the company's website and can also be supplied with a matching pair of BSP 50 standmount, two-way loudspeakers for an additional £59.

Price £299 (40GB) and £319 (80GB) **Due** now **2** 01638 615117 ⊕ www.3ga.org.uk

TANNOY REVOLUTION SIGNATURE

Tannoy's new
Revolution Signature
loudspeakers comprise two
standmounts (the DC4
and DC6), two floorstanders (the DC4T and
DC6T) and two centre
channel speakers (the
DC4 LCR and DC6 LCR).
The principle difference
between the DC4 and DC6
is that the DC4 uses
100mm (four-inch) drive



units to the DC6's 150mm (six-inch) drivers. Featuring Tannoy's Dual Concentric drive units with wideband titanium tweeters, the Revolution range utilise a new ultra-rigid, curved-wall cabinet. The slim profile cabinets – finished in Light Oak or dark Espresso veneers – house a cleverly designed crossover, oxygen-free wiring and that distinctive five-connector earthed bi-wire terminal block throughout. **Price** From £600 (DC4) to £1,000 (DC6T) per pair

Due now **☎** 01236 420199 **⊕** www.tannoy-speakers.com

WILSON BENESCH NANOTUBE ONE

Carbon fibre expert Wilson Benesch's latest tonearm uses carbon nanotubes in place of the regular fibres; sounding like something out of *Star Trek*, nanotubes are hollow cylindrical lattices of carbon atoms some 50,000 times thinner than a human hair, but with a tensile strength 50x greater than steel. Used as a tonearm tube, this is expected to offer improved stiffness and damping, which should make the arm less audible than previous designs. The Nanotube One also has a redesigned counterbalance to better accommodate the carbon nanotube arm technology. Wilson Benesch suggest this arm allows very high degrees of control, with VTA adjustments of as little as 1/100th of a milimetre.





Cool. Musical Fidelity could call this one 'The Rebirth of the Hot'. Yes, the

Musical Fidelity A1 integrated amplifier is back after a

long, hot holiday. This hot-running 30-watt Class A classic integrated amp now sports a USB input alongside the usual collection of line and MM phono sockets. It also now sports an LCD display and a remote control, and the company claims the build quality is a 'substantial step up' from the original A1. It shares the same classic Musical Fidelity case with bold, black lines, albeit in a refined, 21st Century form.

With Musical Fidelity's recent statements about power (the company has also announced a beefy 750K supercharger to work alongside the existing 550K), the website lists the A1 as being perfect with loudspeakers of 92dB or greater sensitivity. A matching CD player (the A1 CD Pro 2) is anticipated soon **Price** £999 **Due** April 20 020 8900 2866 # www.musicalfidelity.com

Soundbites

MAVROS interconnect and speaker cable system is the new flagship design from Atlas Cables. With about the purest copper you can find – 6N (99.9999% pure), which equates to one imperfection in every 700 feet of cable – Atlas claims best-ever high-frequency signal velocity and integrity. Prices start at £750

for a one metre pair of interconnects, while a 3m terminated pair of speaker cables will set you back £1,390.
201563 572666



YES it's pretty far from hi-fi, but if you have a local infestation of computer gamers, the endless wails, shotgun reports and cries of 'impressive' from their Quake-filled computer screens can get wearing. Here's the solution: Sennheiser has launched the PC 350 headset, which combines closed headphones, microphone and even noise cancellation, to screen out those who aren't playing. £150 buys the gamer in your life inhead entertainment.

NAD introduces its first 'custom dock' the IPD-1. Designed for the ubiquitous Apple iPod, the E70 IPD-1 features a universal iPod dock, which supports audio and video and can charge the iPod batteries. When connected to key NAD products, the IPD-1 allows iPod navigation on a TV screen through the NAD onscreen menu system. Currently, this works with NAD's T 785.

T 775, T 765 and T 755 A/V Receivers, and T 175 Preamp-

2 01494 551551

TANCENT has returned to the UK (thanks to Sennheiser) with its new Cinque table radio. Available in two versions – FM-only for £190 or DAB/FM for £240 – the Cinque includes a slot-loading CD drive and a 3.5mm socket for MP3 players. The unit comes in four colour solid wood sleeves (walnut or high gloss red, white or black) with a contrasting light or dark grey front panel.

② 01494 551551

ESCIENT's Vision VS2000 system is a new media server system, designed mostly for video work, but can be used as a massive audio storage system, too. The three black boxes comprise VS100 or VS200 CD/DVD server/player, the VC-1 networked zone player and the VX-600 media server, that can hold up to four 1TB drives in a

RAID 5 configuration. Prices start from £1,499 for the VC-1.

☑ 01753 680023



audiofile

HAPPENINGS



THIS MONTH, HEC TALKS TO

DAVID PATCHING
Job Title: Director of
Marketing (Hi-Fi)
Company: International Audio
Group



What is your most exciting product currently in development?

The new Audiolab server. It has all the functionality of a full Media Centre, allowing you to store all your CDs, movies, home videos, digital photos, watch and record television – and with the quality you'd expect from a whole range of top-end sources.

What is the future of hi-fi in the home? For some it will always be high quality two-channel analogue. It's a strong niche and gives great pleasure to the purist, but for the general market the future is most definitely based around a central server with client players networked around the home.

Can 'Generalize iPod' be turned on to hi-fi?' Absolutely. For consumers, it was worth sacrificing the quality for the convenience – now there is no need to make the same compromise. It's an uphill battle though and really will only work once software vendors such as iTunes begin to positively promote uncompressed alternatives

What type of products really excite you? Without a doubt, it's the loudspeaker. True genius is evident in some of the world's best designs. Because of the huge variety of ways one can take electrical energy and change it to kinetic energy, it's the last refuge for the truly creative inventor.

Sleek's audio fingerprint

Sleek Audio has developed an in-ear monitor that it claims allows the user to customise the sound to suit their "audio fingerprint". By offering interchangeable treble and bass ports on the SA6 earphone, Sleek suggests that users can adjust tonal balance to suit the tastes of every end user. The company's premise is that everyone hears music differently, due to variations in the diameter and depth of the ear canal. So the SA6 combines loudspeaker and hearing aid technology in an effort to offer a better listening experience. The SA6 inear monitor is offered for \$250 a pair and has noise cancelling ESC (environmental sound control) properties, as well as detachable swivel cables.



The first generation of Blu-ray players will not be able to access features being added to new and forthcoming discs. Things like PiP (picture in picture) and dual audio tracks for director's commentary are part of the new Profile 1.1, also dubbed BonusView and Full Profile, but existing players cannot be upgraded to this standard. There is also another standard on its way, Profile 2, which will add internet interactivity. The only current machine that will be able to take advantage of it, however, is Sony's PS3 games

console, which was upgraded to Profile 1.1 in January. More interesting is a rumoured Profile 3.0 which will include the potential for uncompressed hi-res multichannel sound. All it needs is record company backing.



Lossiess AAC

⇒Fraunhofer IIS, the creator of MP3, has come up with a lossless variation of its AAC music storage format. HD-AAC is a means of storing 24-bit/96kHz bit music data, that remains compatible with AAC and can be played on MP3 personal stereos and HDD music servers. It will also allow PC users to back up entire music collections, without compromising sound quality. Other lossless systems currently exist, with Meridian's MLP being one of the better known, but they do not have the broad compatibility offered by HD-AAC's AAC-LC core layer.

HD-AAC also has the potential to offer download quality that betters CD, whether the record companies are willing to back such a move is of course another matter.



➢ Hi-Fi Diary

MARCH

29-30 High End Prague

Corinthia Towers, Prague www.high-end-praha.cz Leading Czech high-end show

29-30 The Heathrow High Fidelity Show Park Inn, Heathrow www.chestergroup.org London's earliest Heathrow hi-fi show

APRIL

24-27 High End 2007

Munich Operating Centre, Munich www.highendsociety.de Euro high-end hi-fi show

A true Reference

♠ Reference Recordings, which pioneered the HDCD process, has launched an alternative means of getting higher quality digital audio to the computer oriented music lover. Its HRx format is a WAV file of a digit-for-digit copy of a Reference Recordings 176.4kHz/24-bit digital master. This is supplied on a DVD-R disc for the user to upload onto a music server. According to Reference Recordings VP Marcia Martin "...it has finally become possible, and practical, to offer the incredible sound we've been hearing all these years on the original masters."

As yet, no pricing details have been released for HRx discs and the option to offer the material as a download also remains on the cards. The company has not forgotten the analogue enthusiast, however, and is planning to issue vinyl records later this year.



B&O boots CEO

SFalling share prices and reduced profits at Bang & Olufsen have resulted in the company ousting its CEO Torben Sørensen. The Danish company stated that disappointing development of the Group's turnover had contributed to its decision to change top-level management. In fact, it suffered a 37 per cent fall in profits, resulting in nearly a third being

> knocked off its market value. In the UK alone, sales dropped by six





JIMMY'S TWEAKS #58

HANDY HINTS FROM JIMMY HUGHES - HI-FI'S SUPER TWEAKER



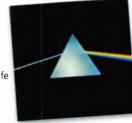
Dress those cables

The two most significant improvemens can be heard by making sure your mains leads and interconnect cables are not close together (if their paths cross, make sure they cross at right angles, rather than having them intertwined) and preventing the speaker cables from forming small inductance loops.

not been announced.

As you should have the same length of speaker cable for both channels, you can often get one side with excess cable; carefully lay this in a figure-of-eight shape instead of a coil. You can secure it with a cable tie or two if you like. Granted, you need many, many metres of cable laid in a coil for its inductance to markedly influence the sound of your system, but on a more esoteric and subtle level, properly dressed cables don't just look good, but improve performance too.

- 1. Pink Floyd - Dark Side of the Moon
- Joni Mitchell Blue
- Led Zeppelin Physical Graffiti
- 4. Television Marquee Moon
- 5. Yes Fragile
- **6.** Stevie Wonder Songs in the Key of Life
- 7. The Rolling Stones Exile on Main St
- 8. The Clash London Calling
- **9.** Marvin Gaye What's Going On
- 10. Mike Oldfield Tubular Bells



New Music

IN THE STUDIO

ARTISTS RECENTLY ABSENT FROM THE CUT AND THRUST OF SHOWBIZ HYPE DUE TO FINISHING THEIR LATEST ALBUMS



Title: tbc Due: late 2008

Expect a few surprises on U2's follow-up to 2004's How To Dismantle An Atomic Bomb, according to Bono. After exploratory sessions in Morocco, the band has been recording in France with producers Brian Eno and Daniel Lanois. "There's some trance influences. But there's some very hardcore quitar Real molten metal. It's not like anything we've done before," says the singer, who adds the band has enough material for two albums

THE BLACK CROWES

Title: Warpaint

Due: March

The first album of new studio material in seven years from the American roots-rockers finds new recruit Luther Dickinson formerly of the North Mississippi Allstars on guitar. Recorded in Woodstock, the album is described as "a classic Crowes mix of rock. blues, country and soul," featuring ten new songs written by brothers Chris and Rich Robinson, plus a cover of the gospel standard God's Got It.

MARIANNE FAITHFULL

Title: tbc

Due: April/ May

After making a full recovery from breast cancer, Faithfull went into a New York studio before Christmas to begin work on the follow-up to 2005's Before The Poison. Produced by Hal Willner, who helmed her 1987 album Strange Weather and featuring Marc Ribot on guitar, it's said to be a blues album - which given her ravaged tones makes perfect sense.

MADONNA Title: Licorice

Due: April

Having signed a new 120 million dollar, ten year deal with Live Nation Inc, Madonna



has been in an LA studio working on tracks for her new album with a raft of heavyweight hip-hop collaborators including Kanye West, Pharell Williams of the Neptunes and Timbaland. "It makes the speakers bleed. It's hot," according to a somewhat over-excited Williams

BOB DYLAN & JACK WHITE Ttile: tbc

Due: late 2008

Bob Dylan is reportedly coordinating the completion of a series of songs left unfinished by country legend Hank Williams. Among the musicians he's approached is Jack White, who has recorded a 'finished' version of the incomplete Williams song You Know That I Know at Nashville's Blackbird Studios. Sounds like it should be a treat.

ALSO COMING SOON... JAZZ/ CLASSICAL

Hilary Hahn Sibelius/Schoenberg Violin Concerti (Mar), McCreesh/ Gabrieli Consort Haydn The Creation (Mar), Marian McPartland Twilight World (Mar), Karin Allyson Imagina (Mar)

SACD/ DVD-A Lisbeth Scott Charmed (DVD-A, Mar), The Pixies Doolittle (SACD, Mar), Hugh Masekela Hope (SACD, Mar), Rickie Lee Jones It's Like This (SACD, Mar), Barb Jungr Just Like a Woman (SACD, Mar)

DISPATCHES





Seeing music

What does your sound look like?

ne of the biggest differences between listening to music on a system and the live experience is purely visual. In the concert hall, you watch the musicians who are producing the music and make a subconscious link between what you see them do and what you hear. At home, there is only a space between the speakers that might be filled with a hi-fi system, a picture or maybe a window but nothing that resembles musicians playing.

This difference has to affect our perception of the sound and for that matter its ultimate quality. I personally find it quite distracting watching musicians and, to get the most out of the live experience, frequently close my eyes so that I can enjoy the audio in isolation. This is why so many people buy massive plasma screens but don't bother with similar quality sound systems, the picture is far more significant. On the other hand when there is a trailer on the TV for something disinteresting and they play great music behind it I get quite excited by the music and realise that I should

"I find it distracting watching musicians and, to get the most out of the live experience, frequently close my eyes so that I can enjoy the audio in isolation."

really be playing records and not watching some dross on the box. The BBC were using Led Zeppelin's *Misty Mountain Hop* for something recently, so it's amazing what a well received reunion gig can do!

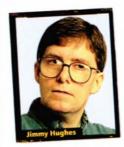
But to get back to the point, what we see has a bearing on our experience and on the sound quality, so try dousing all the lights in the room to create a visually unstimulating environment in which to fully concentrate on the sound. I've tried this and it works, at least until you want to change the CD and trip over the cat on the way to the player. Low brightness, low level lighting seems the best compromise allowing you to find the next bit of software, while keeping visual stimulus to a minimum.

An alternative approach which seems to benefit musical appreciation is to do something mildly while listening. I find that I often hear the music better, because the sound quality is less of an issue. Being distracted by the quality may well be a result of my job, however, and hopefully not something that affects too many in the audiophile universe. Nowhere is it more apparent than in record shops, or at least those with decent enough systems to play the music reasonably loud without it sounding too painful. Of course, it won't necessarily be the same at home where the extra resolution and the heightened

concentration reveals less appealing qualities that were not obvious before.

What it all boils down to is try to see what you are hearing, if this comes naturally to you then think yourself lucky, the rest of us have to work at it.

began working on Hi-Fi Choice over 15 years ago, eventually rising to the position of Editor. He's currently indulging in his passion as a freelance hi-fi writer



Hearing pictures

Does being an Audiophile and Music lover go hand in hand?

f you're interested in sound quality, you can't help but notice how things sound. It doesn't matter whether the sound is good or bad; the point is, it draws your attention. And this can act as a barrier to the music.

Of course, since the birth of hi-fi, there have always been plenty of people whose key interests have inclined more towards engineering and the technical aspects of sound reproduction, rather than listening to music for its deeper spiritual values.

Sir Thomas Beecham's famous *Bon Mat* about not appreciating music, but loving the noise it makes, sums up the matter perfectly. The aural illusion of being present at a live musical event in a large hall when you're actually at home sitting on your couch, is an amazing incredible experience. However, it's not quite the same as listening to music and losing yourself in it.

In order to do that, you have to 'forget' about sound altogether. As soon as you find yourself noticing things like stereo width and depth, or soundstaging, you're sunk. To become engrossed in the music you have to let go of all this stuff

That new CD player or set of expensive loudspeaker cables you just bought might make a huge difference. But ask yourself; can you simply concentrate on the music rather than on how it sounds?

There's something of a paradox here. The more detailed and dynamic your hi-fi sounds – the wider the bandwidth, etc – the more likely your attention will be taken away from the music. The very qualities that result in better sound, also act as a distraction.

Speaking personally, I find something similar occurs when I read a book. At some point I cease reading words and 'see' pictures or images in my mind. If, however, the book has illustrations, this doesn't happen. Having pictures brings you back to the conscious reality of reading text.

Listening to music can do the same. And listening via hi-fi may bring you closer to the inner essence of the music than hearing it live. At a live event there are lots of visual and aural distractions – from someone coughing in the audience, to seeing things happening on stage – and these prevent you from having a spiritual one-to-one with the music.

For this reason, I often close my eyes at concerts to concentrate on the music better. Music and Performance are two separate things. Enjoying a performance is not the same as understanding music and penetrating its inner core.

Of course, good sound is very important. Bad sound can distract too. But how ironic that, as hi-fi gets better and more realistic, it also risks puncturing the very reality it seeks to create...

best known hi-fi experts. His knowledge of tweaking and his record collection know no bounds



HI-FI REVISITED

LS3/5A LOUDSPEAKER

The BBC has (well... had) an enviable reputation for churning out people from its Research and Design Departments that made a name for themselves in the hi-fi industry.

Spendor, Harbeth and, more recently, Leema are all companies founded by ex-BBC engineers. The same applies to BBC equipment with the most obvious connection to the Beeb being its LS3/5a speaker.

It was originally designed as a small monitor loudspeaker for outside broadcast trucks, because – something that seems remarkable today – no such product existed at the time.

The beauty of the LS3/5a was its interchangability – the BBC demanded that the product be so tight on tolerance that if one loudspeaker was damaged, it could be replaced without any need for pair-matching. At the time, such consistency (matched to within 1dB against the reference pair) was unheard of. In essence, all mini-monitors, whether in studios or in living rooms, are mere footnotes to the LS3/5a. That said, there are some exceptional footnotes...

Although the LS3/5a brief was consistency, the speaker did not remain unchanged throughout its long life (the first models were released in 1974 and was still in production a quarter of a century later). The speaker's crossover was originally a 15ohm design, but this was soon changed to an 11ohm load. There were also slight variations in terms of the thin-wall cabinet material, with a handful of lacquered versions that technically put the speaker outside the original BBC specification.

Although subsequent speaker development highlighted some of the limitations of the design (it has a tendency to make a piano sound too rich, while deep bass and high volumes were never really possible), the LS3/5a was a paragon of neutrality at the time and still represents a tough act to beat, especially on vocals.

Attempts have been made to improve upon the LS3/5a basic design. Late in the day, Rogers developed a stand-cum-subwoofer, the AB1, that extended the bass, but arguably at the expense of the imagery.



"...the LS3/5a was a paragon of neutrality and still represents a tough act to beat..."

The LS3/5a loudspeaker is, perhaps, best associated with Rogers, which was said to have sold around 50,000 pairs. It was not the only company to produce the LS3/5a, however. Manufacturers bought a license to produce the loudspeaker from the BBC, and Audiomaster, Chartwell, Goodmans, Harbeth, KEF and Spendor also produced models.

Things have moved on a lot since 1974. The KEF T27 tweeter and B110 bass driver used in the LS3/5a are long gone, although the products can be reconed and repaired by specialists. Stirling Broadcast has produced an effective v2 (sanctioned by the BBC) that uses SEAS and ScanSpeak drivers in place of the KEF originals. And both Harbeth and Spendor (Dudley Harwood of Harbeth being one of the original design team) produce products that retain a lot of the original LS3/5a DNA.

For many though, the little LS3/5a remains unchallenged and the speaker still has a cult following. Products command high resale values to this day, with early Rogers models (that sport a little gold logo) and Chartwell models achieving remarkably high prices.

Back in 2005, a pair of the very rare rosewood Chartwell LS3/5a sold for £1,290 on eBay... not bad for a pair of speakers that originally sold for less than £170 per pair 30 years ago. HFC

Alan Sircom







By postThe dangers of buying your hi-fi via email

Browse almost any high-end hi-fi manufacturer's website and you'll find a warning. The warning is not that an addiction to high-end hi-fi can damage your wealth (which it can) but a warning of the perils of buying such hi-fi online. Whilst the cynics amongst us may feel that this is simply a ploy to ensure that price cutting non-authorised dealers are effectively demonised, the warnings really should be heeded.

I've heard first hand of people who've had their fingers burnt in trying to get hold of that high-end bargain. The usual problems stem from buying abroad using internet auction sites. You're likely to be hit either with an unexpected bill for import duty or the unit will be faulty in some way. I recently heard from a chap who thought he'd got a bargain when he

"Of course, as readers of this magazine, we'd all like to think that we'd be pretty weary of the perils of buying second-hand hi-fi."

found a very prestigious second-hand DAC for £800 in America – around half the typical UK price. The DAC was shipped over only to be found faulty on receipt. A flurry of emails and calls followed only for the buyer to find he had very limited protection of around £150 as the postage hadn't been fully insured. Not surprisingly, the seller wasn't interested. Upon contacting the manufacturer, it was found that the necessary repair meant a new board and power supply that effectively meant the total cost of the DAC would now be slightly more than had it been bought from a UK dealer.

Of course, as readers of this magazine, we'd all like to think that we'd be pretty weary of the perils of buying second-hand hi-fi. Yet, the lure of a second-hand bargain should never be underestimated. I was recently reminded of this myself. The product in question was a slightly scruffy Linn Movie Classik of around 2003 vintage. It had cost around £2,000 new and, if memory served me right, was a sweet little thing let down only be its limited video outputs. OK, so it's not quite 'real hi-fi', but as

a second, sitting room system, it would be perfect – especially for the £100 being asked. So, I got the Linn and gave it a spin. All was well, until after a couple of CDs through, the fan cut in. Being such a compact device, the fan is a necessary evil. Yet the noise it made I found unacceptably distracting. There was no way I could relax with the Movie Classik as I'd be perched on the end of my seat just waiting for the fan to kick in! There was no other option; it had to go back. Fortunately for me, a return wasn't a problem. Had I bought from elsewhere, I may not have been so lucky.

The moral of the tale, was that I should have remembered the wise words of generations of hi-fi enthusiasts and listened to the hi-fi before buying it. No matter how simple the hi-fi may be, or how much of a bargain it is, a thorough demonstration is still the only way to guarantee peace of mind.

Dominie Todd began his hi-fi career in the retail business and has been a freelance hi-fi reviewer and columnist since 1993



The heat is on...Energy-quzzling hi-fi monsters

ou may wonder what the threat of climate change can possibly have to do with the design of a hi-fi system, but if we are being forced to save a few watts from each of our light bulbs then sooner or later the low-energy spotlight will fall onto that stack of boxes in our listening rooms. Music systems have never had energy efficiency as a design criteria and, indeed, in the 1980s the Curtis household boasted a system comprised of three 100 watt Class A mono amplifiers for each channel and, in the philosophy of the time, these monsters were left constantly powered so that they would be temperature stabilised. This was one of my best ever designs and the sound was simply sublime, but each amplifier was constantly turning 600 watts of electricity into heat and so I had, in effect, a 3,500 watt electric cooker running constantly. It wasn't the electricity bills that did for the system, but the fact that the room

Back in the early days of hi-fi, amplifiers boasted output powers of 15 or 20 watts and, even when I was designing award-winning Rotel products, the typical output was still only 35 watts. Now most of us buy amplifiers rated closer to 100 watts. Why? Well the simple answer is, that loudspeaker efficiency has become lower. Before the advent of the first heavy plastic cones, an efficiency rating of 90dB was the norm. So a 30 watt amplifier would be enough to rattle the windows. Fast forward to today and, for reasons I won't bore you with, the true comparative loudspeaker efficiency is more like 84dB, so for the same loudness you'll need to pump-in nearly 130 watts. That's an extra 100 watts per channel. But there's more. Our amplifiers are far from efficient, converting half of the mains power into powering the loudspeakers.

became unbearably hot.

Where does this leave the budding environmentalist? Well, there are lots of good engineering reasons why frugal low-energy electronics could out-perform many of today's offerings. Really high efficiency loudspeakers invariably need big magnets, and that makes them expensive to manufacture and doesn't do a great deal for their carbon footprint. What's more we've all got used to the



CLASSIC ALBUMS

JOHN MARTYN SOLID AIR

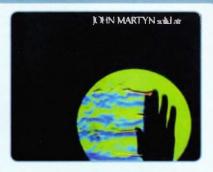
John Martyn once quipped that Eric Clapton's cover of his song Moy You Never, had earned him more in royalties than the rest of his recordings put together. The veracity of this is debatable; this is the man, remember, who's been known to alternate between speaking in a cockney accent and Glaswegian. But it's certainly one of his prettiest songs. Sung in an easy burr over casual, rhythmic acoustic guitar, it sounds like an old pal within seconds. It should have been a hit. In fact, why isn't he more famous?

In the 41 years since his debut album London Conversation though, Martyn's rarely done the expected. Having risen as a folk singer and guitarist, he was soon adding soul and jazz influences to his music, using his singing voice as a wordless instrument in itself and inventing his own guitar tunings. Then there was the drinking and drugging, the extreme behaviour, the alienated colleagues. Go back to May You Never, even, and we get talk about pub fights, sleeping rough, and back stabbers.

As Martyn's said himself, however, "If I could control myself more, I think the music would be much less interesting." So it is with *Solid Air*, an album which exists on the tantalising fault line where control and the lack of it meet. Even the recording started with an accident. Made in late 1972, to tie in with a tour of the US the following year, recording producer John Wood fell down the 'notorious' stairs of Sound Techniques studio in Chelsea and twisted his ankle.

The sessions were abandoned, meaning a new backing band were recruited for another try at Island label's Basing Street studios. Crucially, the group now included double bass player Danny Thompson, Martyn's favourite partner in inebriated crime and most productive musical foil, plus Daves Mattacks and Pegg of Fairport Convention as the rhythm section. Recorded live in just eight days, with minimal overdubs added later, the payback was remarkable.

The title track is the most striking. Martyn's decision to include a song addressed to his



"Then there was the drinking and the drugging, the extreme behaviour, the alienated colleagues."

friend, the singer Nick Drake was, in light of the posthumous lionisation heaped upon him, uncannily prescient. Drake did not find fame in his lifetime, and *Solid Air* portrays a man who's so paralysed and removed from life he's almost left the material world.

Not that Martyn, just 24 at the time, was out of the woods himself. There may be an excess of beautiful music here – but the confessional lyrics suggest darker truths. Most suggestive of mental turmoil, though, is the cover of Skip James' I'd Rather Be The Devil. Starting as funky crime theme with Martyn slurring and hollering about evil, it ends in an elongated jam that gradually loses form, leaving an ambient murk of uncertainty.

Nonetheless, *Solid Air* sold an impressive 100,000 copies and would become the accepted fans' favourite, though Martyn would soon express dissatisfaction with the "rushed" album and followed up with the hard work of *Inside Out* a year later.

Though subsequent LPs such as *One World* and *Grace And Danger*, were successful, there are no great commercial heights in his story. The unrepentant singer now weighs upwards of twenty stone and had a leg amputated in 2004. Cancelled shows provoked excited hearsay that he was about to die. Just the contrary; Martyn lives on. HFC

Ian Harrison



tremendous value that today's inexpensive loudspeakers represent. Some manufacturers are now offering digital-switching amplifiers, which are almost twice as efficient as some conventional amplifiers. As yet, they just don't seem to sound quite as good as their more profligate cousins. But then the first generation of CD players also sounded pretty average and look where we are now.

So, maybe there's an opportunity here for a manufacturer who dares to be different?

Stan Corns was the founder-director of Cambridge Audio, Mission and IAG. A hi-fi visionary he is responsible for designing over 400 products.



Blow out!Vinyl or CD? You decide.

managed to put my LP player out of commission a little while back. I had been doing a little tweak to the power supply, and as I reassembled everything I did something so stupid that I can't quite bring myself to put it into words: suffice to say that no trained electronics repairer should ever have done it and it got me back by blowing up about half the components inside the supply.

As you might imagine, I was so irked that I put the supply on a shelf in my study and got on with listening to CDs – not such a hardship, I probably play two or three CD for every one LP these days anyway. Obviously I knew I would have to face the repair some time, but weeks stretched to a couple of months and then this month's round-up of phono stages loomed. That presented a deadline of sorts, so I switched on the soldering iron and made good with screwdriver, wire cutters and solder until the supply was its usual self again. Well, its 'tweaked' usual self.

And now I'm a happy bunny, with renewed access to my LP collection. It's not the largest collection in the world, about 1,200 discs at my last estimate, but there's very little there that I don't really, really love, with reasons. When I was a student I found it possible to buy discs cheaply in Oxfam shops and the like, then sell on the ones that I didn't want to keep at a profit, and well over half the discs I still own date from that period when I had time to scour shops (I was one of the last of the



"I switched on the soldering iron and made good with screwdriver, wire cutters and solder until the supply was its usual self..."

generation who didn't have to work evenings and weekends to pay university fees) and could effectively build a collection for nothing.

But a couple of months' enforced absence has significantly revived my interest in those old black discs. Recordings I certainly hadn't played in a decade were pulled off the shelf, carefully inspected for dust and mould, and brought back to life. It's a classic case of absence making the heart grow fonder. I could have played the records at any time, but while it was easy to do so I didn't. Then I couldn't and something inside me started really missing the whole LP shenanigans. With the possibility renewed, I was like the proverbial monkey in a banana plantation.

It's unlikely I'll get to give up CDs in a hurry - they are too much a part of my life. Never mind listening to them for pleasure, if I'm not using them to evaluate hi-fi for Hi-Fi Choice purposes I'm recording, editing or mastering them for release. In a way I quite fancy it, though. I think there is a lot in this business of, well, it's really fasting, isn't it? Voluntarily giving up something important for a period, the better to appreciate it later. Next time you get that familiar hi-fi unease (do I need a new turntable? are my cables good enough? is my recording collection fundamentally unsatisfying?) you might consider giving it all a rest for a month or two. Come back with appetite refreshed and see how it all tastes!

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



Change for the better?

The price of progress

he words 'technological' and 'progress' fit together as snugly as salt and pepper or fish and chips and, while I'm a big fan of technology and all its benefits, I'm much less certain about the way it's so often automatically linked with progress. It is often said, probably quite correctly, that technology itself is neutral. But progress means different things to different people. Not only is it loaded with value judgements, the Law of Unintended Consequences also invariably comes into play.

I'm sure that many people think it's quite wonderful that they can keep their entire

music collection on something smaller than a pack of cigarettes; others are depressed that doing so is getting the world accustomed to compressed digital MP3 encoding. Progress is a double-edged sword. For every benefit, there always seems to be an accompanying handicap. When CD took over from vinyl, it was much more compact and convenient, but is still less musically satisfying than vinyl, to audiophile ears at least. The root cause is probably found in the true meaning of the word 'sophistication' – the tendency to make things increasingly complex, which is certainly an integral part of the marketing strategies of many brands.

Simplicity can be its own reward, as anyone who has investigated vintage hi-fi equipment will know. It would be naive to suggest that things haven't improved since the early days, but criteria like domestic acceptability, costs and measured performance have tended to take priority over more nebulous qualities like sound or musical quality.

Although many brands and customers seem happy enough to go along with the 'progress consensus', enthusiasm for vintage equipment has never gone away, as is obvious from the continuing availability of vinyl record players, valve amps and 1930s-style single-driver horn loudspeakers. And, although these components might have significant limitations compared to the evolving 'progress' agenda, their essential simplicity also confers real sonic benefits.

What applies to hi-fi is even more the case with our music sources. The music industry was founded by people that cared about music, but it's now run by accountants, lawyers and 'private equity' operations, who appear to be only interested in maximising profits (or minimising losses!). Does anyone care about the music and sound quality anymore? Judging by many (though not all) recent purchases, those who care are very much the minority.

CDs seem to be the worst offenders: a Sergeant Pepper I bought quite recently sounds truly execrable – no wonder EMI is in trouble. Indeed, the best sounding CD in my collection is Laurie Anderson's 1989 Strange Angels (a burglar took all my pre-'88 CDs). Recent vinyl is also often afflicted, albeit less seriously, but a lot of 1960s and '70s vinyl I've been playing recently sounds is very good indeed and two of the very best records in my collection are Ella Fitzgerald and Buddy Holly monophonic examples from the 1950s.

Technology is certainly a good thing – we wouldn't have hi-fi without it – but 'progress' should always be taken with a soupcon of scepticism.

Choice and has been writing about his favourite hobby for nearly 30 years



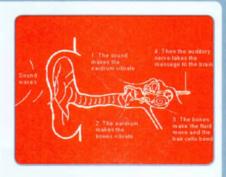
LITTLE TINY SIGNALS

In this issue you will find a roundup group of phono amplifiers, units designed to boost the signal from an LP pickup cartridge to something that a typical integrated or preamplifier will understand. In some ways it's not a very hard job – I could sketch out a basic circuit for one on the top of a matchbox – but that's deceptive. In fact, it's one of the trickiest tasks in audio electronics, if one wants to do it really well.

The core of the problem is that the signal is pretty small. In voltage terms, it can be as low as one thousandth the output level of a CD player: in power terms (slightly harder to comprehend but actually more meaningful) that's about one billionth the power going into your loudspeaker. Why so small? Well, the physical signal level on a disc is not much, with a maximum modulation of tenths of a millimetre and, given the limitations of the material from which the disc is made, one simply can't get much power off the pickup however it's designed.

There are two kinds of cartridge in common use, moving magnet and moving coil. The former has a significantly higher output, in voltage terms, but again in power terms there's no vast difference. Conventional electronic amplifiers respond directly to voltage, not power, but the power is still important. Any electronic component, even a piece of wire or a cartridge, has a minute noise voltage across it, even when it is just sitting on a bench, due to random movements of electronic charges inside it. The higher the resistance of the component is, the higher the noise voltage, though the noise power is the same for any component.

Power is defined as voltage squared, divided by resistance. If noise power is constant, doubling resistance must increase noise voltage by a factor of 1.4. Cartridges vary, but as a rough rule of thumb moving magnet cartridges have ten times the output voltage and one hundred times the resistance of moving coil models. This means that their ratio of signal (off the disc) to noise (generated by their own resistance) is much the same.



"There are two kinds of cartride in use, moving magnet and moving coil."

However, within phono amplifiers other mechanisms generate noise and it is usually possible to deal better with a higher resistance and higher voltage. Most decent moving magnet phono amps, in fact, approach the theoretical noise floor of the cartridge itself quite closely, but this is not by any means true of moving coil amps. It is not at all trivial, with currently available electronic devices to make a moving coil amp that adds less noise than the cartridge itself has already generated - adding literally no noise, you'll already have guessed, is a physical impossibility, but we can in theory get pretty close.

An alternative approach that has long been employed successfully is to use a 'matching transformer' to boost moving coil voltages to moving magnet levels. A transformer is basically an equal-power device so this can work pretty well, but good transformers use expensive materials and are tricky to make. They also have a nasty habit of picking up hum which is very hard to screen out.

On top of all this, a phono amplifier must apply the 'RIAA' equalisation curve and ought ideally to be compatible with the full range of cartridge output levels and capable of accommodating sudden high input levels, due to scratches on the disc, without overload. Small wonder the world's finest designers scratch their heads over this one! HFC

Richard Black



From Bartok to Mahler and Milhaud to Tchaikovsky, classical music has much to offer, says HFC's Richard Holliss

Ithough there's a real concern that orchestral music is losing the battle against the cultural changes in the music business, there is no real evidence to substantiate this claim. In fact, record numbers of people are attending live classical concerts, with the BBC Proms more popular than ever, thanks in part to television and special open-air events around the UK.

Of course, audiophiles have recognised the importance of classical music for some years now. In fact, there's nothing better than a Vaughn Williams concerto for violin and orchestra to perfect your

amplifier's attention to detail, or Tchaikovsky's cacophony of cannons and bells to test your speaker's mettle. Classical music offers a wide variety of moods and expressions that are more than adequate to test-drive the latest CD players, turntables, valve amps and speaker systems.

The following selection is not a Top Ten, or Best of. It doesn't pretend to be a definitive list. It's an eclectic mix that will, hopefully, suit all tastes. After all, the truly wonderful thing about classical music is its diversity, it's ability to appeal to all palettes. This is just a taster...

BARTOK (BELA)

Music for Strings, Percussion and Celesta Herbert Von Karajan conducting the Berlin Philharmoniker (Karajan Collection) EMI (CD)

Karajan was often criticised for the workman-like approach he took to Bartok's music. In fact, the great conductor only ever recorded two works by the Hungarian composer, including the haunting *Music for Strings, Percussion and Celesto*. Written in 1936, it's a highly atmospheric piece with the third movement (the Adagio) mystical sounding and yet, unsettling in its execution. With the ability to evoke a strong emotional reaction in the listener, it's certainly not a piece to cure melancholia.

EMI has done a wonderful job with the remastering of this CD and the stereo effect is sharp and detailed.



BEETHOVEN (LUDWIG VAN)

The Nine Symphonies Otto Klemperer conducting the Philharmonia Orchestra HMV (nine record boxset, vinyl)

Otto Klemperer's unrivalled recordings of Beethoven's *Nine Symphonies* are still considered by many audiophiles as the crown jewels of classical music. There have, of course, been some fine versions of, particularly the

6th and 9th symphonies, since these classic HMV recordings were made between 1958 and 1961. Klemperer avoids the theatrics of conductors like Wilhelm Furtwengler or Leopold Stokowski and presents a performance that's still as fresh today as it was forty years ago. These



recordings are now a rarity, even on CD, but the original vinyl recordings are fine, sharply tuned interpretations that combine a sense of wonder and technique. The 'ode to Joy' from the *Ninth* has seldom been performed elsewhere with the same amount of confidence and imagery.



DEBUSSY (CLAUDE)

Prelude a l'apres-midi d'un Faune, Clair de Lune Michael Tilson Thomas conducting the London Symphony Orchestra, Eugene Ormandy conducting the Philadelphia Orchestra (Essential Classics) Sony (CD)

Debussy's beautiful tone poems are unhurried and subtle in shape and form. They embrace the listener with melodies of striking resonance and emotion. Whether played on solo piano or, as in the case of this fine recording by two world famous orchestras, the tranquillity and genius of pieces such as *Clair de Lune* (part of the *Suite bergamasque*, 1890) and *Prelude l'apres-midi d'un Faune*, are on a par with music such as Vaughn Williams' *The Lark Ascending* or Edward Elgar's *The Enigma Variations*.

FANTASIA

All the music from the soundtrack, Leopold Stokowski conducting the Philadelphia Orchestra Buena Vista (vinyl)

Scorned at by the purists, Walt Disney's 'Concert Feature', as the movie was called during pre-production, has introduced more people to classical and orchestral music than many care to admit. For this reason alone, it shares some of the kudos afforded to Benjamin Brittain's *The Young Person's Guide to the Orchestra* or Sergei Prokofiev's *Peter and the Wolf.*

Under the baton of the flamboyant conductor Leopold Stokowski, the nine pieces of classical music in *Fantasia*, that accompanied some of the most innovative and controversial animation the studio ever produced, were severely edited. So much so, that Russian composer Igor Stravinsky later complained. There are numerous soundtrack versions of *Fantasia*, but one of the finest is still the two-disc vinyl

edition that was first released in the UK in 1970. Arranged in a different running order to that of the film, the recording has a sweet, melodic style that closely resembles the film's pioneering stereo soundtrack (called *Fantasound*) than the later remastered CDs.



MAHLER (GUSTAV)

Symphony No 8 Georg Solti conducting the Chicago Symphony Orchestra, with the Chorus of the Vienna State Opera, Singverein Chorus and The Vienna Boys Choir Decca (vinyl/CD)

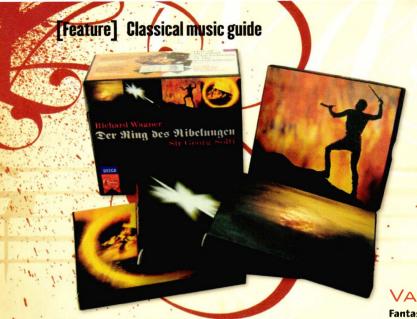
Mahler said of his 8th symphony 'Try to imagine the whole universe beginning to ring and resound'. Perhaps, that's because this amazing 80 minute work requires an orchestra and choir totalling something in the region of a thousand performers to do it justice. From the opening chords of Veni Creator Spiritus to the crescendos that mark the climax of both the first and second movements, this epic work is gargantuan in every sense of the word. Later this year it will be performed in St Pauls' Cathedral (an ideal venue given its sheer immensity in musical energy), but there are some fine recordings with which to compare. Sadly Wyn Morris' 1972 flawed, but powerful IWR recording has only had a very limited release on CD, so for sheer magnitude and unrivalled spectacle, veteran conductor Georg Solti's version is the benchmark.

MILHAUD (DARIUS)

L'Homme et son desir, Maurice Abravanel conducting the Utah Symphony Orchestra Vanguard Classics (CD)

In his *Dispatches* column (on p16), Jimmy Hughes comments on Sir Thomas Beecham's *Bon Mot* about 'not appreciating music, but loving the noise it makes'. One wonders what sort of comment Beecham would have made on the work of Darius Milhaud, whose divisions of the instruments anticipated (by half a century) the stereophonic styling of composers like Karlheinz Stockhausen. (When Beecham was asked if he'd heard any music by Stockhausen, he replied 'No, but I believe I have trodden in some.'). Maurice Abravanal's recording of *L'Homme et son desir* is breathtaking, capturing Milhaud's description of the 'Brazilian forests at night and the mystical forces therein' to perfection.





WAGNER (RICHARD)

Der Ring des Nibelungen; includes Das Rheingold, Die Walkure, Siegfried and Gotterdammerung Georg Solti conducting the

Vienna Philharmonic Decca (22-record boxset vinyl), (14-CD boxset)

To many audiophiles and music lovers alike, Richard Wagner's music is often described as impenetrable. Perhaps, it's the length of his epic operas, such as the four-part *Der Ring des Nibelungen* (15 hours), that puts people off? The composer has also, unfairly, been linked to German fascism (thanks in part to the composer's descendents befriending highranking Nazis). But, then it's the Germanic power of *The Ring* that sets it aside from all else. From the overly commercialised *The Ride of the Valkyries* to the grand climax of *Gotterdammerung* (*The Twilight of the Gods*), Wagner's music is brash, loud and extremely melodic.

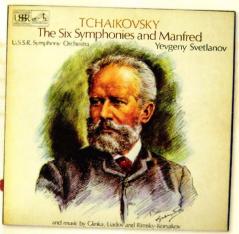
Recorded over an eight-year period between 1958 and 1966, Georg Solti's recordings are still the finest to date. So much so, that they were the subject of an extremely rare in-depth BBC documentary, that followed the rehearsal and recording of this unique work.

TCHAIKOVSKY (PETER)

The Six Symphonies Yevgeny Svetlanov conducting the USSR Symphony Orchestra, Melodiya HMV/EMI (seven-record boxset, vinyl)

Very few complete recordings of Tchaikovsky's *Six Symphonies* can, for sheer energy and brash accomplishment, compete with Russian conductor Yevgeny Svetlanov's performances. Originally available in a handsome vinyl boxset on the EMI/Melodiya label, Svetlanov leads his musicians into battle with fast and breathtaking renditions of the *Symphonies 2* and *4*. Very seldom has the composer's tortured-soul been heard so expertly through his music. But there's also time for clarity and

melancholia and the Sixth symphony (Pathetique) is one of sublime beauty and anguish. As befits Russian recordings, this set (originally recorded in 1967/68) is stunning and there's little to distinguish between the CD and the vinyl. Both of which are first-class masterings.



VAUGHN WILLIAMS (RALPH)

Fantasia on a Theme of Thomas Tallis Sir Adrian Boult conducting the London Philharmonic Orchestra Decca Eclipse (vinyl)

With the exception of Sir Edward Elgar, Ralph Vaughn Williams is, without doubt, the most popular of all 20th Century British composers.

Like Sir William Walton and Sir Arthur Bliss, he dabbled in the film industry as a composer, but it's his orchestral work for the concert hall for which he's best remembered. First performed in 1910, for a double-string orchestra and string quartet, Fantasia on a Theme of Thomas Tallis feels as old as the Earth itself thanks to its massive, but spacious sound. It's a glorious blend of spiritual strength



and physical exaltation. For exquisite timing and an understanding of the work, Decca's 1971 vinyl recording with Sir Adrian Boult conducting the New Symphony Orchestra, has to still to be surpassed.

STRAVINSKY (IGOR)

Le Sacre du printemps Igor Markevitch conducting the Philharmonia Orchestra (Music for Pleasure) EMI (vinyl)

The striking image of Ayres Rock, that adorns the sleeve on the original Music for Pleasure recording of Igor Stravinsky's *Le Sacre du printemps* (*The Rite of Spring*) beautifully conjures up the primitive brutality of this 20th century orchestral masterpiece. Stravinsky saw his composition as a musical description of ancient tribal dances (the choreographed version ended in a full-scale riot when it made its debut in Paris in 1913). There

are two movements; The Adoration of the Earth and The Sacrifice. Each is a captivating assault on the senses, with a discordant mix of solo bassoon, trombones and timpani. Better still, Igor Markevitch's interpretation still remains one of the definitive versions of this amazing work. HFC

Richard Holliss







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audiofile .:!

⊘ COMPETITION

A PS Audio Quintessence mains conditioner worth



Ask any audiophile and the biggest grumble they have is likely to be the state of the mains supply. We can fix the performance of CD, buy the best amp in the business and connect it to the finest speakers in Christendom, but if that Alternating Current isn't up to snuff, you'll never hear music at its best. Which is where PS Audio's excellent Quintessence mains conditioner comes into its own. And PS Audio knows a lot about mains; the company also produces a full mains regenerator, which reconstructs the ultimate AC signal from the existing mains supply. The Quintessence is an amp-sized filtration unit. It sports five AC mains outlets, as well as TV and aerial sockets, all of which feature high-grade voltage surge protection to prevent problems from lightning strikes on power lines. PS Audio has taken the 'less is more' approach by only using the best possible filtration products in as delicate an arrangement as possible, which means low internal losses at the all-important 50Hz level. In our test in HFC 303, we awarded the PS Audio Quintessence a Best Buy on the basis of its ability to combine a 'dark' background and a precise treble, all without the imprecision such a combination usually produces. There are also improvements to be had in the tautness of bass notes. In short, this is one of the few mains filtration units that can be used with high-end components, without holding back the performance. Best of all, though, is that you can win this mains miracle-maker for the cost of a phone call.

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OUESTION:

What does AC stand for when discussing mains supply?

A: Alternating Current B: Average Compression C: Allied Command

ERMS AND CONDITIONS

Answers must be received between 6 March 2008 and 2 April 2008. The winner will be selected at random from all correct entries received between the relevant dates and will receive a PS Audio Quintessence mains conditioner free of charge. The winner will be notified within 28 days of the closing date and will be required to give details of a delivery address in the UK to which the conditioner should be sent. Telephone calls will be charged at 60p per minute.

By taking part in a Competition, you agree to be bound by the Competition Rules, which are summarised below but can be wewed in full at www futurenet com/futureonline/competitionrules asp. Late or incomplete entries will be disqualified. Proof of posting (inclevant) shall not be deemed proof of delivery. Entries must be submitted by an individual (not wa any agency or similar) and, unless otherwise stated, are limited to one per household. The Company reserves the right in its sole discretion to substitute any prize with cash or a prize of comparable value. Unless otherwise stated, the Competition is open to all ICB residents of 18 years and over, except employees of future Publishing and any party involved in the competition or their households By entering a Competition you give permission to use your name, likeness and personal information in connection with the Competition and for promotional purposes. All entries will become the property of the Company upon receipt and will not be extremed. You warrant that the Competition entry is entirely your own work and not copied or adapted from any other source. If you are a winner, receipt by you of any prize is conditional unpon you complying with (amongst other things) the Competition Rules. You acknowledge and agree that neither the Company nor any associated third parties shall have any liability to you in connection with you use and/or possession of your prize.

This month's varied musical morsels

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

AUDIOPHILE VINYL



DUKE ELLINGTON

Hodges and Ray Nance from Ellington's big band. Between them, they produce some occasionally wacky – *Limbo Jozz* – but generally inspired tunes, including an unusual version of *Mood Indigo*. Swing at work from making one of the best collaborative works of the genre Sound: Speakers Corner has done its dual mono original and produced a sweet cut with exquisite tone. JK





CLIFFORD BROWN, MAX ROACH

Music: Trumpeter Brown and drummer Roach had produced two albums prior rapport. They play jazz with energy and ease, with Brown's style owing much to Dizzy Gillespie. Roach is a and ability shaped a whole generation As a pair they combine virtuosity and Sound: This is an early mono recording – while bandwidth is limited, this does

Music Sound



COMPACT DISC & VINYL



MARY J BLIGE

Growing Pains Universal Music: Since sorting her famously turbulent life out in the early 00's MJB's delivered a consistently impressive body of work that shows up many of her high-selling contemporaries for the pretty, but ineffectual slackers they are. Mary's soaring, powerful voice makes it distinctive and in the melisma-filled world of RnB, there aren't many who can convey the soul of Aretha Franklin without descending into meaningless whittering. Sound: The sound is taught and crisp with that precise, no-frills concision that you know took hundreds of man-hours to perfect in the studio, but leaves nothing that isn't essential DO





FI ROW

The Seldom Seen Kid Fiction Music: It's easy to dismiss Elbow as part of the same cleverly calculated. post-U2, stadium rock movement that gave us the grandiose, fauxmelancholic anthems of Snow Patrol and Keane. Yet their fourth album proves there's far more to them. The melodies are full of unexpected complexities, their progrock pretensions are balanced by an earthier humanity and in Guy Garvey they have a songwriter who favours genuine emotion over singalong sentiment.

Sound: Garvey's voice is a dead ringer for Peter Gabriel, while the band revel in an old-fashioned rendering of space-rock tapestries, twisted beats and gossamer elegance. NW





JOE WILKES

Here On This Frontline VMC Music: Joe Wilkes' first album was a musical breath of fresh air and this follow-up, is just as strong. With an accordion intro that conjures up visions of the tumultuous Paris of 1968, this is a truly atmospheric set. Garden of The Night and If I Could Change Everything, are both soaked in the singer/songwriter's unique charm with the latter effortlessly. tunefully soaring into all-out rock. Only the words - tilting at the usual targets - let a few of the songs down. Wilkes is still deserving of the spolight, even on the frontline. Sound: The blend of acoustic

and electric instruments are mixed. with no little panache. PS





AMSTERDAM

Arm In Arm CIA Recordings Music: Their debut was rated by various superstars as demonstrating that Amsterdam were The Next Big Thing. The poignantly soulful Hey Hilary and the rolling, bittersweet love-gone-wrong epic that is the title track are the undoubted high points of a set that's easy to listen to. This Liverpool band have shown us that they're no mere one-off act Sound: Louie Nicastro has produced this with just the right amount of space around the vocals. A blizzard







GOLDFRAPP

Seventh Tree Mute

sic Alison Goldfrapp certainly doesn't believe in standing still. She followed her first album of moody electronica by stomping into a glorious

riot of camp glam, since copied wholesale by the likes of Madonna and Kylie. But her latest finds her in more contemplative, with subtle electronic touches augmenting the acoustic guitars. There's plenty of echoes of The Wicker Man soundtrack and the folktronica movement that's been bubbling under for some time now.

und: Mostly recorded in a Somerset cottage, the gentle tones of the album come as a relief after the highheeled overkill of Supernature - a very English pastoral reverie. NW







THIS MONTH'S CLASSIC HI-FI TEST DISC "Quite simply, no rock collection is complete without it."

LED ZEPPELIN Physical Graffiti Swan Song

Music: If you wondered why the recent reunion was such a success, just listen to this. Physical Graffiti was the Zep's most grandiose overture, a paean to excess which delivered some of their most anthemic works with In My Time of Dying and Kashmir on one disc and yet produced delicate folk rock classics

like Bron-Yr-Aur on the other. The drum sound alone makes it essential even before you add the majesty of Jimmy Page's compositional talent and his army of guitars. Quite simply, no rock collection is complete without it. Sound: Classic Records' 200g reissue raises the stakes for a slightly thick

sound that nonetheless delivers detail, power and energy to a degree that reinvigorates the music. There's a lot going on here, but it's what great systems are for. JK





The Dagenham street urchin tones have been banished, in favour of a more conventionally pleasing singing voice. Musically, his group The Blokes offer a highly convincing imitation of The Band. NW



BILLY BRAGG

Cooking Vinyl

Bragg is never going to abandon his soapbox, but on his first album since 2002's England, Half-English, he sounds almost mellow. The opener I Keep Faith, a gently rolling mid-tempo ballad of which Springsteen would have been proud, could be both a reaffirmation of his radical views and an elegy to a loved one. The politics are more overt on Sing Their Souls Back Home, but the messages are balanced by the likes of You Make Me Brave and If You Ever Leave, as tender a pair of love songs as you'll hear this year.



THE ORB U.F. Orb (Deluxe Edition)

Island/Universal

Music This ambient house opus from 1992, has weathered the decades far better than Primal Scream's Screamadelica. With sampled animal sniffs, plastic microphones used as reverbs and loads of drop-outs à la dub reggae, Dr Alex Paterson and 'Thrash' Weston spent five months in a Fulham studio with Jah Wobble (rumbling bass) and Steve Hillage (glissando guitar) fashioning a number one smash record. Sound: Dubbed the 'Pink Floyd' of the house generation Orb remastering makes your system sound like something from outer space MP







ECKI

Mono Product Records

Music: Ecki is a singer and rock photographer from Suffolk and his second outing is oddly reminiscent of Counting Crows with a different singer. He sounds distinctly British, but there is more than a little of 'complaint rock' in the way he shares his struggle to make it in the cut and thrust of the modern music business. But Ecki sings. well and has a natural way with words. On this album he is clearly sharing personal truths and doing it well

Sound: Unsurprisingly, the title does not refer to the recording which features reasonably solid vocals over warm backing, a good result for a living room studio. JK



HIGH-QUALITY AUDIO

CHRIS GESTRIN

After The City Has Gone: Quiet Sonalines

SACD (stereo/multichannel hybrid plus stereo CD)

Music: Chris Gestrin is not the sort of piano player to sit down at the keyboard with prepared compositions, he's the sort that will open the lid and let his imagination. run free. When teamed up with a bunch of his fellow Vancouver improvisers on instruments including shakuhachi (Japanese bamboo flute), trombone and cello this makes for a musical voyage of considerable variety. Sometimes things get a little too abstract, but at

others it coalesces to form beautiful sounds. These musicians are skilled at both 'inside' and 'outside' playing - sometimes it works for you and others you have to work for it

Sound: Recorded live and direct to DSD, this sounds pretty damn real with vanishing noise levels and a clarity rarely encountered. JK



PROKOFIEV

Lieutenant Kijé Suite, Symphony No5 Paavo Jārvi (cond), Cincinnati SO

SACD (stereo/multichannel hybrid plus stereo CD)

Music: The title is much less famous than the Troika (Sleigh Ride) movement from Prokofiev's film score about a heroic, but fictitious lieutenant created to please the Tsar, composed after his return to Russia in 1934. It has appeared in numerous films since, but the rest of the piece is no less engaging, painting the story of Kije's birth, career, marriage and death in deft, pithy strokes. The darker fifth Symphony survived the many

Soviet arts purges of the forties and fifties by virtue of its melodic development and its popular appeal, eschewing as it does, much of the dissonance of Prokofiev's works written outside the USSR.

Sound: There's never any feeling that the Cincinnati Symphony Orchestra's is overstretched and this recording is a powerful addition to their catalogue. DO



FIONA MACKENZIE

Elevate

Linn

SACD (stereo/multichannel hybrid plus stereo CD)

Music: This may be the first solo album from the Scottish singer/songwriter, but she already has quite a pedigree in her recorded output with Celtic bands Seelyhoo and Anam, and with two of her sisters in the singing trio MacKenzie. Singing in both English and Gaelic, this album retains much of the traditional influences of her past, but also introduces myriad new flavours, echoing the likes of Kate Bush and Björk with occasionally expansive lyrical passages and the odd excursion into tasteful electronica

Sound: Impeccably recorded at Carlekemp Lodge, the album retains a beautifully rich textural depth, that rewards repeated listens without sacrificing the passion or commitment in MacKenzie's impeccable phrasing. DO





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EBAY GUM

I've been a hi-fi enthusiast (to say the least) for a number of years now and long admired the Audio Notes and MartinLogans of this world (although very much out of my reach, unfortunately). Recently a good friend of mine went totally against his usual principles and bought a Chinese integrated valve amp off eBay for an astounding 99p! Okay, so it might have cost him £128 to get it here, but

the fact is that for under £130, he's got a really sweet sounding valve amp. Surely it's only a matter of time until all audio is sold

Rob Maddison Oldham

HFC The problem with eBay purchases like this is you can never, ever be wholly sure what you will end up with. On the one

other, you could end up with a complete hand, you could bag a bargain, on the dog. The same's broadly true of anything you buy off eBay, be it a valve amplifier or a two-year old Jaq (see Dispatches, p18). We hope your pal got something that's electrically safe and works within the Euro CE specifications, and not an amplifier that pumps static into the radio of every copper in a 10-mile radius every time he turns it on. But there's no guarantees if you buy a pig in a poke.

USHER BUY BABY

I would like to upgrade my speakers, but am unsure which to buy. My current system is Creek A50i, Usher CD1, AVI S2000MT tuner (bought used) and Mission V60 speakers. My difficulty is in deciding whether to buy speakers that match the price of my amp/CD player - about £500 - or whether it would be better to 'plan ahead' and buy speakers which stand at the next level? (Admittedly, I'm not sure where this is, perhaps £750-

"He bought a Chinese

integrated valve amp

off eBay for an

astounding 99p."



Above: The Pure Sound A30 integrated valve amp. Chi-fi done right!

LETTER OF THE MONTH



GOING FOR THE BURN

My hi-fi took a turn for the worse recently. I'm not really sure what happened, but one minute my amplifier was working fine, the next there was an acrid smell, followed by a small plume of smoke. Fortunately, I was able to turn it off at the mains before anything

Okay, my amplifier was getting on in years, but if I hadn't been in the room when it happened, it could have been serious. So, why do hi-fi companies still recommend leaving their equipment switched on all the time?

Michael Dumont Herts

HFC Sorry to hear about your amplifier's self-destructive tendencies. It sounds as if one of the capacitors went South in a catastrophic manner. However, such dramatic events are surprisingly rare; cold comfort when faced with a smoking amp ruin, but statistically you are more likely to be abducted by lottery-winning aliens on the way to buy a replacement than actually buying a second dodgy amplifier. Thanks to such a good track record of audio safety, manufacturers can suggest leaving solid-state CD players and preamps permanently powered up.



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The author of our letter of the month receives a one-metre pair of Crystal Cable Connect Piccolo interconnects worth £260, featuring a silver/gold conductor with Kapton insulation, plus a transparent Teflon jacket. So get writing! (150 words max please...)

[CHOICE MAIL] Readers' letters

■ £1,000?) Then the amp etc, can be upgraded to speaker level. Any suggestions on both problems?

Bert Halliday Glasgow

HFC We aren't *au fait* with the Usher CD player, but the system appears reasonably well balanced. A good pair of loudspeakers would improve matters, but you might want to look nearer the £1,000 mark than the £500 end if you want to get good speaker sound that improves on your V60. A lot depends on your room size and your personal taste in music, but you might enjoy speakers like the PMC TB2 (recently boosted to 'i' status) or – if you have a larger room – the DALI Ikon 6. Both speakers will set you up for better amplifiers later. You will likely need to spend £1,000 or more on the 'next levels'.

GREEN HAND GANG

I'm a fan of your magazine - the excellent editorial and the Lab Tests especially. However, in the middle of the magazine lurks a little parade of horrors - the 'Audiofile Industry Profile' or rather the infeasibly bad portraits of leading industry lights. For example, in the February issue (HFC 303) I'd be interested to know what Hi-Fi Choice has against Nick Green's right hand? Unceremoniously amputated, not once, but twice! Furthermore, Does Nick regularly balance picture frames on his head or was this merely a spontaneous act for the shoot? No-one expects your journalists to be Lord Lichfield, but with some careful shots, the world of portrait photography (and people with eyes) will thank you.

Glen Kemp Kent

HFC Malcolm 'amputator' Steward and his pet DSLR are to blame for this one. As you said, not everyone can be a Patrick Lichfield. However, Malcolm's pictures are thrown up into sharp repose, because most of the photography commissioned by HFC is of an exceptionally high quality.

HI, NO SILVER LINING

Listening to my few, but excellent quality DVD-Audio and SACD titles, I wonder if I will be able to even play them in the future? I have given up on significantly expanding my collection. I am thinking of moving to Blu-Ray /HD-DVD, which would mean giving up my Marantz universal player (unless I keep it just to be able to play a handful of records!). With Sony dropping SACD and Panasonic dropping DVD-Audio from their Blu-Ray players, is

"I'd be interested to know what *Hi-Fi Choice* has against Nick Green's right hand."

there any hope for a future 'universal' player including support for these formats? It is ironic that increasing adoption of HD video and (movie) audio leads to further nails in the coffin of high-resolution music!

Dr Christos Proukakis London

HFC We think the chances of a hi-res music format (like SACD or DVD-Audio) making it onto hi-res video formats is slim at best. There may be support, if it's felt that either format would be a good selling point for these players. Even so, any such support will never be as good as a dedicated SACD or DVD-Audio player.

This need not spell the end of the highresolution music format, though. Just as mainstream music is migrating from CD to online delivery systems, so those who appreciate wellrecorded music in high-resolution are discovering the joys of downloading from the likes of Linn.

NOISE IN THE

After 15 years living in my house, a problem has surfaced. The problem is, that the vibration from the speakers (Yamaha NS1000M) to the stands and then to the floor, now shakes up my neighbour. My stands are made of square hollow section steel, welded together and filled with sand. The speakers have Blu-Tack under them, but a lot of

vibration seems to pass through them, first to the floor and then to my neighbour's wall. Would making wooden stands, filled with sand help in any way?

Victor Vella via email

HFC Noise can transmit from room to room by a number of methods. It can be simply down to you playing music too loud, transmitting the musical energy to the next room, or it can be due to one floorboard beneath the speakers rebroadcasting portions of your hi-fi sound into next door. The first is harder to correct, as you need to soundproof your room... and this

is extremely expensive. The second could be as simple as repositioning the loudspeakers, or placing the speakers on an intermediary to block this direct transmission (try resting your speaker stands on a sandwich of two marble chopping boards separated by a layer of neoprene). It's worth trying to find the offending frequencies by listening to the sound from the other party's end – if you play music in your room, while listening in theirs, you get a good idea of how bad the problem actually is.





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Understanding: Cables

The cables you use to hook up your hi-fi are just as important as the gear itself

n a typical hi-fi system, sounds are stored in analogue or digital format on a disc of some sort, from which they are retrieved by a stylus, laser or magnetic head. They are amplified in an amplifier and turned into sound in a loudspeaker. And that, in essence, is that. Simple!

But, what is often overlooked is just how important the audio cables that connect all these items together are. For cables are electrical components too, with their own properties that can affect the sound and the performance. According to hi-fi legend, it was some time in the late 1970s, that a few audiophiles began to realise the key part that cables played in hi-fi and how they had their own sound. Their discoveries spawned a gigantic industry that has resulted in the specialist A/V cabling manufacture we know now.

The first extensive application of audio cables was of course telephony. By 1900, telephone cables spanned the globe and scientists and engineers had developed a pretty good understanding of them and their limitations. It was well known that cables, unless carefully made and matched to the circuits at each end, could distort a speech signal beyond recognition. Articles in the deservedly famous 'Bell System Technical Journal' attest to intensive work on cables for use in audio applications.

What was taken for granted at that time was that, where lengths of cable were of the order of a few feet, quality was 'good enough' with any old bit of wire connected any old how. With the rise of professional audio electronics in recording and broadcasting studios, the definition of 'good enough' became more stringent and such luxuries as twisted/shielded cables (better for rejecting interference) became the norm.

But the rise of 'audiophile' cable had more to do with a general realisation that the ear's resolving power was greater than had been previously assumed, than with any sudden 'Eureka!' moment about what cables could do to signals. Most of that had been known for decades. It's true that some areas of cable technology are still misunderstood (the jury is still out, for instance, on how, why, and indeed, to what extent, Deep Cryogenic Treatment, is beneficial). But despite some manufacturers' blustering, most of the science of cables was familiar to our grandparents' generation.

WIRED FOR SOUND

At the most basic level, a cable provides a path for current to flow from one audio component to the next. Electric current is well disposed to travel along wires made of metal, which have a low resistance. In general, current likes to circulate, so all practical cables include two or more conductors which carry current, one in one direction, one the opposite, with a voltage between them: to prevent this voltage causing current flow simply from one conductor to the other (a 'short circuit'), some kind of insulator is put between them.

"...cables are electrical components too, with their own properties which can affect the sound and the performance ."



Above: Ixos XHV904 interconnect



Above: AudioQuest Niagara interconnects

That's all straightforward, but in the real world there are various complications. First normal metals have a very low resistance to electric current, but not zero. This means that a small voltage must exist between one end and the other of any piece of wire carrying a current. Second. audio signals are 'alternating current' (AC), which means that the direction of current flow reverses from one moment to the next and, in general, both current and voltage are time-varying quantities. This means that other characteristics of the cable construction become important (increasingly so as frequency rises) and these are inductance (resistance to a changing current) and capacitance (tendency to 'swallow up' a changing voltage). A third characteristic called 'skin effect' can also be significant, though in most audio

What this all means, is that it is very much an approximation to say that what goes into a cable will necessarily come out unaltered. Or to be strictly accurate, what goes in usually will come out, but the cable itself can affect what we thought we were putting in, and there can be odd delays between input and output. It is an invariable property of electrical circuits including resistance and capacitance or inductance (or both), that they have both an amplitude response that varies to some extent with frequency, and also a phase response that varies in a related manner, and phase response is just another way of saying 'time delay'.

CABLE TALK

How these various factors affect cables depends on application, so we'll take in turn the commonest in domestic audio; loudspeaker cables, analogue and digital interconnects.

Speaker cables don't look very mysterious. The relatively high voltages, and positively huge currents, involved make hum pickup a non-issue and you simply seem to need two conductors with some basic insulation. But the sheer amount of current flowing means that resistance in the cable can be significant, so you need quite a lot of metal in there to keep resistance low. In addition, inductance can become a serious issue at high audio frequencies. Apart from anything else, resistance and inductance can significantly lower the effective damping factor of the amplifier, decreasing control of the drive units.

Analogue interconnects operate at lower voltages and very much lower currents, and are most often shielded to prevent hum and other interference from getting in. Resistance and inductance are much less important here, but capacitance between the conductors is an issue, and if it's too high it can cause audible treble loss. Shielding, or screening, is effective against electric hum pickup, because it surrounds the 'hot' conductor completely with the one at 'earth' potential, preventing electric fields from affecting it. However, hum can also be induced by magnetic fields and these are not blocked by such screening. Twisting two conductors together is the most useful measure against magnetic hum, but keeping cross-sections small also helps. That means less conductor and higher resistance, which makes the screen less effective against electric hum... We're simplifying a bit, but you'll see how there's no obvious, easy answer to some of these problems! 6

RADIO GA-GA

Apart from good old-fashioned hum, radio waves are the other source of interference in audio cables. Radio signals are at very high frequency and cables can behave as quite effective aerials, picking up RF in unpredictable ways and guiding it inside the equipment where it typically causes a subtle increase in the noise floor. Good cables, carefully terminated to good connectors, can minimise this, though there's never any guarantee.

[Feature] Understanding Cables

Oigital interconnects operate at frequencies up to a thousand times higher than analogue audio and, as such, are normally 'impedance matched', a rather tricky concept which, fortunately, one doesn't need to understand to use. Basically, inductance and capacitance are balanced with the impedance at the end of the cable, so that performance is very nearly constant with frequency. Only very nearly, though, because resistance still queers the pitch, as does 'capacitance loss factor' and simple inaccuracy in inductance and capacitance values. Phase distortion is important here; if it's bad it can cause jitter to occur, which translates to potentially audible distortion in

Those are the most widely accepted kinds of distortion in cables. Others have been proposed but never directly proven, for instance, some kind of noise caused by



"Digital interconnects operate at frequencies up to a thousand times higher than analogue audio..."



Above: Townshend Isolda DCT speaker cable

currents skipping from strand to strand in multistranded cable (multiple thin conductors bunched together). The suggestion is that minute differences in the resistance of each strand causes minute voltages to appear between strands, so electric charges jump from one strand to another where they contact – but because this contact is imperfect a noise is produced

each time this occurs. We're not entirely convinced and it's very hard to find strictly comparable samples of stranded and single-strand cables to assess subjectively, where all significant parameters and dimensions are identical or at least very nearly so.

However, if you've stayed with us this far you'll see why such a diverse range of cables exists. Differences in dimensions all give

differences in electrical parameters and we've not yet even touched on the question of conductor material (different resistances again) and insulator or 'dielectic' material (differences in capacitance and loss factor). Even without invoking dodgy science, it's not hard to see that subtle differences are bound to occur between any two cables. Not too surprisingly, real audiophile cables deviate both sides of typical cheap/giveaway examples, both towards theoretically better performance and away from it, in which case they are arguably tuning devices. The simple fact is sound depends on cables and they should always be considered an integral part of a good hi-fi system. HFC

Richard Black

TYPES OF DISTORTION

Resistance, inductance and capacitance, and indeed skin effect. cause what's called 'linear distortion' in cables - frequency-dependent amplitude and phase changes which are in principle reversible. This contrasts with the non-linear distortion familiar from amplifiers etc., which causes generation of harmonics. However, the latter can arise due to the finite resistance of loudspeaker cables in conjunction with the non-linear properties of real loudspeakers, as I showed in an Audio Engineering Society paper a while back. Non-linear distortion due to analogue interconnects has never been demonstrated. RB



Above: AudioQuest SKY interconnect

DEFINITIVE AUDIO



Main image: KSL Kondo Gakuon valve amplifiers.









L to R: 1. Kuzma Stabi XL 2. Art Audio Concerto Stereo Amplifier (GE) 3. Living Voice IBX R2 (Burr Oak) 4. SME 10 / SME V
5. Living Voice OBX RW (Santos) 6. KSL Kondo Ongaku Integrated Amplifier 7. Magnum Dynalab 106T Valve Tuner
8. KSL Kondo Gakuoh Mono Amplifiers 9. Resolution Audio Opus 21 CD Player 10. KSL Kondo V-z (1m) Interconnect

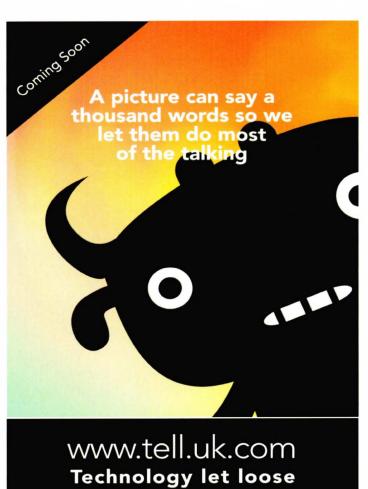


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OUR RATINGS EXPLAINED

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

not are two liked point hine is to the job of recommend we

Date only with invariant's 1800 player, the 17 MkH M, which has excellent build and e a very good impression in MFC 243. At same pike there's also the Cyrus 7, and all founder in a compact case. It's trying the Heart with the standard's we switched over to the Siemens grade, a companion somewhat muddied by effect that it was a cold for hot swap. The

laws had been on for emeral days with the

fidence and ease. It even seems to be

Our overall conclusion after a incher witubes shone "crough. The Siemen's equipped player has an in snappier sound with better timing that es with dense material with mematkable

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

VERDICT

SOUND

Good badd and open, lively sound from a value DAC with planty of injust. Tradi Brait Sate of the Company of th

The things we like most about the product

The things we think could be better

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

<u>our award badges explained</u>



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Editor's Choice

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

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



KIDs are alright

Can Krell and MartinLogan raise the iPod to audiophile standards? Alan Sircom seems to think so

PRODUCT Absolute Sounds ElectroKID

TYPE iPod hi-fi system (dock and active electrostatics)

PRICE £1,350 (KID); £2,390 per pair (ML Purity)

KEY FEATURES (Krell KID) O iPod preamplifier ■ Balanced and single-ended audio outputs ■ S-Video and composite video outputs • Class A architecture (Martin Logan Purity) Active hybrid electrostatic Built- in 200-watt amplifier Sensitivity: 95dBZ01v (at line-level) Impedance:14,000 ohms (at line-level) CONTACT © 020 8971 3909 ## www.absolutesounds.com

epending on your viewpoint, the E3,740 ElectroKID system is either a serious and successful attempt at wringing the best possible sound out of an Apple iPod, or a rich audiophile's folly. Actually, it's both, and we should love it for being both.

The ElectroKID is formed of two products from two different American high-end manufacturers - Krell and MartinLogan The connection is Absolute Sounds, the UK distributor for both products. Ricardo Franissovici, Grande Fromage of Absolute Sounds, realised that the combination of iPod 'interface' and active loudspeakers could deliver the sort of sound quality that even Apple might not have expected from the ubiquitous iPod. And so, the ElectroKID was born.

The name itself is a portmanteau of 'electrostatic loudspeaker' (the Martin Logan Purity) and 'KID', which is itself an acronym for 'Krell Interface Dock'. Technically, it should be 'KIDelectro', but that sounds way too 1980's! Incidentally, if you type 'electrokid' into Google on the interweb, you get a lot of DJs before you get to this system

The Krell Interface Dock was the big audiophile controversy of 2007, because it was the first iPod-related product from a big name high-end brand. And, like all controversy, it has set the trend; at the CES 2008 we saw products like the Wadia 170 iPod transport follow in the footsteps of the KID. The £1,350 Krell Interface Dock is essentially an iPod dock combined with line preamplifier. It has both balanced and single-ended inputs, a composite and S-Video connection for video, and an RS232 port for those using high-end Crestron/AMX-style remote control systems. It also has an auxiliary line-level input mini-jack on the front panel, for those wanting to use a digital audio player that is not of the iPod family.

Krell has been canny with the universal docking connector. Inset into a silo on the top of the KID, this has four little clear Perspex rods that wheel back and forth to make a snug fit for the iPod. So, you can guarantee an iPod Nano will sit just as robustly as an iPod Classic.

The KID does not crack the digital code within the iPod, but instead has mild filtering in post processing to help give the signal the best possible start in life (there's also subtle treble and bass tone controls, which are useful

Source in issue 303. You could be forgiven for expecting the only difference between the two speakers to be the amplifiers, given that they were launched so close to one another. In fact, the two have significant differences, especially in the bass. Yes, both share the same CLS Generation 2 electrostatic treble/midrange panel, housed in ML's rigid 'AirFrame' curved aluminium housing, and both have a broadly similar footprint, but where the Source features a single 200mm bass driver, the Purity sports a

"The name is a portmanteau of 'electrostatic loudspeaker' and KID, which is itself an acronym for Krell Interface Dock."

when trying to improve a lot of compressed audio sources). Strangely, given the fact that every single company in the audio industry has latched onto the iPod as potential saviour of their business, precious few exploited the fact that the iPod actually delivers a differential output. This means it's a doddle to run balanced outputs from the Apple player, but the KID is the first product to take advantage of this. Applause for Krell and dumb points all round to everyone else for missing an obvious trick. Krell runs its differential amplifier circuitry in Class A, so the KID runs warm not hot enough to reach for the Calpol, though. Incidentally, Krell is considering a second iPod product - a full preamp with docking capability, called Papa Doc, although presumably not named after the possibly insane mid-20th Century Haitian dictator, François 'Papa Doc' Duvalier.

The KID is joined by the MartinLogan Purity loudspeaker, to form the ElectroKID system. Last year, MartinLogan launched two entrylevel speakers - the passive Source and active

pair of 165mm units, driven by a built-in 200-watt amplifier.

There's a three-position bass control at the rear of both speakers, for + 3dB, flat and -3dB, and its best to experiment. There's even a set of speaker terminals for those who want to drive the stators from an amplifier and that turns the internal amp into a subwoofer driver, although that's effectively irrelevant in this case. As ever with MartinLogan speakers, the Purity needs a lot of air - a good metre from the rear wall and half a metre from the sides.

As a high-end partnership, the two fit snugly together, although there's one small sacrifice in reality - the MartinLogan speakers don't accept a balanced input, so although the Krell KID takes advantage of the differential output of the iPod, that advantage is not passed on here. Still, unless you have to use more than 5m runs of interconnect cable 'twixt KID and Purity, it's doubtful you would gain much by going balanced anyway.



Ricardo Franissovici of Absolute Sounds discusses how two disparate products come together to form



ElectroKID system come about?

RF The ElectroKID concept was developed because we distribute both Krell and MartinLogan. These two products happened to be released at around the same time, and given their attributes, it seemed a pretty obvious thing to put them together to deliver a complete system concept as an option.

There have been other iPod systems before. Aside from the price tag, what makes this one so different?

This system excites my passion about music and the way it should be heard. Something had to: given that the iPod is now such a universally popular way of listening to music, I was determined to deliver a genuinely highend solution for those who wish to use their iPods - and the music stored within - as a source component at home. The ElectroKID is the result: simple, stylish and, I think, utterly brilliant!

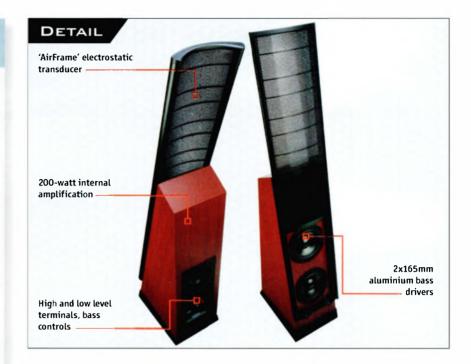
The critical bit is the iPod interface itself, which is unique and enables maximum audio quality to be transferred. It proves that the iPod can be used as a high-end music source, particularly if the music is stored in uncompressed form.

Are you intending the ElectroKid as a standalone hi-fi system?

Of course, you can add other source components to this system, or even amp components if you so wish, but the beauty is that it's the first genuine high-end solution that harnesses the convenience of the iPod as a source, with the minimum number of boxes (albeit relatively large ones!). And with MartinLogan electrostatics to boot

The ElectroKID is called an Absolute Sounds system. How did you get that past Krell and MartinLogan?

You have to be more than simply a distributor of these brands - you have to be a trusted colleague, a consultant on an international level and an entrepreneur all in one



SOUND QUALITY

Part of the issue with any dock is the quality of the recordings made to your iPod. These can be so variable that they can make or break a sound, and many's the time low-fi systems actually do better than their highend brethren in this context because small, cheap speakers are less demanding and thus, do not highlight the parts where data has been sacrificed at the altar of disk space. In contrast, a full-range audiophile-grade system can throw the limitations of data compression into sharp focus

So, if you are planning to use a take-noprisoners replay system, you need to be just as resolute in your choice of format; AIFF or WAV give you bit-for-bit transfers, but with the concomitant disk-eating properties of storing 650MB or more per CD, Apple Lossless (as the name suggests) works like a zip compressor and does not interpolate the music itself. You are still looking, however, at nigh on 300MB per CD

Then, there's AAC and MP3; consider 160kbps AAC and 192kbps MP3 files as a bare minimum for use with the ElectroKID and if you can go higher (both go up to 320 kilobits per second), do so. You still get hundreds of

hours on a single iPod (400 hours of music on a 60GB model sounds about right), but at least they are all listenable.

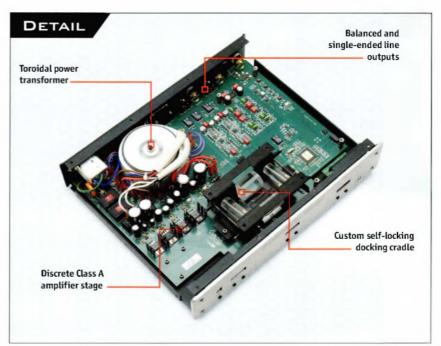
There's even the choice of iPod to consider. Naturally, your iPod has to be second generation or later to sport a docking port. But there are also some who reject the iPhone and iPod Touch on audio grounds.

There's a symbiosis between the two non-Apple products that bespeaks quality. In other words, the KID and the Purity sing together beautifully. The Krell KID is more of a preamp than a dock and the improvement that it brings to the Apple sound is quite remarkable. You get a vivid, exciting and clean sound with a surprisingly fine soundstage... something far better than the flat, pinched 2-D sonic disappointment that comes when you usually hook your iPod to the hi-fi. All this without even tangling with digital code must mean Krell is doing something right. The sound is perhaps drier than typical Krell products, but is still an excellent presentation.

The MartinLogan side of things is not too dissimilar from the performance heard in the Source loudspeaker we recently tested. The extended, smooth treble, the open mindrange, that effortless sense of







disappearing loudspeakers and the well-integrated dynamic bass are all re-issued here. The big difference between this speaker and the passive version is even better bass control, depth and integration; having that 200 watts on tap really brings the speaker to life and helps bring out the best in the KID. It gives the iPod sound a cohesiveness that it seems to so sorely lack in other settings.

Even the bass and treble controls – usually so alien to any Krell-loving audiophile – have a place here. Unlike most modern CD recordings, it seems that those squeezed into the iPod comfort zone are compressed at the bottom end and over-emphasised at the top. Worse, this seems to have become the norm for modern pop and rock releases, perhaps to make them sit more comfortably in tinny little iPod headphones. The mild degree of tone shaping that goes on thanks to the

KID helps shape this. That the iPod can be controlled by the credit card remote is good, but the logic driving the remote is pure Krell – it's not confusing, but neither is it the genius iPod interface.

We've heard many aspiring high-end iPodbased systems, but this is the best of them (it's also currently the most expensive of them too, these things may be related). In some respects the Purity speakers are perfectly made for the iPod, if using good-quality sound files – the openness of the midrange and smooth, clean and extended treble fit the Apple sound perfectly, where cone-and-dome systems (especially metal dome tweeters) can sound brash and hard. Also, because electrostatics take the emphasis off dynamic range, this helps take the edge off very mild compression, which always sounds too compressed on dynamic box speaker systems The Purity designs do have a dynamic bottom end and that also fits the iPod profile.

If there's a limit, it's in the video output. In fairness, this is as much the fault of the Apple device as it is from the Krell KID, but composite and S-Video connections are relatively weak in today's HDTV world. Others have shown (although not, as yet, launched) upscaling docks that bring the iPod video quality a nudge toward DVD-grade video goodness, but here the picture quality is indistinct and blocky, on both outputs.

We want to ask whether this system makes you reach for the off switch on your CD player, but this is wholly the wrong question. We doubt this will be the only system for those who invest in it, and many will be considering the ElectroKID as a useful adjunct or complement to their existing high-end hi-fi. In that context, the ElectroKID is a remarkable pairing. HFC

Alan Sircom







Can Cairn's £850 Tornado CD player whip up a mid-market storm?

PRODUCT Cairn Tornado

TYPE CD player

PRICE £850

KEY FEATURES Size (WxHxD): 43 2x9 2x24 5cm • Weight: 7kg • Variable volume • SOFT 24/192 upgradeable • Digital outputs: optical, electrical

CONTACT № 01422 372110 ⊜ www.icairn.com

n the January issue (*HFC* 302), we took a closer look at Cairn's obscurely named Fog 3 CD player. Manufactured in France, it had its fair share of Gallic charm and provided more thrills than we've encountered in digital audio for some time. Now we have the first sample of its new stablemate, the

Tornado – a similarly designed player that manages to bring the price down quite dramatically by cutting back on luxuries. While the Fog 3 will set you back over two grand, the Tornado is only £850.

The Tornado is the base disc player in Cairn's small, but attractively formed range (there are two further one-box players, including the aforementioned Fog 3 and the Via, which is only available built to order).

Described as a simplified version of the Fog 3, the Tornado is smaller and is less lavish; the former's attractively ventilated silver casework being replaced with a standard black finish behind a 5mm front panel. It is not quite

as smart as the Cambridge 840C, but is very much on a par with most of the competition.

Inside the box, savings have been made by shaving off the XLR output and the digital inputs. More significant, perhaps, is the change of DAC board, with the Tornado having a standard 24-bit/96kHz chipset and filtering. The four filter settings on the Fog 3 offer a broad range of sound tailoring, far wider than the filters we've tried on players in the past, with everything from relatively smooth and relaxed all the way up to 'in yer face'. So the way that Cairn has set the filter on the Tornado will probably have a distinct impact on the impression it makes.



"Cairn offers an optional 24-bit/192kHz upsampling board called SOFT for £250, which is featured in the £2,000 Fog 3."

The analogue output stage is a Fog-like bipolar design that runs in class A and is devoid of negative feedback, an approach much vaunted by the valve amp designers

But Cairn is also an amplifier maker with three integrateds and a pre/power on its roster, so the chances are that it has its own ideas in this department.

For the newcomer, the Fog 3 had some peculiar operating procedures and the Tornado is no exception. Opening the disc tray or playing a disc, requires holding in the operation button for a longer period of time. Turning the unit on requires you to double click the on/off button. Nonetheless, the remote handset now has a conventionally arranged numerical keypad and once you've located the 'tray' and rotate symbols for 'open' and 'repeat', it's not so hard to find them a second time.

The Tornado boasts a simple socket layout, with analogue outputs on RCA phono and digital outputs on coax and Toslink connectors. There's even one extra phono socket for wired remote operation.

Cairn offers an optional 24-bit/192kHz upsampling board called SOFT for £250, which is featured in the £2,000 Fog 3.

As standard, the Tornado is supplied with a 24-bit/96kHz Crystal CS 4398 DAC with fixed filtering. The SOFT board not only ups the sample rate, it also offers the four filter settings that allowed us to tailor the sound on the Fog 3 to quite a significant degree. The question, of course, remains as to whether adding this board to the Tornado gives you Fog 3 sound at nearly half the price, Cairn calls SOFT "the magic bullet", claiming that it "intensifies all the qualities and brings a refinement that you find sometimes only in

very high-end stuff." But, of course, they're naturally biased!

SOUND QUALITY

In action, the Tornado is extremely reminiscent of the Fog 3 in its F3 filter setting. It has the same highly detailed midband and a tendency to emphasise instruments in the upper midrange and treble. Cymbals and percussion instruments are a little more obvious with this player and it doesn't quite put the music in the room to the extent that its sibling does. But it does have a very engaging presentation, which takes a well-tempered system to keep from getting too close to the edge.

We used the Tornado in two set ups (Classé/B&W and Border Patrol/ATC active), and found it more revealing than we would expect at this price point. But, in neither instance was it out of its depth, so long as the output level was reduced accordingly. We set its output to match a Cambridge Azur 840C (which meant reducing it by 2.5dB) and this took away a slight edginess from the sound, probably produced by high output discs overdriving the input on the preamps in use. In less revealing or warmer systems, this is probably not necessary, but if your amplifier and speakers are already on the lean or bright side it could be essential.

Heard after the 840C with its 24-bit/384kHz oversampling, the Tornado produces an electric result that's significantly sharper and more crisp. It lacks the sophistication of the more affordable Cambridge, but trades

0&A

We talked to Cairn's founder Gilles Belót about the Tornado CD player.

HFC Where is the Tornado made, is it Chinese or French? GB All our products are handmade in France



along with all the mechanical parts. The PCBs are assembled in China, but we supply all critical or specific components (ICs, transistors) that we buy in Europe or in the USA and Canada

Does it use a bit-reducing digital volume control, where the quality of the signal is reduced because there were fewer bits available?

Yes, when you reduce the digital level you reduce the digital resolution and the sound quality

Can the differences between a Tornado/SOFT and a Fog 3 be measured? if so, what are they?

Lhave a PhD in acoustics and Fahrice Maunin the software/ hardware designer is an electronics engineer. I have around 20 years experience in design, but most of the time we don't know how to measure a difference between two solutions, even if we spend (too much) money on measurement systems. We choose different components and we can hear the difference, but we cannot measure it. Bad measurement gives bad sound quality, good measurement does not give good sound, but it is necessary,

Does the Fog 3 sound better than a Tornado/ SOFT and if so why?

In the Tornado we use a different circuit diagram than the Fog 3. The sound is different using two different layouts and different PCB quality (especially copper thickness). Most products use a 35µ copper PCB, whereas the Tornado and Fog 3 use 70µ

The position of the tracks on the top and bottom layers are also very important SMD [surface mount] components are very helpful because we can design short tracks, small size circuit with the same temperature behaviour and good grounding and shielding

Noise can also be kept very low and the same in both channels. So, even with the SOFT digital filtering, the Tornado is not better than the Fog 3. Although, this is the third ugrade since Fog first appeared in 1999 and improvements have been made on a step-by-step basis.



■ this for a level of realism and excitement that is enthralling. Timing isn't quite as poised from the French machine, but it does dynamics to greater effect. With a good recording - such as Manu Katche's Playground on ECM - the Cairn puts the musicians right there in the room with you. Some of the polish and finesse is missing, but what you get in exchange seems remarkably real. We wondered if this magnification of the sound might be a little too much for lesser discs and so put on Grace Jones' The Collection. The bass sounds great, chiselled and taut, but the eighties style electronic percussion is a little bit busy and hard-edged.

So the differences in recordings are pretty obvious. But you'll want this from a hi-fi component, so long as it's not achieving the result by colouring the tonal balance. In this instance, there are other factors at work. This is an extremely nimble player that lets you follow what the various contributors to a musical piece are doing. It does this by being more sensitive to the dynamics and timing than the timbral qualities of the voices and instruments. The Fog 3 is better balanced in this respect and it's possible that the SOFT board upgrade would bring the Tornado closer to that result.

What you can't help but be impressed by, is the way that singers like Rickie Lee Jones are seemingly placed in the room by this player, a trick it pulls off with greater skill than we've previously encountered near this price point. There's an element of 'seat of your pants' to the experience, but that is part of the thrill.

The Tornado will not be to all tastes, but it does deliver an awful lot of detail for the money. This places more emphasis on the smoothness of the recording than usual, but has the potential to deliver results that would usually cost much more. It's a bit like a supercar – you don't expect an easy ride but you do get carried away with the adrenalin it produces. So the question is, are you ready to listen in the fast lane? HFC

Jason Kennedy





shuns compromise and delivers intensely real sound for its price. It will be too exciting for some and needs good system atching, but there's no denying its appeal









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HFC/APR08

Phi5 stars

This slim floorstander from Denmark is stuffed with smart engineering ideas

HI-FI magazine

PRODUCT Gamut Phi5

TYPE Floorstanding loudspeaker

PRICE £2,550 per pair

KEY FEATURES Size (WxHxD): 17x100x24cm

O Weight: 19kg

O Three-way floorstander

O Three
150mm paper bass/mid drivers

O 25mm soft dome
tweeter

O Sensitivity: 88dB

O Impedance: 4 ohms

amut is one of the smaller and more specialist Danish operations, but no less interesting for that. Founded decades back by Ole Lund Christensen, the original company became known for a classically simple, but powerful amplifier. After several ups and downs, it evolved into a full-line brand, including a CD player, several amplifiers and even more loudspeakers. Gamut is now run by ex-ScanSpeak psychoacoustics engineer Lars Goller; who also heads up a new drive unit operation called Scandinavian Audio Research (ScAR).

The Phi series is the newer and less costly of Gamut's two speaker ranges. It consists of three stereo pairs, plus a multi-purpose AV speaker (a subwoofer is also promised). All share similar drive units, albeit in different configurations and enclosures. This £2,550 per pair Phi5 is the middle model and the smaller of the two floorstanders.

And why Phi? Well, it's the Greek letter used to express the golden ratio (1.618) – a mathematical number that Goller utilised when positioning the interior reinforcement and the outer groove in the speaker cabinet. It defines the weak spot in the structure and, thereby, controls the break-up pattern of the enclosure side walls. For example, the length from the outside of the cabinet to the back to the groove, divided by the total depth of the cabinet is 0.618 (Phi).

The Phi5 is a three-way design, using three 150mm cone drivers with 90mm wood pulp (paper) cones. These have barely visible, curved radial marks, presumably to help control break-up modes, while the solitary tweeter has a 2.5cm fabric annulus (ring) diaphragm.

The two cone drivers below the tweeter operate in parallel in the bass region, with further assistance from a rear port, while the apparently identical midrange driver is mounted above the tweeter at the top of the

column, loaded by its own sealed subenclosure. The midrange driver is located around ear height (from a sitting position) and the tweeter a little below that.

The fashionably slim enclosures are elegantly finished in real wood veneer. Our samples (pictured) came in a rather extreme Zebrano veneer, giving a heavily striped horizontal pattern. More discreet and sober alternatives are also available and a slightly over-size grille is quite effective in minimising the speaker's apparent bulk. The carcase is high-pressure MDF, reinforced by bracing and carefully applied damping. On an internal inspection, the most obvious visual feature is a deep, wide black-painted groove all around the periphery, separating the front and back sections of the enclosure by a recessed insert which is clearly designed to help control enclosure vibrations.

Another interesting feature concerns the floor coupling arrangements. These are complex metal affairs which use top-adjustable ball-bearings to bear down on levers that extend out to contact the floor and improve the stability footprint. This proves an excellent technique for a wooden floor, but might not penetrate deep-pile carpet as effectively.

The tweeter has a central stainless steel wave-guide spike to improve directivity, a die-cast front plate and a low distortion magnet system. The main drivers have a new long-throw, low-loss suspension, a machined pole-piece wave-guide and aluminium ring inserts to minimize current distortion.

Fed from twin terminal pairs, that are linked by brass strips, the so-called NRLi crossover technology allegedly includes a DC-coupled network. Feeding the midrange, it sounds radical and innovative, but might also contribute to the rather low impedance we measured throughout the bass region.

SOUND QUALITY

With the speakers kept well clear of walls, the averaged in-room, far-field response measurement is very impressive indeed, essentially holding within +/-3dB across most of the audio band with only minor extra excursion at low frequencies. Room mode excitation notwithstanding, this is one of the smoothest and best-controlled in-room responses we've ever encountered.



"With the speakers kept well clear of walls, the averaged in-room, far-field response measurement is very impressive..."

Rather less impressive, are the impedance traces, which not only show a demanding load that reaches a three ohm minimum and stays below four ohms through most of the bass and midrange, but also show a significant discrepancy between our left and right samples (pair-matching ought to be better at this price point). Although the sensitivity is a respectable 88dB, the more so because the bass extends well down to 20Hz (-6dB) under in-room conditions, an amplifier with good current capability and low resistance speaker cables are both desirable.

Given good quality sources and amplification, this speaker is capable of quite superb results, with an overall evenhanded neutrality, alongside an exceptionally wide dynamic range. Clearly the efforts made to control cabinet vibrations are largely effective. Although some 'woody' coloration is audible (for example; when compared to a 'boxless' panel speaker), it in no way intrudes or masks low level detail and the general impression is of a notably 'quiet' box contribution throughout the entire low frequency region

Imaging is interesting. The soundstage is very well focused, but the sound stays within the plane of the speakers, rather than filling the space around and above the speakers in the manner of a more omni-directional design.

Neither approach is right or wrong, but rather there's a trade-off: the Phi5's relatively low set tweeter provides superior focus but less 'air'.

This speaker does so many things so well, it's quite difficult to criticise. While it doesn't quite have the dynamic tension of a high-sensitivity horn system, the drivers and enclosure ensure an impressively wide dynamic range with fine resolution of low level sounds.

While the midrange and treble are sweet, clean and very well judged – open and explicit yet entirely free from any aggressive tendencies – it's the bass end that's truly exceptional here. It goes satisfyingly deep, right down to the very limits of audibility, yet it also stays free from any excess and unwanted thickening up in the midbass region, and avoids 'thinning out' the lower midband character.

Acoustic material, such as Tunng's Comments of the Inner Chorus is reproduced with marvellous dexterity, the acoustic guitars showing great delicacy and subtlety, while the more curious percussion sounds are appropriately realistic and surprising. Yet it also knows how to rock and roll, handling the unusual and complex time signatures on Beefheart's Clear Spot album very convincingly, and delivering a superbly deep and clean bottom end beneath Robbie Robertson's Down the Lazy River.

The Phi5 combines top class Danish drive unit technology with some very clever ideas on enclosure engineering and support. Put together with great subtlety and sensitivity, the end result is an outstanding loudspeaker that fully validates its upmarket pricetag. **HFC**

Paul Messenger







The 'i's have it

A subtle name change signals a major update for the NAIT 5i

PRODUCT Naim NAIT 5i

TYPE Integrated amplifier

PRICE £725

KEY FEATURES Size (WxHxD). 43.2x7x30.1cm

➤ Weight: 6.4kg ➤ Inputs: four line-level (two with DIN and RCA sockets) plus one auto switching • iPod connection. Outputs, one pair loudspeaker outputs (through 4mm sockets), one tape output (on RCA phono connectors) • Power output: 50 walls (into 80hms)

CONTACT 20 01722 426600 # www.naimaudio.com

he original Naim NAIT 5i, has earned a formidable reputation as a classleading, 50-watt integrated amplifier offering outstanding musical performance. It's also credited with the ability to deliver levels of

communication beyond that of most entrylevel amplifiers. It wasn't without its faults, of course. If you cranked up the volume (through difficult loudspeakers) and played some challenging music, then the amplifier would show signs of discomfort. So, for listeners who preferred a smooth hi-fi type presentation, the NAIT with its warts-and-all honesty was never going to be a front-runner.

Now there is a much improved replacement for the NAIT 5i: the NAIT 5i, with an italic 'i' as opposed to the mark one version (hardly the most attention grabbing change of nomenclature). The exterior is equally undemonstrative, with the addition of a tiny,

auto-switching input socket on the fascia for connecting an iPod or MP3 player.

As one would expect, the changes that significantly affect the NAIT's performance are mostly hidden from view. So, you could be forgiven for buying the NAIT 5i, under the impression that it's identical to the non-italic version it replaces. That is, until you switch it on and play the first track through it.

The enhanced performance comes from (in typical Naim fashion) an evolution of the original. Here, the audible result turns out to be greater than the sum of the parts might lead you to believe. For example, the new 5i features ceramic heat sink material, which



"...you could be forgiven for buying the NAIT 5*i,* under the impression that it's identical to the non-italic version it replaces."

delivers better efficiency and far lower capacitive coupling of the transistors to the chassis. Restructured wiring improves the isolation of the PCBs, the overall feedback has been reduced to lower transient intermodulation distortion (improving stability into difficult loads) and, finally, the passive preamplifier stage now benefits from improved RF filtering.

One hidden element in the design of the NAIT 5*i* and, indeed, many of the company's other electronics, is the way in which Naim controls and directs resonance and vibration. The loose fitting mains input and audio connections are not faults, but intentional design measures that aim to prevent spurious vibrations being transmitted through the system's cabling to the amplifier circuit boards. The boards themselves are decoupled to combat the effects of any external vibration

that does manage to find its way inside the 5/s sturdy aluminium casework.

There is little else to say about the NAIT 5*i*. It features four line-level inputs: all of which have RCA phono connections, while the CD and tuner inputs are duplicated with DIN connectors. The remaining connections are tape – in and out – and AV; which can be configured as a unity gain input if the user wishes to integrate the 5*i* into a home cinema system. The final connection is the 3.5mm stereo jack on the fascia. Plug your iPod into this and the amplifier automatically switches to it: remove the connection and the amplifier reverts to whichever input you were using previously.

The NARCOM 4 remote handset is also compatible with the CD5*i*, CD player. This is an extremely palatable combination and one that (naturally) Naim strongly recommends. In fact,

the company partnered these two for the NAIT 5i's original debut in November 2007, along with a pair of Naim n-SAT loudspeakers.

SOUND QUALITY

With no n-SATs to hand, a pair of Shahinian Compass speakers were pressed into service as they were already set up in our listening room. While the Compass wouldn't be everyone's ideal choice when it comes to an inexpensive integrated, it is an unusual and sophisticated loudspeaker that retails at over £3,000 a pair. The NAIT 5*i* works surprisingly well with the revealing Compass, but we switched to the more price-appropriate and conventional Neat Motive 1 for the bulk of the review.

There's little or no reason to analyse a track through the NAIT 5 i and the Neat Motive 1 speakers, because this amplifier appears to do very little other than amplify. It somehow steps aside and lets the music do the talking, without trying to manipulate or modify it.

The NAITS i and Neat combination sounds perfectly balanced and wonderfully expressive on the Doctor John album *Duke Elegant*: David Barard's bass displays the ideal amount of presence in the mix. Assertive and tuneful, with excellent leading edge attack, it never imposes on the proceedings, although it does add plenty of 'pure fonk-i-fication', to paraphrase the good Doctor. Throughout this collection of Duke Ellington compositions, the musical brilliance and sheer empathy that Doctor John brings to transcribing them for his much smaller band, its different, more

Q&A

Hi-Fi Choice spoke with Naim's audio guru Doug Graham.

HFC Why wasn't there a bigger change in the nomenclature to match the dramatic improvement in performance that the new amplifier offers?



DG It was really difficult for us to re-name a very successful version of the NAIT. The original "i" series sold incredibly well, but we still felt that there was more we could offer at this competitive price point. Certainly a degree of flexibility was required, hence the 3 Smm jack on the front panel. Out of this addition – an interface for iPods and suchlike – we wanted to keep the "i". The new NAIT 5 i is distinguishable from the previous incarnation, not only by the front panel socket, but through the obvious performance benefits too.

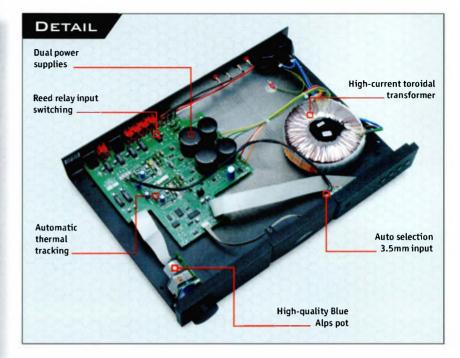
From its earliest incarnation the NAIT was always an idiosyncratic 'love it or leave it' design. Was there a conscious effort to make the 5*i* more accentable to a broader audience?

Without a doubt the new NAIT is more acceptable to a wider range of buyers. Given that it's more flexible in terms of connectivity and more tolerant of different speaker cable it's less idiosyncratic than the original design. We still wanted, though, to deliver a product with Naim values and we've done that. It's a grown-up integrated now!

The most important thing we did while developing it, was to try it outside the context of a Naim system and use it with other people's products to understand how and what the performance would be for a first time buyer who perhaps had "other" inputs. This proved really successful with a variety of CD player and loudspeaker combinations.

What's the reason for the seemingly tremendous synergy between the CD5i and NAIT 5?

It's hugely important that all of our products work at their best with others in the range. There has been a shift in the audio enthusiast's habits with most consumers today preferring physically matching components that interface well. So we designed the CD5i and the NAIT 5i at the same time, which entailed extensive listening over a period of months. During this process, a product develops a "finger print" sound signature that, if the consensus is there, you adopt. It was really tough to improve on the previous incarnations, but we managed it!



modern instrumentation and his individual style of delivery, are abundantly clear through the Naim. It's fair to say that we've heard this album through a great many systems, yet few (even the most expensive) have conveyed this element quite so strikingly. There seems to be something about the way in which this amplifier is designed that allows it to be so informative without it having the blatant detail and transparency of some more effusive, but ultimately less communicative designs.

To see how the amplifier fared with extreme dynamics, we switched to multiinstrumentalist, the classically trained, ex-Velvet Underground member John Cale and his album Fragments of a Rainy Season. On many tracks, in particular Fear [Is a Man's Best Friend], Cale's voice and piano explore both ends of the dynamic register - both overtly and subtly – to great dramatic effect. When Cale switches to acoustic guitar, it merely restates just how fast this amplifier is: its leading edge definition is astounding, but doesn't dominate proceedings. When, for example, Cale plays a Jazz chord, you hear the notes ring, albeit briefly. When he plays in a tuning that allows open strings you can distinctly appreciate the switch in timbre and note-envelope

The NAIT Si performs as succinctly with more densely layered, orchestral music, portraying its mechanical structure as convincingly as it does its musical beauty. Nowhere was this better felt than in the second movement of Villa Lobos' *Bachianas Brasileiras No 1*, played by the English Chamber Orchestra and led by Rostropovich.

As well as successfully capturing and recreating the recorded acoustic and ambience, along with the sumptuous tonality of the strings, the sheer magnificence of the composition and the playing were undeniable.

Proof, indeed, that after 25 years in the business, the idiosyncratic NAIT has finally matured and become a genuine all-round proposition. **HFC**

Malcolm Steward









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The new Cremona Auditor M may not look that different on the surface, but underneath...

PRODUCT Sonus Faber Cremona Auditor M.

TYPE Standmount loudspeaker

PRICE £2,690 per pair

KEY FEATURES Size (WxHxD): 20.2x35.3x36 5cm

○ Weight: 18.4kg ○ Two-way rear ported loudspeaker

○ 25mm ring radiator tweeter ○ 150mm coated paper cone bass unit ○ Sensitivity: 88d8 ○ Impedance: four

CONTACT 2 020 8971 3909 ⊜ www.sonusfaber.com

onus Faber is a bit like a swan: refined and graceful on the outside, these Italian products are subtly different from generation to generation. Yet, underneath, there's a lot of paddling going on, because the changes to the sound are huge. And so it is with the new Cremona Auditor M (for Modified) standmount speaker.

If you put the new Cremona Auditor M up against its predecessor, you can see where the differences are almost immediately. The angles behind the grille are sharper, the bass driver is different and the base of the dedicated speaker stand (which is good but £575) is now V-shaped. The back of the speaker is very different, too. But principally, the two share a lot in common

In fact, all of the Sonus Faber speakers share a lot of the same DNA. Scratch the surface (not recommended – the finish is way too pretty to do that) and you'll find ideas developed in models like the Elipsa, which are in turn derived from the Stradivari Memento; you'll also find concepts hewn from the Guarneri Memento. Naturally, this is only to be

expected – the Sonus Faber design school doesn't re-invent the wheel every time a new speaker is announced, but the closeness of the designs means the products have a distinct suono della famiglia (family sound). And it's a sound that's changing.

As it was with the Cremona Auditor, the Auditor M is a two-way standmount box loudspeaker, with a rear-firing port. The 'box' itself is a tapered lute-shaped sandwich and gorgeously finished. The sandwich construction features hand selected, top-grade layers of maple, designed to keep resonance and standing waves at bay – and to look fantastic, too. The rear port and terminator block is finished in piano-gloss black, the front is in black leatherette and what's in between is

either finished in natural maple or light graphite-coloured lacquered wood. Combine the finish with the elegant styling exercise and you have a speaker that's as far removed from regular standmounts as the Connolly leather interior of a new Jaquar is from the torn-up insides of an eight-year-old Nissan minicab. Little wonder then, that the speakers come supplied in their own cloth protective bag.

The 25mm modified Scanspeak ring radiator tweeter, with its distinctive pointy waveguide, is retained from the last version of the speaker. but the bass driver is all new. It's a 150mm (six-inch) black wood fibre cone, treated (presumably with carbon fibre) to control break-up and features the Symmetric Drive motor system first seen in the Cremona speakers. Symmetric drive means three copper rings in the motor to keep the inductance of the voice coil even throughout its travels. This drive unit is exclusive to Sonus Faber, although



the electrostatics. The disappearing act that the Cremona Auditor did so well in the first iteration isn't only repeated here; it gets to be

...you have a speaker that's as far removed from regular standmounts, as the interior of a new Jaguar is from the inside of a Nissan."

it's made by the Tymphany group (which makes Vifa, Scanspeak and Peerless drivers)

Sonus Faber has gone for a smooth approach to crossover manufacture, with a first-order network producing a mild 6dB per octave rolloff, from the crossover point of 2.5kHz. The company still claims an effective frequency response of 50Hz-30kHz, including the tuning ports, but this is still impressive for what is essentially a small-box speaker in free space. The speaker has a natural backward tilt, which should provide a degree of time-alignment in and of itself, but the crossover network is also both time and phase aliqued.

The speakers are designed for free space use - a good metre or so from rear and side walls - and, ideally, on the specialist stands supplied. A cat's cradle of loosely tensioned black strings, which act as sort of speaker grille - complete the elegant appearance.

SOUND QUALITY

The sound of older designs being slowly replaced with something altogether more modern and accurate could spell disaster with lesser speakers, and we've all heard modernist revisions of classic designs that end up sounding unnecessarily bright and brash. Fortunately, that's not the case here. What you get instead, is an extended, clean and yet not hard treble sound, allied to a midrange so detailed and so natural, you'll be looking for

even more invisible than before. Slip a piece of plastic on the CD, close your eyes and you cannot locate the speakers in space. While your eyes are shut, try and determine the size of the speakers... you'll think they are twice as large as they really are. I'm sure there will be Sonus Faber dealers leading blindfolded customers into the listening room before long.

Sonus Faber has pulled off a neat trick. The Cremona Auditor M gets surprisingly close to the sound of the Guarneri Memento, in many respects. It manages to throw out a huge soundstage, producing an openness and accuracy that will keep musicologists happy and a bass depth that will have amateur speaker designers scratching their heads. And it's musical, too. It's not a Guarneri, though; where the two differ is that the Homage series model makes everything sound sumptuous.

As such, there will be those who will prefer the Cremona Auditor M over the Guarneri Memento. This is, perhaps, the more accurate of the two speakers, in that it doesn't make Television or The Clash sound smoother than they really were. Don't think this means the Cremona Auditor M somehow pulls back from sounding musical, though. It manages to combine that accuracy and fine detailing with a fine sense of musical entertainment.

Another neat trick; the Cremona Auditor M is less amp and room fussy than before. No, you cannot just plonk them down in the living

room and hooking these babies up to some hoary old amp that was already well past its sell by date in 1976, is a recipe for disaster.

Are there any negatives? Not really, other than the obvious physical limitation of small speakers (don't expect deep-deep bass or use it in big-big rooms) and there is a warming and blurring of upper bass notes that is mild by comparison to most ported speakers, but is noticeable thanks to that disappeary midband.

In the main, though, we like what Sonus Faber is doing to its speakers. What began with the original Guarneri Homage has made the speakers far more approachable to more audiophiles. We thought a lot of the original Cremona Auditor, but this raises the game substantially. HFC

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PRODUCT Townshend Audio Seismic Cradles

TYPE Loudspeaker support system

PRICE £980 per pair

CONTACT 2 020 8979 3787

⇔ www.townshendaudio.com

irst he did it with air, now it's springs, so just what is Max Townshend up to this time? Actually, he's continuing the good work of decoupling, that has been at the heart of his products since the Rock turntable hit the scene with its vibration-damping trough of silicone. The latest idea, is a spring suspension system that can be adjusted for loudspeakers of, more or less, any shape or size.

This is the third incarnation of the Seismic speaker stand, the first was a flat platform with a pneumatic isolator that worked well, but lost air over time with heavy speakers. This was followed by a sprung system with one cradle per speaker of a fixed width, which made it difficult for Townshend to have a stand for all speakers in stock at any given time.

The Seismic Cradle, however, can be supplied with a variety of alternative crosspieces to suit all manner of loudspeakers.

Working in pairs, the cradle suspends the speaker on a spring in each cylindrical post. These springs can be adjusted for tension, with a nut atop each one so that a range

of weights can be accommodated. You also need to specify the speaker weight, so that the spring is not too weak or too strong. This is important in allowing the speaker to be properly decoupled from the floor.

Why decouple a speaker in the first place? Because when it's standing on the floor (and more than likely spiked in position) it will dissipate a lot of its energy downwards, transmitting vibration back to both the source and the amplification, which seriously undermines performance. It also resonates the floor to such an extent, that the sound can be more easily heard by your long-suffering neighbours.

SOUND QUALITY

We tested the cradles under Bowers & Wilkins' 802D speakers, the latter's 80kg weight putting them right at the limit of this particular cradle. Once you have adjusted the width, it's just a matter of placing them under the front and rear speakers and then adjusting the springs to compensate. You can put speaker stands on the cradles, but would probably be better off using Townshend's suspended stands.

The reward for the efforts, is a significant increase in openness, realism and presence that is most apparent with voices. Imaging

is also greatly improved with a degree of holographic realism being added to the better recordings,

The high price of a set of Seismic Cradles dictates their exclusive use with high-end speakers and systems. But for those who already have everything else in place, then they free up a system to fulfil its potential (as well as keeping the neighbours happy) which can't be a bad deal. **HFC**

Jason Kennedy





PRODUCT Systemline Musicserver

TYPE Music server

PRICE E1,200

KEY FEATURES Size (WxHxD): 44x3.5x34cm

 Weight: 9kg
 Audio outputs: three independent analogue RCA phono plus digital (optical)
 Audio inputs: digital (electrical and optical), two analogue RCA ○ Video outputs: composite, S-Video, VGA

Connections: Ethernet, USB, RS232 C 160GB capacity

CONTACT 2 01279 501111 # www.systemline.co.uk

usic servers are coming thick and fast at the moment and the Systemline, from a part of the Armour Home Electronics empire, seems like a typical enough example. It has a CD drive, an internal hard disc and just enough buttons and front-panel display to make operation possible without attaching a TV (or VGA) monitor, or using the remote control (though employing both those devices will make life much easier).

Like models from Imerge, but in contrast to the Escient Fireball (which we reviewed in HFC 303) and the Cambridge Audio Azur 640H, this server has three multiple outputs. The ability to play separate streams to separate zones is surely a prerequisite for a server to be useful in a full-on multi-room installation, so three seems a sensible number. Significantly,

all three on this unit are both analogue and digital, so an installation with a local DAC in each zone is a possibility, though you might need to convert the optical output to electrical first.

The usual server features apply, too: the basic idea is that you load your CDs on to the hard disc using the CD drive, which is a speedy computer type, and access them quickly from there by title, genre or artist. Thanks to the usual Ethernet connectivity, you can hook up the server to your broadband modem and the unit seamlessly accesses an online database and loads album details for you. This all works very nicely and you can also set the drive to load CDs to disc automatically upon insertion, without interrupting whatever you happen to be listening to. It's not quite as fast as we'd like, though. Despite making a noise like a jet engine, the CD drive took nearly six minutes to load Dark Side of the Moon (approx 45) minutes), while our PC with a Plextor reader did the same in two minutes, 20 seconds.

If you think you may never wish to listen to a disc again, you can play it direct from the drive, and the unit's Internet connection allows you to access online radio stations. You can also

load your collection of LPs, cassettes and other analogue recordings via the line inputs at the rear (two pairs!). And finally, you can connect additional Systemline servers, home computers and portable audio devices either via wired Ethernet or a wireless adaptor, making for a nearly limitless system.

Assuming you don't go to such lengths, the main limit of this system is the built-in hard disc. For reasons which elude us, the only size of drive currently available is 160GB. If you are going to store music compressed in MP3 format that's pretty big, but if you share our inclination to preserve quality by storing it uncompressed, that's only about 240 hours, which is pretty borderline for most serious collections. There's no lossless compression option either, which would have doubled that figure. At the time of writing, a 500GB drive costs about £25 more than 160GB. We'd rather see a £50-£100 hike in the server's price and the ability to swallow over 1,000 CDs in full quality - Escient at least can offer that.

One aspect of the Musicserver, which we're in no mood to criticise, is its physical construction. It's built to a very high standard from thick sheet steel and is very neat inside,



"The assumption tends to be that CD players are top of the heap in terms of quality, while servers are well down at the bottom."

with decent-quality audio parts on the relevant circuit board. It's also well provided with connections: we've mentioned the audio side but there are also composite video outputs (one for each audio output), S-Video, VGA, three USB sockets (one of them on the front), RS232 and even a PC keyboard socket, plus the Ethernet we referred to above.

SOUND QUALITY

As we've come to expect from modern servers, initial setting up is pretty painless. That said, we ended up a little disenchanted with the remote control. It has a tendency to skip two or three lines on a menu when we only wanted one and reaction from the server can be surprisingly slow.

In terms of basic sound quality, we were definitely impressed. The assumption tends to be that dedicated CD players are top of the heap in terms of quality, while servers and multi-format players are well down at the bottom. Well, it isn't always the case and this machine puts on a performance that wouldn't in any way shame a £300 CD player. Sadly, a drawback it shares with all the other servers we've encountered is the mechanical noise it makes from hard disc and multiple internal

our most critical

fans. For

listening, therefore, we put it outside in the hall and used long interconnects, but, of course, the remote control doesn't work through a wooden door! A glass-fronted hi-fi cabinet could be a partial solution, but we're waiting eagerly for the first silent, or truly whisper-quiet server.

Unwanted noise dealt with and there's some real class to the sound. By contrast with the Escient, for instance, it's much the same sound from hard disc or CD direct. For a start, there is no sign of noise breakthrough from computer circuits or the switch-mode power supply and the tonal balance seems nice and natural. The sound has a pleasing clarity and crispness and, as one listens to more and more tracks, it becomes clear that there's an admirable degree of detail in evidence, too.

Even stereo imaging is good, with a clear and stable lateral spread and fair-to-decent coverage of depth. To be picky, there's a little coloration in the midrange which contributes some chestiness to male voices and a little extra 'quack' to larger saxophones. But bass is really very well controlled and nicely extended, with a good combination of rhythmic precision, while the treble is clear and open and only a little short of the standard achieved by good

CD-only players. In short, this is a fine

bit of audio performance, confirmed by lab measurements that look a lot like those we expect from competent CD players Unfortunately, with this server we can't see the blueprint for the perfect device, either in a hi-fi separates system or an installation. In the case of the latter, it can be assumed that MP3 will be used and the capacity isn't an option, but we don't see why full CD-quality shouldn't be available. 240 hours may be an average collection for most but not, we strongly suspect, for the readers of this magazine. And the noise is a real nuisance if the Musicserver is to be primarily the heart of a 'real' hi-fi. What's more, £1,200 buys quite a nice laptop PC. that does everything the Musicserver does and more, very conveniently... HFC

Richard Black







the essence of musical luxury, defined by Cyrus









Tailor-made

Custom-fit earphones are no longer just for musicians

PRODUCT Etymotic ER-6ic

TYPE Custom ear-canal earphones

PRICE £150

CONTACT ≥ 0845 005 0005 ⇔ www.customeaiphones.co.uk

ar-canal headphones are nothing new, but Etymotic – who was the first company to develop commercial in-ear products back in 1984 – offers an appealing custom-moulded version of its popular ER-6i, tailor-made for your ears. The advantages of custom-moulded earphones are highly attractive – they offer unmatched all-day comfort, as well as significant 'natural' noise cancelling and, as a result, they can help protect your hearing by enabling far lower volume levels.

Etymotic has teamed up with a company called ACS — a supplier of custom-fit hearing protectors and monitors for the music industry Together, they've created a package that consists of the ER-6ic earphone, with a tailor-made earpiece all for £150. When you buy a pair of ER-6ics direct from one of Etymotic's suppliers, they send you the headphones complete with a voucher for your custom fitting session at an audiologist near you (customearphones.co.uk has a locator search).

The moulding itself takes less than five minutes and your new custom-fit ear-pieces should follow 14 days later. When your new moulds arrive, you simply remove the old 'universal' adaptors and slip on your custom jobbies. It's worth noting here that ACS makes each piece by hand from medical-grade silicon and its customers include U2!

Admittedly, the moulds take a while to get used to, and the correct insertion technique takes a few attempts to master. The 'proper' seal only comes through practice and experience, but once in, the fit is beyond compare. The ER-6ic unit itself is tiny: smaller than most rivals, for example, and about the size of a baked bean! But despite the compact dimensions, flyweight 30-gram mass and tiny drive units, Etymotic suggests the ER-6ic extends down to 50 Hz, and up to 16 kHz.

Whilst this is clearly not up to audiophile

Whilst this is clearly not up to audiophile standards, the product has, in fairness, been specifically designed for the less discerning portable user.



SOUND QUALITY

Correctly fitted, the drop in ambient noise is startling: it's like wearing well-fitting earplugs and it's immediately obvious that lower listening levels are possible – around one-third less in our testing. This direct connection between driver and ear canal is impressive – free from external influence, the ER-6ic is able to directly deliver the drivers' output to the ear.

But, there is a distinct lack of bass, which some people will find unacceptable. Etymotic emphasis that the correct fit – the 'seal' between the earphone and the ear is crucial to bass performance, but even with ACS's custom-fit ear moulds (which aren't the culprit), the bass is disappointing. However, the ear quickly papers over the cracks and the 'benefits' become clear.

Although lean, the ER-6i delivers impressive clarity. The moulds enable the units to reveal detail without being influenced by ambient noise. The effect gives a level of insight that's pleasing with music on the move. With bass held back, there is greater opportunity to hear into the music more, but your tolerance of this obvious sacrifice, will depend on your musical tastes. Forget dance.

Overall presentation is a little thin, too, and you can't help but feel shortchanged compared to similarly priced models from Shure and even cheaper ear-canal models from Sennheiser and Denon. The saving grace of the package is,

undoubtedly, ACS's custom ear moulds (which incidentally can be made for other brands). The comfort, natural noise cancelling and value for money offered from the moulds is exceptional and the package is only held back by the limitations of the earphone itself.

That said, and despite having a number of 'on the go' headphones of all types available to test here at HFC towers, the ER-6ics remain alluring. They block out the world in a way that powered noise-cancellers can only dream of. And although they're certainly not hi-fi, we seem strangely drawn to them **HFC**

Dan George



Cambridge Audio Azur 640P

TYPE Phono stage
PRICE £60
CONTACT ☎ 0870 900 1000 ₩ www.cambridgeaudio.com

ith its successful Azur series of integrated amps all being linelevel-only, Cambridge had good reason to produce a matching phono stage. Indeed it produces two: the cheaper 540P handles moving magnet cartridge only, while this one also caters for moving coil types The price is modest, but we were frankly astonished at the amount of circuitry inside. integrated circuits and discrete transistors aplenty, plus decent-quality passive components. Power is from the usual 'wall wart'. There's even a switchable subsonic filter, which is more sophisticated than most and works well and practically inaudibly

We were most impressed by this unit. It is subjectively very quiet with both cartridge types and never fails to produce a very clean and well-defined sound. It seems particularly good at extracting detail from the upper treble, giving excellent sweetness on bright

HI-FICHOICE magazine

• Cambridge Audio

instruments (like violins) and maintaining a good standard of stereo imaging even in complex multi-layered music. Bass is assured and controlled and midrange uncoloured. There's, perhaps, not quite the rhythmic excitement and attack that we have heard from upmarket phono stages, but at this price it would be unfair to demand it and results are really more than satisfactory. Measured figures for noise, response flatness and distortion are all typical of much dearer phono amps and

headroom before overload is very good indeed. Capable of extracting the most from even quite fancy cartridges, this is a starter phono stage that you can expect to rise to the challenge as you upgrade the system around it. **HFC**



A bargain that is likely to fetch up in budget systems and can cc nfidently survive upgrades to both preceding and following parts of the chain.



Creek OBH-15

TYPE Phono stage

PRICE £220

CONTACT © 01442 260146 ## www.creekaudio.co.uk

reek's range of OBH units is intended to serve simple functions conveniently. This small, but smart and robust phono stage certainly fits that bill and offers compatibility with both moving coil and moving magnet cartridges, amplifying the signal from each with discrete transistors and op-amps. Gain from the moving coil input is relatively low, suiting cartridges of moderate output (true 'high output' types go into the moving magnet input), but the unit is available to order with higher gain for low-output cartridges. The supplied power supply was a switch-mode type compatible with all mains voltages and, thanks to a range of supplied adaptors, most of the world's wall sockets.

Although the frequency response of this unit is quite accurate, the subjective balance seems slightly on the mellow side, which we found not at all unpleasant. It helps, of course, that detail is well defined and indeed the separation of musical strands is a particular strength of the OBH-15. Without unduly



dissecting the music, it is able to dig deep and present each instrument as a distinct entity, making analytical listening not merely possible, but a pleasure. Slightly surprisingly, though, stereo imaging isn't quite as good as the best, with a little front-to-back compression and some restriction laterally, too. This may well be related to the noise level, which is a little higher than the Cambridge and Heed (mc)

units manage. Overall, we had good results with both cartridge types: perhaps slightly better on mm than mc. **HFC**

VERDICT

A practical and highly compatible unit with decent results from budget and midprice cartridges of all types.



Heed Questar MC

TYPE Phono stage

PRICE £225

CONTACT ☎ 01452 858260 @ www.heedaudio.hu

ased in Hungary, Heed produces a nice line of products with a distinct slant towards the world of vinyl disc replay. The Questar is the basic phono stage of the range and is available in high gain (moving coil) and low gain (moving magnet) versions, each having specifically designed circuitry entirely based on discrete transistors. Gain is suitable for quite low-output cartridges, even at a pinch very low-output types, and the noise floor is low enough to get away with that. As usual, the power supply is remote – in this case a small box with captive leads at both ends. The Questar itself has a locking socket for the power input.

We found this the most lively and rhythmic of the four phono stages in this little group. It really enjoys a good rock'n'roll thrashing and does bass timing with great aplomb. That's not to say it's coloured or, at least, not obviously so. There's a trace of upper-bass lift, both subjective and measured, but it's not enough to intrude and in more laid-back classical

music for instance the sound comes across as very neutral. Detail is also good, with quite precise imaging in both directions and rather impressive insight into the acoustic properties of the recording venue, the kind of thing that is all too easily lost in amplifying the minute and fragile signal off a

cartridge. We definitely found the most musically satisfying results were with quite upmarket cartridges, suggesting that this amplifier's natural home is in refined and capable systems. In a budget context its advantages over, for instance, the Cambridge 640P are much harder to perceive. HFC



VERDICT

Partnered with a good turntable and cartridge, the Questar can give surprisingly high-end sound with fine rhythm and timing.



Graham Slee Gram Amp 3 Fanfare

TYPE Phono stage

PRICE £245

CONTACT ☎ 01909 568739 # www.gspaudio.co.uk

raham Slee does make other products, but is best known for phono stages of which, there is quite a variety available. This is the cheapest moving coil unit, just £40 dearer than the company's basic moving magnet model. Dearer models in the range include some with switchable equalisation, a boon for collectors of pre-1956 discs. The circuit is based on a high-performance op-amp, carefully partnered with just enough passive components to do the job. We were told our sample would be supplied with the new 'green' switch-mode power supply and were amused to find that this device was basically identical to that supplied by Creek. Two minds, one thought....

Despite good experiences in the past with Slee products, we found the sound of the Gram Amp 3 to be something of a paradox. Starting with the obvious, it is not as quiet as the Cambridge and Heed models, roughly on a par with the Creek. A little background noise is not the end of the world but can easily

compromise imaging to some extent and that seems to be the case here. Detail is pretty good, however, and tonal neutrality is not in doubt. Rhythm is good when it needs to be and the bass is generally solid and energetic. And yet, despite all those boxes ticked, we never found ourselves quite carried away by the music in the way that can happen with the

way that can happen with the finest hi-fi, including (on at least some occasions) the other phono stages in this group. One can hear quite effectively into the music, but it just doesn't quite gel. HFC

Richard Black







VALVE AMPS

Here are six good reasons why valve amps are still the tops in audio entertaiment



nvented roughly a century ago, valves were the first electronic amplifying technology. Superseded by the smaller, more efficient and more flexible transistor, they were considered obsolete in audio products such as amplifiers by 1970. But, here we are in 2008, and valve amps are once again one of the hottest categories in audio products.

A significant part of valve appeal lies in the appearance, not only of the valves themselves, but of the finished product. Visual perceptions and general pride of ownership are more important than ever these days. There's also nothing like the satisfaction of turning on a smart and impressive amp, like one of the following half-dozen beauties, for putting you in a good frame of mind to enjoy music. Even if valves functioned identically to transistors — in terms of the movement they excited in the loudspeaker — they would still sound different.

They certainly have their own unique sound, which can be demonstrated by blind listening and lab tests. Valve amps are actually less faithful to the original signal than most transistor models. But the ear is a funny thing and the deviations from perfection with valve amps is not necessarily bothersome, while those of transistors can be surprisingly disturbing.

Although valves have a reputation for being unreliable, with a high maintenance ratio, this is not always the case. While there is a finite life in valves, it's actually quite a long one and replacement is usually simple to carry out. All that's probably needed is

a quick plug-in job, followed by a screwdriver adjustment of operating conditions, as per the instruction manual, and job done.

For the rest, modern valve amps are no more likely to pack-up prematurely than solid-state models. And the standard of construction on all six of the units featured in the following group test, proved to be very high, which added to our confidence in them. **HFC**

EQUIPMENT USED

- Living Voice Auditorium loudspeakers
- Pioneer PDR-609 CD recorder (as CD transport)
- OdCS Elgar D/A converter
- Chord DAC64
- Supra, Black Rhodium, Kimber and Bespoke Audio cables

MUSIC USED

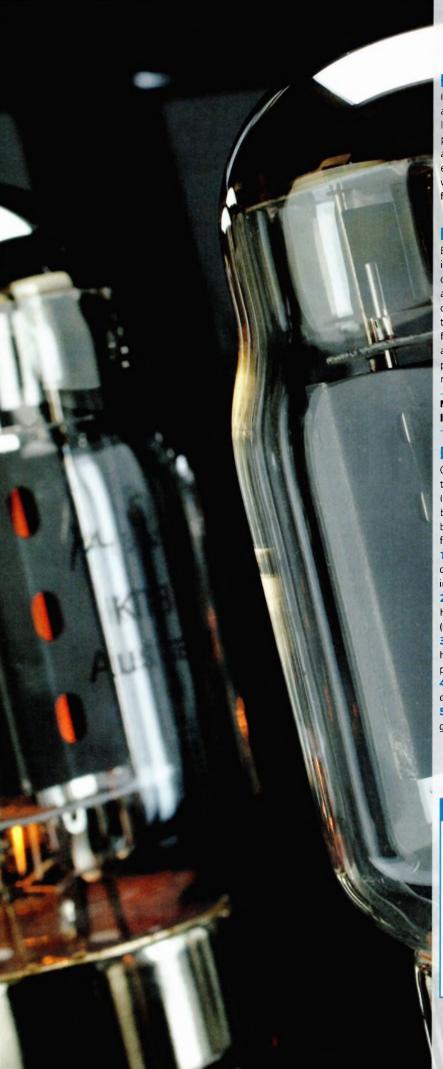
- Michael Jackson Thriller
- Miles Davis Kind of Blue
- Pallavicino Madrigals
- Rachmaninov Symphonic Dances

EARS USED

If you want proof of valves' enduring appeal, the unusual alacrity with which industry insiders responded to our appeal for listeners should convince you! We are as ever immensely grateful to all who replied and particularly those who attended on the day:

- **⊘** Ed Selley (Audio Partnership)
- Steve Reichert (Armour Home Electronics)
- Geoff Meads (Arcam)





LISTENING TESTS

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

LAB TESTS

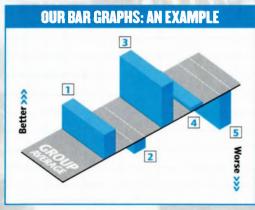
Each amplifier was measured with a variety of equipment, including a Hameg distortion measuring set and also items of audio equipment (ADCs and DACs) adapted to lab duty and reporting data for analysis to Cool Edit and Mathcad on a PC. This approach enabled us to build up a picture of the amps' performance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

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

LAB REPORTS: THE BAR GRAPH

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

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





£1,745 • 01435 867438 # www.living-sound.com/ayon

AYON SPIRIT

Can this amp's performance match its good looks?

e reviewed this amplifier as a standalone, as recently as *HFC* 303, but thought it interesting enough to pitch it against a few of its illustrious peers. It's an impressive beast for sure (the picture will only give a true idea of its size if you're already familiar with the KT88 valve). Those chromed transformer covers must cost a pretty penny and the all-aluminium case is no budget affair. So you're getting plenty of amplifier for the money.

In fact, you almost get two amplifiers, as the output stage is switchable between triode and 'pentode' operation (to be strictly accurate it's ultralinear tetrode operation, but we won't argue the point). The latter offers more power, but the former is often found to sound sweeter and that was certainly Malcolm Steward's experience in *HFC* 303. Both modes are pushpull, by the way, not single-ended as we accidentally managed to imply last time.

As tends to be the way with many current valve amps, facilities are on the basic side with just four inputs (all line-level) and single loudspeaker outputs. These are tapped for four or eight ohm speakers – so our advice is adjust to suit your taste. The remote control simply adjusts the volume, the actual control being a motorised potentiometer. Internal circuitry is, for the most part, mounted on a printed circuit board, with the sockets for the output valves hard-wired. Components are good-quality and assembly is very neat and tidy.

SOUND QUALITY

Following Malcolm Steward's lead, we presented this amp as a triode model, though a brief spell with it in pentode mode gave an interesting hint of a slightly less laid-back character on offer. It's clear from our listeners'



notes that it is more of a specialist than an all-rounder and what it does well it does very well. Into that category falls music that relies more on gentle 'rise and fall' than sudden stop-start stuff, so you'll gather at once that we're not really looking at a rock'n'roller here. It's not that dynamics are lacking: indeed, everyone felt that there was plenty of dynamic variation. It's just that the kick of a drum is not best served by the Spirit's unhurried way with the bass.

However, there's more to this than just the type of music. Slowly-changing music (the *Pallavicino madrigal* being a perfect example) still has plenty of rapid attack and release. It's just on a smaller and less obvious scale. If you are the sort of listener who latches on to that you may find this amp disappointing.

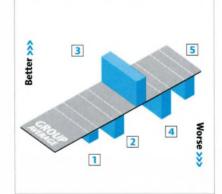
In terms of hi-fi basics the sound has decent tonality with, perhaps, slightly bright treble and extended bass, while imaging is very spacious. Sometimes it even seems a touch exaggerated, but in the real world that's hardly a problem since everything from recording to listening environment tends to limit it and a little bit of excess from an amp simply offsets that to some degree. Detail is actually pretty good, but one must listen out explicitly for it, in order to determine whether it's good or not. One of our listeners absolutely hated it, the others were more measured in their comments, but if you think you might like a smooth sound you owe yourself a spell with this amp. HFC



LAB REPORT

Valve amplifier power figures are a little vague because most amps overload relatively gracefully and the power specification depends on how one defines 'overload'. By our conservative measures, this amp is good for about 25W in triode mode, 43W in pentode, with around 10W (either mode) at the frequency extremes. At lower outputs, however, the frequency response is admirably flat, just 0.2dB shy at 20kHz and 0.5dB at 20Hz. By transistor amp standard, output impedance is ridiculously high and, indeed, at five ohms (triode) or 12 ohms (pentode) is it high even for a valve amp. In fact, the difference between the two will cause noticeable frequency-response differences with most loudspeakers, whatever other effects may occur within the amp when mode is changed. Distortion is also a little high, but falls away obligingly at low outputs.

HOW IT COMPARES



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

SPECIFICATIONS		
Measurement	Rated	Actual
Power output (8 ohms)	30W	·25W
Distortion (1kHz/8 ohms)		3%
frequency response (20Hz 20kHz)	±0.7dB	±0.5dB





£2,498 2 020 8971 3909 **(#)** www.copland.dk

COPLAND CTA405

Widely accomplished amp with a performance to match

ery much the elder statesman in present company, Copland is one of a handful of companies worldwide who've been making valve amps pretty much since their resurgence following the technology's near-abandonment in the 1970s. The company's range is small and has changed slowly over the years, but does include such modern devices as a digital room correction unit alongside this amp. The CTA405 itself, is a classic bit of Copland understatement with nothing obvious (except, after a few minutes, the heat!) giving away the presence of valves.

In fact there are four KT88s under the hood, operating in tetrode mode and run well within their ratings for a notional output of 50 watts. Even so, they generate a lot of heat in a relatively small space and the whole unit runs warmer than those with no valve cage – this one if anything needs even more room to breathe. Small-signal valves are similarly familiar, a pair of high-current 12BH7 and one 12AX7, while the all-valve phono stage (which we were surprised, but delighted to find on board) uses two each of 12AX7 and 6922.

Even the output transformers are inside the case, alongside the toroidal mains transformer. All of the circuitry, including valves, is mounted on printed circuit boards, so in most respects, this is a thoroughly modern amplifier with such refinements as relay-switched inputs and a motorised volume control. The latter is marked in dBs and, although we found the markings hopelessly inaccurate, they're useful as a reference. The amp's remote control also works with Copland's other components and, far more than with any other amp here, we get the feeling that this is an amplifier that just happens to use valves rather than be a valve statement.



SOUND QUALITY

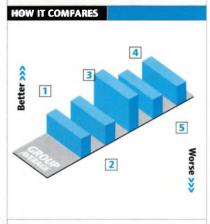
This is definitely one of the most widely accomplished amps in the group. Hardly an area of its performance was not praised at one point or another by our listening panel, with only mild criticism. Perhaps the most telling comment referred to the orchestral track (by Rachmaninov), in which the multiple violins seemed to work together as a unified body without losing their individual existence. That, in a sense, is what music-making is all about and it's very much to Copland's credit that it is so clearly audible through this amp.

The CTA405 also makes a good impression for its sharp, but realistic attack on leading edges of all kinds, from bass drum to piano to vocals. This makes the music really live and keeps the listener's mind alert and, when appropriate, his foot tapping. Tonally, it is very even with an extended and very sweet treble, which was particularly noticable in the Miles Davis track.

In fact, this is very much a musical rather than technical amplifier. There's good coverage of areas like detail, imaging and rhythm, but overall one's attention is drawn to the music rather than the equipment, which is all to the good. If you are one of those souls who likes their music presented with clinical precision, you may find this amp short-changing you, but we found a lot to like in its balance of detail, tonality and overall listener involvement.

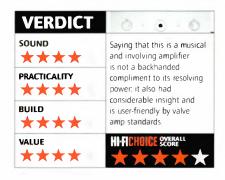


Output comes to just on 50W and only falls to 40W at 20Hz - an excellent result. At 20kHz there's about 15W available, which is fine - real music just doesn't demand full power at such frequencies. Small-signal frequency response is as flat as most solid-state amps we can recall, within two tenths of a dB at most from 20Hz to 20kHz, while the output impedance of 0.9 ohm is low enough to ensure a reasonably flat response into most loudspeakers. Distortion is the lowest in the group in numerical terms under the usual conditions, but seems to fall away a little more slowly with signal level than some and also contains an unusually high level of hum modulation. Noise is very good: despite some preconceptions out there, valves can do well at this and the CTA405's figure is good by any standards. Power consumption is the highest (just) of the lot, roughly £160 a year if left on continuously - so make good use of standby!



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

SPECIFICATIONS		
Measurement	Rated	Actual
Power output (8 ohms)	50W	50W
Distortion (1kHz/ 8 ohms)	0.2%	0.7%
Frequency response (70Hz 20kHz)	±0 3dB	±0.2dB



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(Musical Fidelity - Coming Soon) A1 Integrated Amplifier & CD PRO 2

The A1 Integrated Amplifier will be available from mid April 2008.

The matching A1 CD PRO 2 uses the Philips CD PRO 2 top loading mechanism (generally regarded as the best in the world), and has state of the art electronics. The A1 CD PRO 2 will be available late May 2008.

Together they sound incredible, and better still make a perfect driving system for Superchargers. Call Shadow for more details.

Used Listing

Our list changes daily, so please visit web site for latest up-to-date list.

Ah! Njoe Tjoeb 4000 (£1050)
Krell KPS 20 i/L (£12500)
McIntosh MCD201, CD/SACD (£3400)
Musical Fidelity KW 250S (£4999)
Musical Fidelity DM25 DAC and Transport (£4000)
Shanling CDT300 Omega Drive CD player (£4000)
Stello CDA 220 dac + CDT 200 cd transport
Wadia 302 CD player, silver (£3995)

Accuphase E406 integrated (£3000)
Anatek CM 0.5 pre amp (£1400)
Audio Zone AMP 1 dual mono integrated (£1595
Audionet SAM V2 Integrated (£2400)
Bel Canto S300i Integrated (£1799)
Cairn 4810 Integrated (£2700)
Copland CTA 520 stereo power amp (£1900)
Eastern Electric Minimax Power Amp (£995)
Flying Mole PA-S1 Digital Pre (£999)
Gamut D200 Mkl (£3500)
KR Audio Products VA320 Power Amplifier
Krell Pam 1 dual mono preamp
McIntosh MA6500 integrated amplifier (£4850)
McIntosh C2200 pre (£4850)
Meridian G02 balanced dual mono preamp
Musical Fidelity A5 Pre (£1499)
Musical Fidelity 550K Supercharger (£2998)
Papworth TVA-8 Class a integrated (£2000)
Qinpu A1.0x Integrated (£300)
Qinpu A-8000 MK II Integrated (£1295)
TacT SDAi 2175 (£1245)

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ART Loudspeakers Expression V6 (£3500)
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JAS Audio - Plato Reference (£13995)
JAS Audio - Orior (£2300)
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Leema Acoustics Xone (£2245)
Monitor Audio GR20 (£1500)
Monitor Audio GS60 (£2000)
PMC FB1+ (£1695)
PMC GB1 Exdem
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ICON AUDIO STEREO 60 MK 2

Keenly priced amp that gives the competition a run for its money

ased in Leicester, Icon is a small valveamp specialist with quite a variety of models in its line-up, including headphone and phono units. This new model is moderately bulky and quite weighty, thanks to the transformers which are well specified for the rated 60W maximum output.

There's the familar handful of KT88 valves, but they're preceded by some less common types, larger and older in origin than the ubiquitous ECC8x series (and international equivalents) that grace most valve amps these days. Many valve diehards swear by these and it's evidently thanks to their advocacy that they are back in production.

Ayon manages to offer two modes of operation, but Icon trumps this with four. Not only is the output switchable between triode and ultralinear connection, but the gain is adjustable via a switch at the rear, giving high gain for 'integrated' and low gain for 'power' mode. Because Icon has implemented this by adjusting the overall circuit feedback, it is reasonable to expect a noticeable difference in sound between the modes, after adjusting for the gain difference with the volume control. There is also a standby switch, which keeps the valves warm but cuts the high-voltage supply to the output, prolonging valve life.

Construction is based entirely on hard-wiring, with the exception of the remote control receiver board. Despite this, assembly is as neat as most PCB-based amps, each piece of wire and component laid out to millimetric precision. Signal wiring uses screened, PTFE insulated cable.

SOUND QUALITY

In the expectation that this model will most often be used in triode mode with gain set to



'integrated', that's how we presented it to our listening panel. Previous experimentation had in any case suggested that it was generally most mellifluous in that setting, though the ultralinear mode can deliver slightly more kick at the expense of subtlety.

But it certainly seemed to go down well as a triode amplifier. It has a distinctly large sound in scope and scale, bearing in mind that overall output level was matched to the other amps to high precision. This served Michael Jackson and his team well, making the most of both sound effects and backing in *Thriller*.

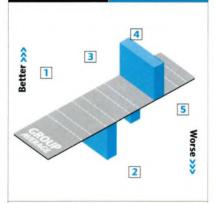
Our other test tracks were enjoyed for overall effect, though again it seemed that detail and its cousin, precise imaging, were a little behind the best. But it's worth noting that the degree of musical connection did vary, with our most 'rhythm-conscious' listener less satisfied than his more melodically inclined colleagues. Rhythm is OK, but we would tend to agree that it doesn't quite drive the music along in the way it sometimes can and, if that aspect of music is absolutely critical to you, may not be your perfect amplifier.

Still, there is a very nice tonal balance in evidence, perhaps a touch generous with the bass (but nothing alarming) and high treble that's very sweet in a classic 'valve' sort of way. This makes for a very inviting sound across a broad range of music and we found long listening sessions enjoyable, particularly latenight ones at modest volume settings. **HFC**



The number 60 in the model name refers to output, but in ultralinear mode, which we confirmed exactly. Under triode conditions the claimed 30W is also just met. Most other parameters vary with mode and with gain (feedback) setting: figures given below and in the conclusion are for triode, integrated, but under other conditions distortion varies down to 0.5% (triode, power), output impedance down to 0.8 ohms (UL, power), response flatness down to 0.6dB (UL, power) - you can see why drawing conclusions about which mode sounds best and why is not straightforward! Nevertheless, under the conditions used for the critical listening, this is a capable amp with generally good performance, the only apparently weak area of frequency response being perfectly acceptable in practice.

HOW IT COMPARES



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

SPECIFICATIONS		
Measurement	Rated	Actual
Power output (8 ohms)	30W	30W
Distortion (1 kHz/8 ohms)	0.1%	0.9%
Frequency response (20Hz-20kHz)	+0.5dB	± 2.0dB



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MELODY ASTRO BLACK 50

Kit from down under has a distinctly classical bent

elody trades from Australia, but manufactures its products in China. A fact that can't do any harm when it comes to turning out equipment with such a luxurious finish at this kind of price. The paintwork on the chassis, transformer covers and valve cage is absolutely superb and we find this a class-looking unit, unless, of course, you've an aversion to black, which is admittedly, slightly unremitting.

Following something of a theme among this group of amps, output is courtesy of KT88 valves, a pair per channel in tetrode connection with conditions set for 50-watt notional output. Like Icon, Melody has opted for 'old-time' small-signal valves, 6SN7 in this case, but has rather overshadowed them by using a single 101D triode, a great bulbous thing, as a power supply regulator valve.

Also like Icon, Melody has completely hard-wired this amplifier with the only circuit boards being one per channel for the bias adjustment function (accessible through the side panels in such a way as to make it for once completely obvious which adjuster relates to which valve) and one connecting input wiring to the selector switch. But in terms of retro appeal, this is probably the top model in present company, as internal wiring is mostly run in fabric-insulated solid core. Inside, there are green ceramic resistors abound, while capacitors in the signal path are Jensen paper types in a metal can. Ceramic tagstrips support components and wires. too.

A balanced input is a nice luxury, coupled to the main circuit via transformers. There's even a stepped attenuator for a volume control instead of the usual potentiometer, but we found this a slight irritation; at everyday volume settings the steps are distinctly on the



coarse side. They are much smaller around full volume, but with a typical CD player you'll never have the volume up there anyway!

SOUND QUALITY

This is perhaps the most likely amp among present company to reinforce valve stereotypes It's good at voices, good at bass extension, sweet in the treble, but a little short of bite and attack and not always fully detailed. All the same, it was quite a success in the blind listening session and was felt to be a good musical communicator.

Very complex textures are not quite so well served, however, and the multi-layered Rachmaninov score was not the Melody's biggest hit. In particular, imaging was somewhat compressed in that track and while the big picture was still pretty clear the details within it were noticeably less easy to follow.

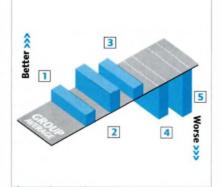
But probably the biggest weakness is rhythm and, in particular, its relation to melody. There's a very slight laziness to the upper bass and this makes the rhythm seem to lag the melody; which is all very well for Frank Sinatra and other music from the cocktail hour, but not so great when the mood strikes for rock, high-energy pop or, indeed, quite a lot of classical music. Yet again, we're forced to issue a qualified recommendation with distinct respect to musical taste – cocktails, classical chamber music and simple vocal tracks do suit rather charmingly. **HFC**



LAB REPORT

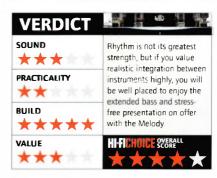
The most obviously unusual figure among this amp's measurements is output impedance, which is about the highest we can recall from our own, or any other tests we've seen. Frequency response will be a strong function of loudspeaker impedance and it would clearly be a major leap of faith to buy this amp before hearing it with the intended speakers. That said, the impedance curve of most modern speakers follows a familiar trend, so the sound will have Melody's own character. That character must owe something to the relatively high distortion (as much as 1% even at 1W output). We also found quite a high degree of dynamic compression following momentary slight overload. Many valve amps do that but this one does it more than most and also adjusts its gain as signal is applied well inside the overload envelope. Noise is good, but overall this is a very characterful and likeable performance indeed

HOW IT COMPARES



- 1] Dynamic power >> +10%
- 2] Frequency response >> +20%
- 3] Dynamic range >> +10%
- 4] Distortion >> -40%
- 5] Output impedance >> -60%

SPECIFICATIONS		
Measurement	Rated	Actual
Power output (8 ohms)	50W	45W
Distortion (1kHz/ 8 ohms)	1%	5%
Frequency response (20Hz-20kHz)		±0.2dB



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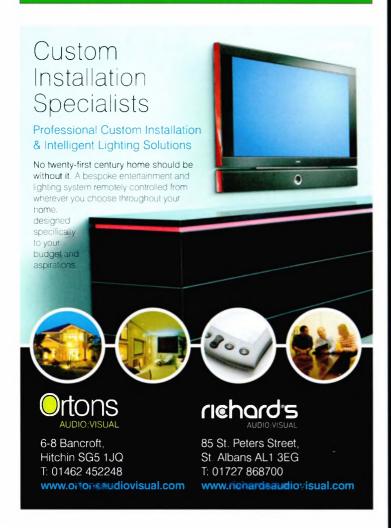
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PATHOS CLASSIC ONE MK 3

Affordable hero fares well against its higher-priced competitors

here are valve amps and there are solidstate amps and there are hybrids, which combine both technologies. Pathos specialises in the last type and while the company's proprietary 'INPOL' configuration is reserved for upmarket models, this more modest unit still combines small-signal valves with power MOSFET, not to mention bipolar transistors in between. There are plenty of unexplored possibilities in this direction and we're happy to see people investigating some of them.

The appearance has plenty of old-style valve amp about it, and we find those little cages over the two valves rather charming, but the overall effect can seem a little fussy. Behind the red capacitors, a slotted metal cover distinctly reminiscent of a valve cage covers a heatsink which carries, on its bottom face, one pair per channel of MOSFETS. They and the rest of the circuitry, are attached to a circuit board, which occupies most of the internal space with a small separate board carrying input and output sockets and also the input selection relays.

Uniquely in this group, the Classic One uses an electronic attenuator for volume control, giving accurate half-dB steps from full volume down to inaudibility. It makes volume adjustment a little slow, but the digital display means you can find your preferred setting easily. That display is shared by the input selector and, in normal use, there's nothing to show which input is in fact active. One of the five inputs is balanced.

Although components are not extravagant, there are some nice touches in this unit such as the use of non-magnetic stainless steel for the chassis and a pair of very upmarket opamps in the circuit.



SOUND QUALITY

Few of the comments on this amp suggest that it is qualitatively different from the others in any particularly solid-state way. On the contrary, its big sound picture and generally smooth presentation are very much classic valve characteristics. Although its attack was thought to be among the best, it was not necessarily the very pinnacle of the group (according to our 'blind' listeners) and bass control attracted a little mild criticism.

Perhaps the treble is the most 'transistorised' area. It is just a touch bright, but its extension is welcome and gives a good shimmer to delicate sounds like small percussion instruments and a real sense of acoustic 'air' to well-miked recordings.

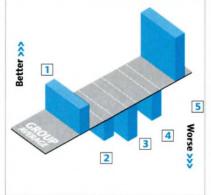
Very low bass is good, extended and tuneful and this served the orchestral track well and also the Miles Davis. The bass control issues apply mostly to the higher bass regions, making rhythm occasionally a little unclear.

Detail is also among the best of the group. In fact, we were very taken with the way the Classic One presents detail; unfussy and, on the whole, playing second fiddle to the overall musical picture. Imaging is broad but not ultraprecise, a trade-off we found pleasant. Pathos does indeed seem to have achieved a marriage between valves and transistors which is sonically biased towards the former. **HFC**



That this amp should have something of a valve sound will be no surprise if you believe, as we do, that distortion measurements have at least something to do with sound perception. This is by no means the lowest-distortion amp in the group and it puts out quite a rich spectrum of distortion down to less than 1W output. Where it does show its solid-state nature is in the output impedance, which is by a factor of nearly 20, the lowest in the group and will, at least, make for a loudspeaker-invariant frequency response. Noise is the weakest of the group, but the figure is still decent enough by the general standards of current amplifiers. And, of course, output power is higher than any of the all-valve models, with considerably greater dynamic power into low impedances thanks again to the low output impedance.

HOW IT COMPARES



- 1] Dynamic power >> +30%
- 2] Frequency response >> -20%
- 3) Dynamic range >> 40%
- 4] Distortion >> -30%
 51 Output impedance >> +60%

SPECIFICATIONS		
Measurement	Rated	Actual
Power output (8 ohms)	70W	69W
Distortion (1kHz/8 ohms)	005%	1.5%
Frequency response (20Hz-20kHz)		±0.5d8



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UNISON RESEARCH PRELUDIO

An intriguing blend of old and new, but is that enough?

We've seen quite a few products from Unison over the years and the family likeness is not hard to find. That classic Italian love of medium-dark hardwood, for a start, and the proud way in which the valves stand alone. Like many other Unison Research products, this is a single-ended amplifier, using just one valve for the output stage of each channel.

Most amplifiers, both valve and solid-state, use push-pull pairs of output devices for reasons of efficiency, but single-ended operation has always had its advocates who cite its very simplicity as a major reason why it will (when done well) always sound better than push-pull. There's a lot more to amplifier design than the output configuration, of course. But with its use of a single KT88 in ultralinear configuration, this amp does make a very interesting comparison with the others in the group that use the same valve and the same basic configuration in push-pull.

The downside is output power – the rating being only around 14 watts – but based on years of experience, we've no hesitation in saying that suitably partnered, 14 watts can make for a very satisfying system that will play loud with no special pleading required.

There's an intriguing blend of old and new in this amp, single-ended being the earliest amplifier configuration, while the KT88 is a relatively modern valve and the internal assembly uses a very modern circuit board and integrated circuit regulators for parts of the power supply, plus surface-mounted components in the remote control receiver section. There's even an op-amp in there, though as far as we could see it's simply buffering the subwoofer output signal. Build quality is very good and yes, the wood is solid and luxurious, too.



SOUND QUALITY

If the Ayon is more an amp for lovers of melody than of rhythm, this is in many ways its antithesis. Belying any expectation one might have born of power ratings, physical size or mode of operation, the sound seemed to our listeners to be outstandingly rhythmic and lively, with excellent articulation and a very good sense of being there.

There are limitations, mostly in respect of detail and large-scale dynamics. Rhythm is largely about small-scale dynamics, of course, but over spans of seconds to minutes this amp seems a little less assured and can develop a trace of hardness in loud passages that seems to restrict dynamics a little.

There are some slight deviations from tonal accuracy, most notably a lack of really low bass. Heard in isolation this might indeed pass muster, but in the company of a bunch of its peers, mostly well-endowed in that region, the Preludio comes across as a shade light.

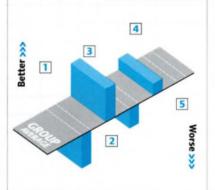
Detail is good, especially in quiet passages of music, while imaging has excellent depth and pretty good lateral extension and definition. Despite some specific deviations from most people's idea of 'valve sound', this amp perhaps comes closest to embodying the valve ideal of musical involvement above all else. If hi-fi specifics mean a lot to you, you may yet do better elsewhere, but this is undoubtedly a very musical amp. **HFC**



LAB REPORT

Single-ended amplifiers are not noted for high output power and the Preludio's 13W is reasonably generous for the breed. It's achieved with less distortion than some of the push-pull models, and Unison Research also deserves congratulations for the amazingly flat frequency response of this amp, not such an easy thing to achieve with this type of circuit. Output power falls off at 20Hz to about 3W: ideally, we'd like to see half-rated power at this frequency, but in most real recordings there's relatively little power below 50 or 60Hz, so it's not a serious drawback. The distortion spectrum is interesting in that it very closely resembles most of the push-pull models' in shape and rate of fall-off as signal level drops, while output impedance is also similar. If there is truly some magic science to single-ended, we can't spot it here!

HOW IT COMPARES



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

SPECIFICATIONS		
Measurement	Rated	Actual
Power output (8 ohms)	14W	13 W
Distortion (1kHz/ 8 ohms)		2%
Frequency response (20Hz-20kHz)		±0.1dB



CONCLUSIONS

Our valve amps have it all; good looks, absolute power and high performance levels

s the temperature in our listening room cools back to normal after the climatic assault of all those valves, what conclusions can we draw? First and foremost, given the competition, valves are clearly a viable and valid amplifying technology. It's even more significant that all our 'blind' listeners were regulars and the notes they left behind were not remarkably different in tone and content from those left after a morning auditioning transistor models. In other words, if sound is your only criterion, then the simple presence or absence

of valves may in the end be something of a red herring.

There is such a thing as a valve sound stereotype, though, and if we heard it from any of these amps it was the Melody that provided it. Big and strong on generalities, it's a bit thin on real insight, rhythmic precision and involvement. It has its place certainly, but didn't really press our buttons. For us, the Ayon seemed more successful, giving a good measure of itself, but maintaining rather more of the detail and attack within the music. Both models look a million dollars, especially with the Melody's valve

cage removed, and will give you audiophile cred in spades!

If it's sheer class you're looking for, then it's probably no accident that the two Italian jobs win the day (both also sound very appealing in their different ways). The Pathos seems to be a marriage of both convenience and real affection between valves and transistors. With solid-state control and valve euphony (to the extent these vast generalisations are valid), it boasts a useful power output that makes choosing speakers a little easier than some other lower-powered all-valve

models demand. If power really isn't an issue, the Unison Research Preludio is very much an all-rounder with a very appealing presentation and grasp of contrasted musical styles.

Which leaves Icon and Copland, both also very capable. The Copland is great for people who aren't valve aficionados as such, while the Icon is (almost) the ultimate tweaker's amplifier – four subtly different sounds in one chassis. We enjoyed this group a lot. When all's said and done, there is something peculiarly appealing about valves... HFC

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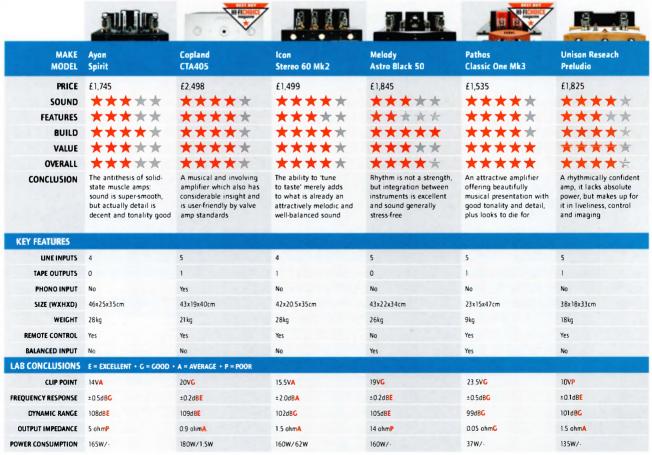
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HINTS AND TIPS

- >> Valve amps run hot and need lots of space around and especially above them. A little added floor clearance does no harm either.
- >> Never mind saving electricity, switching off when not in use for an hour or more will prolong valve life.
- >> Most valve amps have outputs for four and eight ohm speakers. The only way to find which is best in practice is trial and error
- >> If some way of checking and adjusting bias is provided, do it roughly monthly for best sound and longevity.

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06







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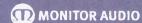
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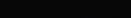
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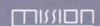
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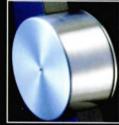
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nonconformist

adj. an individual who does not comply with conventional norms or socially approved patterns at behavior or thought





BALANCE - FCHOICE

Welcome to the Hi-Fi Choice Buyer's Bible - the ultimate guide to the very best high performance hi-fi and multichannel gear you can buy. Here, you'll find our favourite current products listed under easy to use categories, plus useful information on what to look for and how to get the most from your components.

Reviews you can trust

Our test results are the most reliable in the business. We employ the most experienced reviewers and use the most stringent techniques to ensure our ratings are the ones you can trust. All the equipment we rate most highly is contained within these pages, from CD and vinyl to the latest multichannel disc players. Whether hi-fi stereo or high performance surround and vision, these components will take you a step closer to reality.

How to use this guide

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

Products that score more than four stars overall are automatically considered for inclusion in the Hi-Fi Choice Buyer's Bible. Any Best Buy or Editor's Choice Badges awarded are also displayed.

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CD PLAYERS

Audio disc players for music only

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.

interference. **CAN I USE AN OUTBOARD DAC WITH** MY INTEGRATED CD PLAYER? Yes, if it has a digital output - and most do.

WHAT'S A DAC?

DO I NEED DIGITAL CABLES FOR A CD PLAYER?

A.S.0

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

DAC means the conversion can be done with less

creates radio frequency 'noise'. Separating the

A DAC or digital-to-analogue convertor is a

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 ! 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.

CD PLAYERS BUYER'S BIBLE

Our favourite BEST BLY C EDITOR'S CHOCK **CD PLAYERS** HEADPHONE SOCKE ANALOGUE DU Audio-only CD and SACD players BADGE? PRODUCT UP TO £1 000 Arcam DIVA CD73 450 301 Neatly built and well presented player that's especially good at bass and timing, with detail hardly less assured Audio Analogue Rossini 850 Valve-sporting player delivers a warm, engaging sound, but mediocre remote and no optical out may limit appeal 299 *** Cambridge Audio Azur 640C 250 If you value the effortless flow of musical information, you should certainly hear this player 285 293 Cambridge Audio Azur 740C 500 Very flexible, this innovative upsampling player sounds exceptionally neutral and highly informative . . Cambridge Audio Azur 840C 750 Purposefully undemonstrative, combining neutrality, detail and timing: enhanced by flexibility as a DAC 291 Creek Evo 495 A minute treble lift: otherwise this is a very capable player that offers fine value 285 Denon DCD-500AE 295 160 Cheap, well built and good, if slightly soft-edged sound quality Denon DCD-700AE 250 Excellent entry level quality CD player lacks for nothing. Musicians please note: even has variable speed replay 284 Marantz CD6002 280 A hint of treble unevenness is the only specific flaw; performance is class-leading in most areas 301 Naim CD5i 825 Bass has great extension but lacks control, slightly. Tonal neutrality higher up is excellent, however 29. Quad 99CD-S 650 Revels in big music thanks to fearless presentation; smaller-scale works can lack focus 291 285 Rega Apollo 498 Unless you can't abide top-loaders, check this out; musically it's a highly praiseworthy performed -Sony SCD-XA3000ES 276 800 A good, if not truly great, all-rounder with CD and fine multi-channel SACD performance Vincent CD-S6 MkI With its tube output stage, a beguiling midrange, sweet highs and attractively figured lows plus fine dynamics 287 999 ABB Bryston BCD-1 Not as open as some but rather more timely than most, it sounds a lot more gripping than it looks 300 Cairn Fog 3 302 1,995 Ergonomically challenged, high energy player with Gallic charm and digital preamp on board Chord Red Reference CD 13,345. The definitive statement in Red Book CD playing, this player's look and sound places it at the top of the tree 299 14.1 Classé CDP-102 Rich, dynamic CD/DVD player with a full bottom end, impressive dynamics and a luxurious yet revealing balanced Classé CDP-202 4,750 CD/DVD-A player with brilliant sound, if sophistication is your bag, includes S-video and composite outputs 284 - 1 Copland CDA823 1,750 Don't let the laid-back character fool you - this player has plenty of insight too 280 Cyrus CD8x/PSX-R 1,400 Lightness of touch is the key here, but there is also good bass and some very fine detail on offer too 295 EMM Labs CDSA 6.995. Classy, stripped down to basics SACD/CD player with some excellent engineering below decks 302 EC: Esoteric X-03SE Resolution and musicality close to the top of the game. For out and out transparency and build quality it's hard to beat 285 Gamut CD3 Superb resolve of fine detail combined with a perfectly judged balance and an ability to draw you into the music 289 Krell Evolution 505 SACD 8.777 Brilliant replacement for SACD Standard, superb musical discrimination. No high-residioital output 289 Leema Antila Musically engaging player that will have you going through your CDs afresh. Balanced connection is best 291 Linn Majik Compact and capable of most CD formats, it's musically communicative with fine pace and enthusiasm 283 Marantz SA-7S1 Something of a bargain even at this price, the SA-7S1 sets the benchmark for CD/SACD players of its ilk 297 EC Marantz SA-11S2 304 Superb value for money, this well-balanced player features various fifter settings to customise performance Meridian G06 Highly refined player with a combination of analysis and self-effacing response to musical demands 295 EC Moon Supernova Refined, high-performance player offers tremendous transparency and includes coaxial digital input 296 4.500 1,098 Accurate, yet musical performer. £799, but requires £299 TRIPLE-X power supply outside of X-T100 system 288 Musical Fidelity X-RAY v8 Rega Saturn 1,298 Good detail, lively natural bass, and good integration of musical strands without losing their individual character 295

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 litted to the CD player. VARIABLE OUTPUT Player features both fixed level and variable, volume adjustable outputs

1,495 Strong timing and rhythm, this player is well equipped for more melodic music, with good detail resolution



Unison Research Unico CD



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

295

BUYER'S BIBLE DVD PLAYERS

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.

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.

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.

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.

The two new kids on the block are HD DVD

0&A

WHICH AUDIO OUTPUTS GIVE THE BEST OUALITY?

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)





HDMI LINK: A flat, multi-pin socket that carries digital audio and video, like a digital SCART lead. Arguably the best choice for HDTV pictures. 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.

DVD PLAYERS BUYER'S BIBLE

Our favourite 🕞 BEST BUY 📴 EDITOR'S CHOICE DVD PLAYERS HEALIPHONE SOCKE SACO COMPATIB OPT DIG DUTPU HEMUN BLISSI Audio/Video disc players BADGE? PRODUCT 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 250 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 296 Marantz DV7600 600 274 A mid-market cracker, with sound and picture quality that generally exceeds expectation NAD T585 800 Easy to live with universal player that shows clear signs of rejuvenation of the Classic range 294 Onkyo DV-SP503E 300 Budget Onkyo universal player is a straightforward Pioneer based implementation, which performs well with audio and video 275 Philips DVP9000S 274 400 Philips proves it hasn't lost its touch with mid market DVD players. Includes SACD and HDMI for quality video, and it's a star Yamaha DVD-S2500 700 280 Universal player, slightly stronger with video than audio, but well turned out with a wide range of analogue and digital in and outputs Accustic Arts Surr Player 1 4,495 A very high-quality Pioneer-based machine, excellent sound from both hi-res and regular formats 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 285 Denon DVD-3930 1,100 Well engineered universal player, with useful bypass facilities for pure audio, and unusually powerful video image processing 287 Linn Akurate CD 3,985 This highly engaging multiformat non-video player doesn't have huge transparency or a fancy box, but is musically addictive 299 Marantz DV9600 With excellent, next-generation picture and impressive sound quality on CD and SACD, this sets a very high standard to beat 1.500 280 Meridian G98AH 3,625 Meridian's most widely compatible G-Series DVD player - groundbreaking DVD-Audio replay and a fine CD player too 265 EC Naim DVD5 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 279 2.000 Dedicated stereo only/SACD/CD player avoids the usual compromises. It does a limited job, but it does it with fine fidelity .

ESPECS KEY 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

A universal machine that excels with music and is quite exceptional with good of stereo CD

Townshend TA 565 CD



3.000









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270

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NAD C515BEE

"This is the only sub-£200 player we've that's capable of wringing the very last drops of expression from a Nina Simone vocal. "- WHF? S&V magazine

Usual Price £159.95

AMPLIFIER

NAD C315BEE

"Indeed, with no hesitation, I think it deserves to win every Product of the Year award available to a two-channel component." Hi-Fi News magazine.

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*A great budget speaker - whether on the end of a micro system or budget separates" - WHF? S&V magazine

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SYSTEM USUALLY £439.85



£339.95

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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

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KEF iQ7 (Pair)

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It might be Richer Sounds' 30th birthday this year, but we're giving you all the presents!

Check out this month's goodies - there's a deal to suit every budget and all tastes in hi-fi, home cinema and flat screen televisions, with love from us to you...

Unlike some people, we're not having a 30th birthday mid-life crisis - we're as dedicated to bringing you the very best audio visual equipment at the keenest prices as we were back in 1978. Technology-wise things have certainly moved on since then, but the top 5 reasons for shopping at Richer Sounds still remain the same:

- We have friendly, knowledgable sales people, trained to help you find the perfect set-up or component for your needs.
- 2. We welcome talking to people of all levels of expertise about getting the best for less.
- We believe in a low-pressure sales environment - we're happy to let people shop around or walk away and think. In fact, we encourage it.
- 4. We operate a 14-day exchange policy, so you can test kit in your own surroundings.
- 5. Our price challenge means you can shop with us in total confidence of getting the best deal - even in the unlikely event that you find a web price lower!

WE HOPE TO SEE YOU SOON!

















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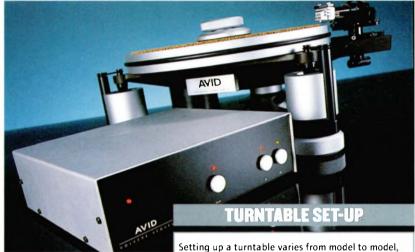
VINYL

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.

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



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.

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	URNT/	AE	IF2		SUSP SUBCHASSIS	SPEED CHANGE	SUPPLIED WITH ARM	SUPPLIED WITH CART	ISSUE NUMBER	
	erd players			SPEEDS	SSALD	CHAB	THAR	IN CA	BMUN	
_	PRODUCT Avid Volvere	2.750	COMMENTS		SS		Z.	꼭		
EC	Avid Volvere	2,750		33/45					29	
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					22	
	Clearaudio Champion	1,365	Smart, practical and good-sounding, with impressively 'dead' arm. Isolation recommended	33/45			0		26	
EC	Clearaucic Performance	1,670	Ceramic-magnetic bearing spells a surprisingly uncolored performance. Good arm and cartridge	33/45					29	
	Clearaudio Ambient	4,220	Innovative use of materials leads to a fast, precise and thrilling sound (tonearm extra)	33/45			0		27	
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			opt		27	
	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			opt		27	
	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			opt	opt	28	
	Goldring GR2	265	Nicely finished Rega-manufactured deck with RB250 arm and an open, engaging sound quality	33/45					26	
	Michell Tecnodec	767	Simple and smartly understated, performs above expectations – full-bodied and highly detailed	33/45					26	
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					23	
	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					28	
	Pro-Ject RPM 5	400	Great looks plus an on the ball, engaging sound that puts it in the serious league, needs good isolation for best results	33/45					2	
	Pro-Ject RPM 6.1	550	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					2	
	Pro-Ject RPM 9 X	1,000	A gorgeous turntable that sounds as good as it looks – vital and transparent! Price includes carbon-fibre arm	33/45					2	
	Rega P3-24	398	Very competent, uncoloured and musical, much improved by £148 outboard electronic power supply	33/45		opt			29	
	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			opt		2	
	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		2	
C	Rega P9/RB1000	2,498	Exceptionally elegant hi-tech player with complex outboard supply, ceramic platter and wonderful RB1000 tonearm	33/45					2	
	Roksan Radius 5/Nima	850	Sophisticated design with accomplished sound quality, excellent imagery and good isolation (acrylic version tested)	33/45					2	
С	SME Model 10A	3,411	Elegant and extremely capable design, tested here with Series V/309 hybrid arm	33/45					19	
	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					2	
		4,900	If you want to get to the meat and bones of the music this is a great tool for the job (price inc. Excalibur arm)	33/45						
	r favourite	BEST	BUY C EDITOR'S CHOICE	30/10		S	PECIF	ICATI	_	
P	HONO	BEST		00/40					_	
	HONO and MC cartridges	BEST G	ARTRIDGES	00/40		S	PECIF	REPLACEABILE STYLUS	_	
	HONO and MC cartridges PRODUCT	BEST C	BUY © EDITOR'S CHOICE ARTRIDGES COMMENTS						DOUL WINDER	
1M	HONO and MC cartridges PRODUCT Cartridge Man MM III	E 625	ARTRIDGES COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rice.						Name of Street	
MM ADGE?	and MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R	£ 625 200	ARTRIDGES COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the recoder of the desired price. One of the best rock'n'roll cartridges around						2	
MM ADGE??	and MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold	£ 625 200 110	ARTRIDGES COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rich Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss.						2 2 2	
MM ADGES	And MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon	£ 625 200 110 1,095	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the ric Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality.	ght arm					2 2 2 2	
MM ADGEST	and MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa	£ 625 200 110 1.095 200	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rice. Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around. Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile states.	ght arm					2 2 2 2 2 2	
MM MADGE?	And MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa Sumiko Blue Point Spec Evo III	£ 625 200 110 1,095 200 239	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the readds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile so this product of the product of	ght arm					2 2 2 2 2 2	
MM ADGE?	And MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa Sumiko Blue Point Spec Evo III van den Hul MC One Special	£ 625 200 110 1,095 200 239 699	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rice. Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile still high output MC with refinement at high frequencies and a nimble, articulate and revealing sound. A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light.	ght arm					2 2 2 2 2 2 2 2 2	
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MM ADGE?	And MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa Sumiko Blue Point Spec Evo III van den Hul MC One Special van den Hul Concor XCM Wilson Benesch Naked Analog	£ 625 200 110 1,095 200 239 699 2,400 1,450	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rice Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile is high output MC with refinement at high frequencies and a nimble, articulate and revealing sound. A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light. A stunning cartridge with stereo imaging, dynamics and detail resolution to die for. With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money.	ght arm		MM	MC		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
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MM ADGE?	And MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa Sumiko Blue Point Spec Evo III van den Hul MC One Special van den Hul Concor XCM Wilson Benesch Naked Analog IT favourite HOND no stages	£ 625 200 110 1.095 200 239 699 2.400 1.450	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the new Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around. Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile so the high output MC with refinement at high frequencies and a nimble, articulate and revealing sound. A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light. A stunning cartridge with stereo imaging, dynamics and detail resolution to die for. With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money. BUY	ght arm sound	AM PHOND INPUTS	SPE	MC	REPLACEABLE STYLUS	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
MM ADGE?	And MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa Sumiko Blue Point Spec Evo III van den Hul MC One Special van den Hul Concor XCM Wilson Benesch Naked Analog IT favourite HOND And Stages PRODUCT	£ 625 200 110 1.095 200 239 699 2.400 1.450	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rich Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile is the High output MC with refinement at high frequencies and a nimble, articulate and revealing sound. A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light. A stunning cartridge with stereo imaging, dynamics and detail resolution to die for With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money. BUY E EDITOR'S CHOICE TAGES.	ght arm sound		SPE	MC	REPLACEABLE STYLUS	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
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MM ADGE?	and MC cartridges PRODUCT Cartridge Man MM III Denon DL-103R Grado Prestige Gold Lyra Helikon Ortofon Salsa Sumiko Blue Point Spec Evo III van den Hul MC One Special van den Hul Concor XCM Wilson Benesch Naked Analog Ir favourite HONO no stages PRODUCT Cambridge Audio 640P Clearaudio Smart-Phono	E BEST 625 200 110 1.095 200 239 699 2.400 1.450 BEST 60 250	COMMENTS The MM III challenges MCs at twice the price, it produces detail, space and energy and has stunning resolve in the rich Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around Produces rich, open and expansive music with the minimum of fuss. Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality. Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile selfigh output MC with refinement at high frequencies and a nimble, articulate and revealing sound. A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light. A stunning cartridge with stereo imaging, dynamics and detail resolution to die for With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money. BUY CONTENTS CHOICE TAGES Tested with the almost-as-good £40 540P, this remarkable phono stage brings refinement and bass weight to budge. Minute and very practical unit with slightly bright, but very detailed and low-noise, sound.	ght arm sound		SPE	MC	REPLACEABLE STYLUS	2i 2i 2i 2i 2i 2i 2i 2i 2i 2i 2i 2i 2i 2	
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TURNITABLE SPECS KEY SPEEDS Speeds offered in rpm. SUSP SUBCHASSIS Turntables with a sprung or suspended support for the platter and arm. SWITCHABLE SPEED CHANGE Some decks require manual lifting of the 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.

CARTRIDGE 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 cartridges have separate styli for ease of replacement, but it compromises sound quality.

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Planar X-Screen 80" Projection Screen	£699.00
Runco CL610 DLP Projector	£2,999.00

PRESTON 01772 825777

Arcalli Diva Dv 137 DvD Flayer	L044.00
Arcam DiVA DV135 DVD Player	£584.00
Arcam DiVA AVR 280 AV Receiver	£779.00
Denon DVD3930 DVD Player	£779.00
Loewe Mimo LCD TV	£844_00
Musical Fidelity A5 CD Player	£974 00
Musical Fidelity A5 Pre Amplifier	£974 00
Musical Fidelity A5 Power Amplifier	£974.00
Project Perspective Turntable	£699.00
Yamaha MXC100 MusicCAST Server	£1,039.00

SWINDON 01793 610992

Dali Helicon 400 Speakers (Cheny)	£1,499.00
Dali Helicon 400 Speakers (Rose)	£1,499.00
Dali Helicon 800 Speakers	£1,999.00
KEF PSW3500 Sub Woofer	£389.00
KEF Reference 204c Centre Speaker	2999 00
Marantz SR7001 AV Receiver	£584 00
Rotel RT02 Tuner	£1 79.00
Toshiba 37WLT68 LCD TV	£714_00
Yamaha DVDS1500 DVD Player	£259.00
Yamaha DSPZ9 AV Amplifier	£1.649.00

TUNBRIDGE WELLS 01892 531543

Denon AVR4306 AV Receiver	2899.00
Denon DVD2910 DVD Player	£299.00
Panasonic TH42PX600PED Plasma TV	£799.00
Philips 42PF9731D LCD TV	£999.00
Pioneer PDP5000EX-T Plasma Monitor	£2,599.00
Pioneer PDP607XD Plasma TV	£3.749.00
Sharp LC46XD1E LCD TV	2949 00
Sharp LC52XD1E LCD TV	£1 249 00
Samsung LE40F71BX LCD TV,	£639.00
Samsung LE46F71BX LCD TV.	£959.00

YEOVIL 01935 700078

Arcam FMJ A32 Amplifier	£845.00
Cyrus CD6 CD Player	£419.00
Cyrus CD8x CD Player	Ω649.00
Denon DCD1500AE CD Player	£324.00
Denon PMA1500AE Amplifier	£324.00
Musical Fidelity X-Ray V8 CD Player	£519,00
Musical Fidelity X-T100 Amplifier	£584.00
Pioneer VSX1017 AV Amplifier	£354.00
PMC FB1+ Speakers	£1,104.00
PMC GB1 Speakers	\$744.00

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 BLY C EDITOR'S CHOICE

	UNER			W.			REMOTE	SIG. STHENGTH	ROT, TUNING KNOR	SSUE
FM 8	& DAB HI-FI SEPAF	RATES		WAVEBANDS	PRESETS	20	CONTROL	H METER	NG KN	NUMBER
BADGE?	PRODUCT	Ε	COMMENTS	8	러	F)S	9	男	88	E
	Creek T50	550	Very fine results indeed with precision, polish and insight added to excellent basics	FM,M,L	128	0		0	0	251
1.7)	Cyrus FM-X	500	A classic no-nonsense FM tuner that achieves gratifying sonic results. Upgradable with PSX-R power supply	FM	7					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					281
83	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					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			257
1.5	Marantz ST7001	300	FM reception could offer a little more detail and insight. DAB is fine, but near-identical Denon 1800 is cheaper!	200						283
	NAD C422	180	Admirably free of roughness or other obvious nasties, with just a slight lack of clarity	FM,M	30					250
m Fr	Primare T21	600	A very fine tuner – bass and treble are both well extended and detail is excellent	FM	30					230
	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	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					242
5.01	T+AT1210F	1,000	High-end looks are matched by the sound, which is detailed and sophisticated, with useful features too	FM	100					283
UT BAD	NERS			40000						
	Arcam DiVA DT91	450	Some grain at low levels, but sound is lively, large in scale and tonally very natural. Very smart!	DAB,FM	16					299
- 4	Cambridge Audic DAB500	150	Very good sound, plus optional response tweaks, and slickest operation yet	DAB	10					248
	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					299
a.	Marantz ST7001	250	Midband detailed and precise; treble can be thick but bass is extended, and sound generally energetic	DAB,FM,M	200					299
	NAD C445	300	FM is laid-back despite bright balance, but has good detail. DAB slightly livelier than most	DAB,FM	30					299
	Onkyo T-4555DAB	350	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard in all areas on	DAB.FM	40					299

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

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.

08.4

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 **SOLITTLE 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.

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

tegrated amplifiers		AMPLIFIERS	LINE INPUTS	PHONO INPUT	REMOTE CONTROL	EADPHONE SOCKET	POWER OUTFUT (M)	ISSUE NUMBER
P TO £1,000	£	COMMENTS	c/i	7	~	4	S	35
Arcam DiVA A70	500	A smart and practical amp offering good snap and pace, with natural dynamics and good detail	6	MM		0	60	289
Adv. Acoustic MAP305DA 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				100	30
Arcam DiVA A90	850	Practical, affordable and impressively flexible amp with a laid-back approach but plenty of insight too					100	30
Cambridge Audio 640A v2	300	Slightly cheap-feeling controls are the only real downside to this powerful and lively little amp	6				75	27
Cambridge Audio Azur 740A	500	Ticks all the boxes for bass, clarity, imaging etc. and invites the listener into the music with uncommon grace	6				100	29
Cambridge Audio 840A 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				120	29
Creek Evo	500	Not the most accurate, strictly, but it's lively, energetic musical presentation is entirely lovable	5	opt			85	28
Oyrus 6vs2	600	Spunky little amp that reproduces instrumental timbres and acoustic spaces well, with real musical involvement	7	·			40	29
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	MM			50	28
Marantz PM7001KI	550	A self-effacing amplifier which serves the music admirably with fine bass, sweet treble and unforced detail		MM			70	28
Musical Fidelity X-T100	899	By separating amp and TRIPLE-X power supply, this deceptively powerful valve-sporting amplifier is both enticing and musical	3				70	28
Naim Nait 5i	699	A trade-off of more power and better connectivity against less inputs works surprisingly well in a grunty, musical manner	4				50	25
Onkyo A-933	500	Puts the music first, with sound that delivers the basics correctly but above all involves the listener	5				80	27
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				80	29
Unison Research Unico P	795	Sound belies indifferent measured performance with good detail, balance and flowing melodic quality	5	MM			50	29
Vincent SV-236	999	Valve hybrid whose sound is as idiosyncratic as its styling, short on neutrality but high on sparkle	6				100	29
BOVE £1,000								
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				180	29
] Ayon Spirit	1,745	Pentode or triode operation is available at the flick of a switch with this muscular integrated	4				50	30
Boulder 865	7,750	Extremely transparent to detail but less revealing of energy, high power, superb build but only balanced inputs	4				150	30
Copland CTA405	2,498	Avoids pratfalls of many valve amps, yet retains the euphony typical of the best of breed	6	MM			50	28
] Creek Destiny	1,100	A highly assured performer that doesn't superimpose its personality on the music	6				100	28
Densen Beat B110	1,200	Great bass provides firm underpinning for involving and enjoyable listening - real 'smile factor'	6	opt			60	29
Densen Beat B150	3,000	Gorgeous bass: slight treble dryness detracts only a little. Good sense of scale and rock-steady rhythms appeal too!	6	opt	opt		100	27
Lyngdorf TDA 2200	3,875	Sophisticated modular all-digital amp with room EQ, capable of adapting to the listening environment	4				200	28
Moon Evolution i-7	4,750	Sophisticated, with an elegant build and sound quality, very limited features, even by high-end standards	5				150	28
Musical Fidelity A1008	2,999	With DAC, phono stage and built-in valve buffer, this powerhouse amp can really grab hold of a loudspeaker	4				250	29
Mystěre ia 11	1,250	Small, deceptively powerful integrated valve amp with a crisp, pacy sound	4				40	30
NAD M3	1,899	Massive and flexible, it goes very loud with fine authority and dynamic range, but lacks some sparkle	7				180	28
Naim SuperNait	2,350	Serious communicative ability meets convenience in this sophisticated and powerful integrated design	6				80	29
Primare I30	1,500	A smooth, sophisticated yet agile performer, and beautifully built too	6				100	26
Pure Sound A30	1,100	Valve integrated, with the accent on music rather than rhythm. Needs more inputs, though	3				30	29
Sugden A21aL Series 2	1,299	Lovely solid-state Class A amplifier, sweet as a nut and more powerful than its predecessor	5	opt			21	29
Unison Res. Unico Secondo	1,200	Very good detail and coherence. Tonality is natural, imaging precise and deep, and dynamics are wide and unforced	6	opt			110	29
		Massive and bulky valve amp sounds brilliant, with good power for a single-ended design, wide bandwidth and fine neutrality	5				40	2
Unison Res. Performance								

Our favourit	BEST BLY EC EDITOR'S CHOICE	
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2	IEREU	A	VIPLIFIERS	PR	FOWE		P	REMOTE	POWER	SEUE
Pre/	power amplifiers			EAMPL	A AMPLIFIER	LINE INPUTS	A CNOT	IE CONTRO	OUTPUT (W)	UE NUMBER
BADGE?	PRODUCT	٤	COMMENTS	9	FIER	SInc	P	ROL	3	18ER
UP TO	£2,000									
16)	Arcam FMJ C31	1,200	Professionally presented, beautifully built and exceptionally revealing, this preamp achieves much by doing little			5	opt			27
197	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			6			25	29
11	Cyrus Pre Vs2/6 Power	1,000	Pre offers stunning resolution and feature count for the money and power is subtle, open and musical						50	29
EC 03	Naim NAC 122x/NAP 150x	1,575	Musically rewarding with outstanding sophistication, grip and insight for such a modestly priced design			6	opt		50	28
414	Quad 99/909	1,650	Well thought out and well executed, with a strong, engaging sound and just a little veiling			5			136	25
	Rotel RC-06/RB-06	598	A capable and surprisingly powerful-sounding combination which offers real value			5			70	285
	Russ Andrews HP-1/PA-1	1198	Simply featured, but sounds appealingly realistic and solid. Highly capable in all areas design			2			50	300
ABOV	£2,000									
100	Border Patrol Control Unit	2,995	Bluff looking valve preamp, with one of the most neutral yet dynamic sounds around			5	opt			277

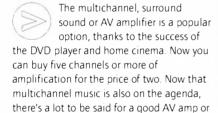
SPECSILIST LINE INPUTS Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc PHONO INPUT input sockets and onboard phono stage for a cartridge Either MM (moving magnet) or MC (moving coil), occasionally both REMOTE CONTROL A remote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

BUYER'S BIBLE STEREO/AV AMPS

	r favourite					SPE	CIFIC	ATIO	IS	
2	IEKEU	AI	MPLIFIERS continued	PRE	POWER AMPLIFIER	_	포	REMOTE CONTROL	FOWER OUTPUT (W)	889
Pre/	power amplifiers			PREALAPLIFIER	AMPL	LINE INPUTS	INANI ONCHA	DON	MAIN	SSUE NUMBER
BADGE?	PRODUCT	3	COMMENTS	퓦	要	SIL	PHI	Ð	3	異
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			6	opt		100	278
EC	Chapter Preface/II+	9,800	Among the finest amps available, the resolution of this preamp and power amp challenges the best at any price			6			300	249
EC	Chord Prima/Mezzo 140	6,100	Small, muscular, beautifully made and styled and sounds like a dream			5			120	269
EC	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
£0	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
EC	Hovland HP-100/RADIA	12,745	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers			9	opt		125	250
ED	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			4				238
EC	Marantz SC11S1/SM-11S1	5,000	Preamp and power amp duo delivers high resolution and is consistent with different loudspeaker loads			6			220	304
EC	Naim NAP 500	11,875	Wonderful neutrality, bandwidth and dynamic range, plus Naim's traditional leading-edge definition						140	208
EC	Nam NAC 552	12,100	Extremely expensive preamp, but still solid value. Magnificent sound with fine flexibility and convenience			6				233
	Primare PRE30/A30.2	2.400	Smart kit that lives up to the visual promise with gorgeous sound – a really musical performer			7			128	256

AV AMPLIFIERS

Surround sound amps for music and movies



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.

receiver (an amp with a radio tuner built in).

AV amps are usually designed primarily for movies and come with digital processing for the various soundtrack formats – Dolby ProLogic (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.

A\$9

HOW MANY CHANNELS?

Depends on how many speakers you 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



DSP-AX759SE £550 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.

	r favourite				SPE	CIFIC	CATION	S
A	V AMP	L	IFIERS			7.10	5-CHANNEL POWER (W	8
Multi	channel amplifiers			REC	LINE INPUTS	7.1 COMPATIBLE	POWE	SSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	RECEIVER	PUTS	THE	R (W)	IBER
	HAMMEL INTEGRATED AMPS 15 X	145×1						
	Arcam DiVA AVR350	1,500	Sets the standard for music and movie performance at the price, although features count low and HDMI limited		7	0	100	284
	Cambridge Audio Azur 640R	600	Simple and elegant receiver. Attributes that reflect in good sound quality without the distracting toys you'll find elsewhere		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	0	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	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	e	10		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		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		7	0	100	273
	Sony STR-DB795	300	A superb value little amplifier, well appointed technically and successfully tuned for UK ears		7	0	100	260
	Yamaha DSP-AX759SE	500	More a stereo amp with basic multichannel thrown in, but a great performer with music at this price	a	6	0	100	287
MULTIC	HANNEL PREUMPS/PROCESSORS	AND POWE	THE STATE OF THE S					
	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		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		135	275
0	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		180	235
EC	Classe SSP-600/ CA-5200	11,900	Subtle, exacting sound, tremendous flexibility and high power audiophile standard amplifier - lacks hi-tech digital interfaces		11		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
C	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
C	Meridian 861	9,833	Powerful surround processor with flexible modular construction, marvellous versatility to drive any speaker configuration		6			230
	Naim AV2/NAPV175/NAP150	4,175	First truly credible multichannel system from Naim is idiosyncratic but offers excellent basic sound with modest spatial steering		5	0	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		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		120	238

SPECSILISY 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, lape 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



After 5 years in production, the Dino is still one of the most popular phono stages around. Highly versatile with accessible switches on the baseplate to facilitate a wide range cartridges.

'Never Connected' power supply technology virtually removes all incoming mains noise allowing only the music to be heard. Visit our website to learn more about this exciting product and the high performance Diablo phono stage.





STEREO SPEAKERS

Speaker pairs for stereo sound

While loudspeakers are relatively straightforward in construction, they have one of the most difficult jobs in hi-fi – turning an electrical signal into an acoustic one. Most consist of two or more drive units in a box that usually has a port in it to make life easier for the cone in your mid and/or bass driver. Alternatives to this arrangement include panel speakers, which use electrostatic or ribbon technology, and horns, which use drive units in complex cabinets that greatly improve efficiency.

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 quidelines 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.

0.8.4

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.



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.



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 6 £3,500

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 BLY (C. EDITOR'S CHOICE STEREU SDEVKERS

Stei	reo speakers			SIZE W.H.D. (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ	FREE SPACE	CLOSE TO WAL	SSUE NUMBER
	PRODUCT	2	COMMENTS	(M	DER	A.	(FH)	Ä	1	田田
UP TO	£1,000						-			
_	Acoustic Energy Linear 1	250	Not at its best with classical but a well integrated, involving, timed aligned speaker nevertheless	19,36,26		A+				27
	Acoustic Energy Aegis Neo 3	370	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight	20,90.5,24		А	24			29
	Acoustic Energy Aelite 3	750	Wood-veneered all-rounder has exceptional neutrality with deep smooth bass	20,103,39		А	22			29
	Acoustic Energy AE1 Classic	845	Sharply priced classic replica has a beautifully balanced midband, wide dynamic range and little boxiness	18,29.5,25.5		Α-	45			28
	ALR Jordan Entry L	500	Not the most pretty speaker but a sonic triumph, with a beautifully judged balance and impressive transparency	20,86,29		А	23			27
	ALR Jordan Note 3	1,350	Costly but clever; adjustable ABR gives much of the weight of a floorstander with the agility of a standmount	245,37,31.5		Α	26			28
6	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		Α-	55			29
	Aurousal A1	450	Single-driver system is coloured but wonderfully coherent and very effective at communicating emotions	20.5,36,27		Α	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			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			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			27
-	B&W 683	899	A fine all-round performer with high-class drivers at a very realistic price	20,99,34		Ρ	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			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
v I	DALI Ikon 7	999	Bulky vinyl floorstander has high sensitivity and a bright sound with superior coherence, delicacy and transparency	20,114,34		4+	22			27
	DALI Monitor 1	1,000	Beautiful miniature with advanced drivers sounds marvellously coherent with fine vocal expression	16,32,24		А	40			29
	Dynaudio DM 2/10	775	Unfashionably bulky standmount has fine dynamics, grip, bass and headroom and is delicate and well mannered	27.5,45,35		Α	22			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	-	Α-	28			27
2	Epos M5	349	Gorgeous miniature works well close to wall. Could be smoother but communicates with authority	18,33,21		Α-	40			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			26
	Epos M22	949	Very classy floorstander has a tricky bass and an edgy top, but a very smooth and even midband	20,88,25		Α-	25			27
	Focal Chorus 816 V	1,000	Fine, warm balance, superior dynamics, and a sweet top end, but could be smoother	28,100,37.5		Α+	20			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		Α+	40			30
	JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch. Could be more transparent	22,99,37		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		Α+	40	0		28
	KEF iQ9	800	Shapely and solid floorstander has wide bandwidth and dynamic range with superior neutrality and sensitivity	22,94,33		А	25			27
	Mission ëlan e34	400	A return to form for Mission with a pacey, vibrant sound matched to good looks	35,96,34		Α+	48			29
	Monopulse 42A	995	Uniquely different in style and sound, midband time-coherence is magnificent but treble is too restrained	26,110,25		4+	28			27
	Monitor Audio BR2	200	Good looking standmount has a muscular sound with superior coherence	18.5,35,25		Α-	30		0	29
	Monitor Audio BR5	400	Not the best dressed in its class, but detailed, bold sounding, good value and an easy electrical load	17, 85,25		Α-	36			29
	Monitor Audio GS10	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		Α-	40			28
_	Monitor Audio Silver 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						27

SPECS KSY 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 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).

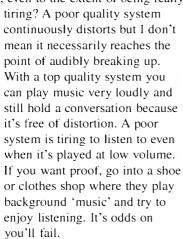


This is a fairly well-trodden path but it leads to dissatisfaction, endless upgrades and a lot of wasted money. It's likely that the system will help you lose interest in music pretty rapidly. The problem is that there are more myths about hi-fi than Aesop's Fables. CD gives you perfect sound. All CD players sound the same. A £50 CD player plays high fidelity music. All magazine reviewers are experts. Big speakers are always better than small ones. More watts per channel is everything. MP3 format gives you high quality. A collection of 'Best Buy' components will be a great system. And so on and so on... ALL MYTHS!

Music - the real aim

Our aim must be to buy a hi-fi system that will prove musically satisfying, reliable and deliver true value for money. If the system doesn't excite you musically you've wasted your money. What is even worse is that you may not even realise you've bought a bad egg — you'll just switch the TV on instead and your desire to

listen to music will gradually diminish. Have you ever been in a pub or club where you realise it's very difficult to conduct a conversation, even to the extent of being really



What and Where to buy

The system you think you want may not be right for you. – So where do you start? Here's an important tip...don't start with WHAT, start with WHERE.

There is only one way to give yourself the best chance of getting it right first time, and that's through a specialist hi-fi dealer. Now it's likely you have preconceived ideas that may put you off visiting one. Although you would welcome the advice and guidance, you don't know the technical jargon. You don't want to be talked down to. Your friend has said they only sell expensive gear and they're not interested if you don't have a big budget. They're expensive. Again, just myths. Most specialist hi-fi dealers are running their business because, above all, they love music. They spend a large portion of their time listening to music and comparing systems to get the best possible result. They know the component combinations which don't gel together and, conversely, they know the combinations which give the best performance within a given price range. But they all also know the system must suit you.



Hi-Fi)for your money Buying or being sold to? Getting the best deal Oscar Wilde wrote "...too many people today know the Now there's a group of long-established specialist dealers who are totally committed to putting the customer first. price of everything and the value of nothing." Specialist

Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge.

Listening to your choice of music in a peaceful, well organised demonstration room, you may be surprised and, almost certainly, relieved to discover how easy it is to hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy. It comes down to trusting your own judgement rather than the opinion of a reviewer you've never met... and who won't refund your money if you're not satisfied or be at the end of a phone to sort out any problem you might encounter.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it sounds great, and make sure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by commendation. It's vital to them to get it right for you.

retailers know that not all potential purchasers will seek them out. They tend to attract the more discerning, thoughtful customers. Let's face it, a good deal is about more than just a good price. After all, unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, maybe they believe that taking care of their customers properly is a nicer way of doing business than just handing over boxes.

Listed below are 20 OF THE BEST HI-FI SHOPS IN THE COUNTRY. They have been selected because they are known to do an excellent job in guiding customers towards hi-fi that will give them years of musical enjoyment and total satisfaction.



Ask our Top 20 UK Hi-Fi Dealers

LONDON

GRAHAMS HI-FI 190a New North Road. 020 7226 5500

ORANGES & LEMONS 61/63 Webbs Road, Battersea. 020 7924 2043

Aldermaston, Berkshire

HIFICINEMA Mars House, Calleva Park.

0118 982 0402 Ashford, Kent

SOUNDCRAFT HI-FI 40 High Street. 01233 624441

Brighton

THE POWERPLANT 40 Church Road, Hove. 01273 775542

Chelmsford

RAYLEIGH HI-EL 216 Moulsham Street. 01245 265245

Colchester

RAYLEIGH HI-FI 33 Sir Isaac's Walk.

01206 577682 Kingston-upon-Thames

INFIDELITY 9 High Street Hampton Wick. 020 8943 3530

Rayleigh, Essex

RAYLEIGH HI-FI 44a High Street. 01268 779762

Southend-on-Sea

RAYLEIGH HI-FI 132/4 London Road. 01702 435255

Southampton

PHASE 3 HI-FI 37 Redford Place 023 8022 8434

Worthing

PHASE 3 HI-FI 213-217 Tarring Road. 01903 245577

SOUTH WEST

Bath

AUDIENCE 14 Broad Street.

01225 333310

MIDLANDS

Banbury **OVERTURE**

3 Church Lane. 01295 272158

Birmingham

SOUND ACADEMY 152a High Street, Bloxwich.

01922 493499

Birmingham

MUSIC MATTERS 363 Hagley Road, Edgbaston. 0121 429 2811

Coventry

FRANK HARVEY 163 Spon Street 024 7652 5200

Leicester

CYMBIOSIS 6 Hotel Street. 0116 262 3754

Nottingham CASTLE SOUND & VISION

48/50 Maid Marian Way. 0115 9584404 Stafford **ACOUSTICA**

114 Wolverhampton Road. 01785 258216

NORTH

Cheadle

THE AUDIO WORKS 14 Stockport Road. 0161 428 7887

Chester

ACOUSTICA 17 Hoole Road 01244 344227

Sheffield

MOORGATE ACOUSTICS

184 Fitzwilliam St.

0114 275 6048

York

SOUND ORGANISATION 2 Gillygate. 01904 627108

Gateshead LINTONE AUDIO

7-11 Park Lane, Gateshead. 0191 477 4167

SCOTLAND Edinburah

LOUD & CLEAR Bonnington Mill,

72 Newhaven Road. 0131 555 3963

Glasgow LOUD & CLEAR

520 St Vincent St, Finnieston. 0141 221 0221

N. IRELAND

Belfast LYRIC HI-FI

429-431 Lisburn Rd. 028 90 381296

BUYER'S BIBLE STEREO SPEAKERS

_	r favourite	_			SPI	CIFIC	CATIO	NS		
	EKE eo speakers	J	SPEAKERS continued	SIZE W,H,D (CM	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	SOUE NUMBER
	PRODUCT	3	COMMENTS		B	A	40	àñ	F	2
1	Mordaunt-Short Avant 906i	350	The generous, well balanced sound shows good enclosure control, could do with more grip and better spikes!	16.5,85,295		А	28			2
	PMC TB2+ ProAc Tablette Ref Eight	795 699	Classy transmission line stand-mount has superior midband, restrained presence and a bright clean top end Stunning standmount with electrostatic-like imagery. Its Signature brother costs £200 more and is even better!	15,27,23		A+	40			-
	O 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		A	48			
	Q Acoustics 1050	330	Great value, the sound lacks smoothness but has fine dynamics and impressive transparency	19.5.97.5.30		A+	28			
	Quadral Pico	849	Could be more muscular, but neutral and open with spacious imaging and little coloration	19,34,26		Α-	30			
		298		15,32,24		A	50			
	Rega R1	900	Cute baby sounds busy, coherent and involving, if a touch thin. Sweet and delicate treble with even bass	25,108,36		A	22			
	Revel Concerta F12 Ruark Sabre III	799	Massive multi-driver floorstander is not pretty, but has great headroom, bass weight and impressive neutrality Streightforward engineering combined with high finish quality that delivers a beautifully light and engaging count.	20,33.5,27		A-	50			
	Tannoy Mercury F4	350	Straightforward engineering combined with high finish quality that delivers a beautifully timed and engaging sound	20,53.5,27			24			
	Totem Rainmaker	795	Floorstander has an engrossing sound with good dynamics and a warm, restrained output Standmount has a hig sound, with a smooth midband and bright for Could have more purch and warmth	17,35.5,23		A	25			
]		995	Standmount has a big sound, with a smooth midband and bright top. Could have more punch and warmth	20, 108, 34		A	20			
	Triangle Antal Esw	370	Smoother than its predecessors, with a beautifully balanced bass and midband, though the top end is uneven. Not creatly, but byey, cohorget and involving if a little thin. Sweet and delicate trable with even base.	18,37,30		Α-	40			
	Triangle Titus ES	500	Not pretty but busy, coherent and involving, if a little thin. Sweet and delicate treble with even bass Bulky standmount lacks style but delivers engrossing musical coherence and vivid dynamics	20,42,34		A	40			
]	Triangle Comete ES	1,000		23,51,36		Α-				
	Wharfedale Opus2-M1	1,000	Elegant mid to compact three way, a new direction in recent years for Wharfedale	23,31,30		A-	42			
	A2T Mezzo	2,000	Seamless overall coherence, with persuasive monitoring capabilities. Sounds a little mid-forward. Top could be sweeter	27.5,40,26		A+	40			
	Amphion Prio 520	1,600	Gorgeous styling and a lively sound with good voice band integrity and a sweet top end	16,104,22		А	40			
]	ALR Jordan Classic 5	1,200	Slim, laid back floorstander has sweet sound with fine coherence, imaging and dynamic range	17,99,26		A	28			
	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				
	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		Α-	54			
	Audio Physic Spark 3	1,499	Classy and discreetly laid back floorstander has delightfully neutral balance and surprising bass weight	15,98,22		A+	27			
	AVI ADM9	1,000	Active mini-monitors that are exceptionally accurate and dynamic, and they give good iPod, too	20,30,26		ACT				
	AVI Duo	1,299	Sophisticated floorstander, a natural partner for AVI's electronics. Unusually clean and honest musical presentation	19,77,28		A	50			
3	B&W 802D	8,000	Great timing, superior dynamics and a sweet top end all enhance musical communication. Makes sweet music	37,115,56			<20			
	B&W 805S	1,600	Classy standmount with excellent coherence and imaging. Can sound laid back but otherwise a real delight	24,39,33		Α	25			
	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		Α-	<20			
	Eclipse TD510	1,200	Replacement for the TD512 does astonishing things with musical timing. £600 floor stands also recommended	24,36,26		Α	45			
	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			45			
	Focal Chorus 836V	1,549	Bulky, sharply priced three-way could be prettier. Has good bass with genuine grip, but top could be sweeter	28,115,38			28			
c	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			25			
	Focal Diva Utopia Be	7,599	Lovely slimline speaker combines remarkable transparency with fine dynamics and gorgeous bass	25,110,53		A+				
				16,87,27						
	Free FS1 Jamo Reference R909	3,000	An elegant active design for anyone after the minimum of wiring. Wireless with Sonos or Airport Express Tea model (in a class of each is open full and eacy on the err, and excell a classic in the making	48,127,54		A-				
2		7,500	Top model (in a class of one) is open, full and easy on the ear, and surely a classic in the making							
	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			30			
	Kudos Cardea C1	1,450	A very pretty compact standmount with a delightfully subtle and delicate sound quality	20,35,27			40			
	MartinLogan Source	1,599	Careful install needed, but capable of remarkable transparency at an extremely competitive price	24,120,37			42		oot	
	Meridian M3100	1,850	Attractive and capable active (125w) with great imaging and strong bass. High neutrality and good power handling.	19,39,25			45		opt	
	Monopulse 42A	1,495	Oddball styling, fine bass-to-mid balance and dynamics, and superb voice coherence, but untidy treble	26,110,25		А	25			



Updated and improved PowerMax Plus™ mains cable

Our new PowerMax Plus™ mains cable features new custom designed nickel-plated mains and IEC connectors, and we've perfected a technique of mechanically attaching the cable to the plugs. PowerMax Plus™ helps improve the performance of your CD or DVD player, and Hi-Fi or Home Cinema amp by improving its connection to the mains supply resulting in even better music and movies!

PowerMax Plus™ £29.95 for 1m

www.russandrews.com/powermax

Cable Upgrade Scheme • Free Delivery (orders over £100 within UK Mainland)



Tweaks to such important areas as detail, bass extension and treble sweetness add up to a more appealing sound overall."

Original PowerMax™ cable, Hi-Fi Choice, issue 288

HI-FICHOICE BUYER'S BIBLE

C	TEDE		CDEAVEDO		SP	ECIFI	CATIC	INS		
		U ,	SPEAKERS continued	SIZE W.H.D. CM	FLOORSTANDER	EASE	BASS FROM (HZ)	Ŧ	CLOSE TO WALL	ISSUE
	eo speakers			H.D (C	STAND	EASE OF DRIVE	HOM (F	FREE SPACE	TO WA	ISSUE NUMBER
ADGE?	PRODUCT	5	COMMENTS	≤	R	A	Ø	R	F	33
С	Monitor Audio PL300	5,000	Completely new level of sophistication from a brand best known for mainstream, cost effective designs	41,111,47		A-	28			30
	Mordaunt-Short Perf 6	3,500	Revolutionary enclosure design and aspirated tweeter make for a fast, hi-res ride	24,121,37		A-	35			26
	Neat Elite SE	1,499	Smooth and natural performer with notably expressive midband. Fine voice articulation and unusual sweetness	20,90,18		Α	25			26
	Neat Motive 1	1,200	Beautifully neutral balance sounds open without aggression. Fine midband but could be more authoritative	16,92.5,20		A-	20			276
	Neat Momentum 3i	1,745	Sounds a lot bigger than it looks, with good coherence and an impressively wide dynamic range	22,38,27		Α-	23			30
3	Opera Seconda	1,295	Classy cabinetwork plus beautifully judged neutrality with crisp, clean and deep bass	24,102.5.31.5		Α-	20			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		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		A-	19			29:
]	ProAc Response D25	2,995	The traditional ProAc high-end detail mixed with greater efficiency and more pace - a splendid speaker	22,107,25		Α+	20			25
]	Quad ESL 2805	4,500	Uniquely wonderful natural realism, exceptional imaging, coherence and low level detailing	70,107,38.5		Α-	45			29
	Rega R7	1,498	Super-slim and super-smooth floorstander has fine agility with a slightly bright overall character	27,98,35		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		А	25			27
	Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound	22,105,39		Α	20			25
	Revel M22	1,800	A remarkably clean and revealing speaker with superb tonal and microdynamic capabilities	22,37,30		A-	48			27
	Roksan Caspian FR-5	2,000	Sharp looking speaker sounds exceptionally open and lively without aggression. Could be warmer and richer	20,100,25		Α	22			290
	Ruark Talisman III	1,499	No bass demon, but a sophisticated and agile speaker epitomising Ruark's design ideals	22,84,31		Α	22			259
	Sonus Faber Concerto D.	1,799	The Concerto Domus performs significantly above its price level, especially with acoustic material	21,99,31		Α	35			270
	Sonus Faber Grand Piano D.	2,498	The Grand Plano Domus has a fabulous physical appearance and delivers a clean, refined sound	21,106,31		A-	32			283
	Tannoy Dimension TD8	4,000	This stylish speaker is a splendid all-rounder, with fine dynamics, precise imaging and minimal coloration	31,86,30		Α-	25			240
]	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		Α+	38			295
	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		Α	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		А	22			27
	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		Α-	32			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			270
	Vivid Audio B1	7,750	Impressive cabinet design combined with hi-tech drivers to make truly world class speaker	27,110,38		A-	40			26
	Wilson Benesch ACT	8,400	Superb enclosure gives uncanny freedom from 'boxiness'. Well balanced, but top end might be sweeter	23,108,36		Α	20			25
	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		А	28			25
]	Wharfedale Airedale Neo	9,000	Expansive yet relaxed sounding, the Neo is a coloured but surprisingly musical and enjoyable speaker	52,115,45		Α-	25			296
	Yamaha Soavo 2	1,200	Cunningly crafted stand-mount with a beautiful balance that always sounds lively, open and involving	22,38,35		А	28			296

Our favourite BEST BUY (C) EDITOR'S CHOICE SUBWOOFERS

	speakers			SIZE W.H.D. (CM)	FOWER (W)	ASS FROM (HZ)	ISSUE NUMBER
BADGE?	PRODUCT	ξ	COMMENTS				
1.0	B&W PV1	950	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	18	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
	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
110.0	REL T1	595	Standard setter at the price: flexible, easily set up and packs quite a punch	36,40,420	300	25	291
	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
	MartinLogan Dynamo	449	Refined, compact sub brings established MartinLogan virtues to a new price and size point	29,35,32	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

SPECSICE WXHXD (CM) Width, height and depth of one cabinet in centimetres POWER (W) How many watts the onboard amplifier of active models delivers BASS FROM How low the sub goes, the smaller the number the deeper the bass.

How the new 550K Supercharger from Musical Fidelity turns most hi-fi systems into 550w dynamic power houses.

The new 550K Supercharger is a low gain power amp that is connected to the system just before the loudspeakers.

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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.

	ır favourite					SF	ECIFI	CATI	DNS		
	EADPI		UNES	ELECTROSTATIO	SUPRA-ALIRA	CIRCUMAURA	OPEN BACK	CLOSED BACK	WEI	3.5NM JACK ADAPTOR	SOUL N
	reo headphones			STATIC	ALIFIA	AURAL	BAQ	BAC	WEIGHT (g)	APTOF	JE NUMBER
DGE?	PRODUCT AKG K270 Studio	129	COMMENTS Pro oriented design which is very transparent and great with acoustic material	.,					270	-	23
	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						250		30
	Beyerdynamic DT770	190	A touch coloured in the mid, but less than most closed cans: detailed and with excellent bass						290		28
	Beyerdynamic DT880	200	Informative, neutral and surprisingly close to good loudspeakers. Good for occasional and long-term listening alike						205		30
	Grado SR225	180	Tonally shows the way to Grado's amazing GS1000 flagship, but detail and soundstage are not truly class-leading						200		30
	Grado SR325i	310	Highly sophisticated and detailed sound with great extension; check for comfort						200		27
	Grado GS1000	995	One of the finest transducers on the planet, with detail to die for						250		28
	Sennheiser HD485	65	A great all-round headphone for occasional or even heavy use, refined in sound and comfortable, too						220		29
	Sennheiser HD595	150	Technology from upmarket HD650 model makes this a very revealing headphone that's also extremely comfortable						270		266
	Sennheiser HD650	300	Astonishing resolution and hardly less impressive tonal balance make this a true hi-fi experience						260		252
	Sennheiser PXC450	299	Noise-cancelling model: as good as it gets for making the most of listening in planes, trains and automobiles						240		302
	Shure SE420	240	Expensive and no replacement for top conventional 'phones, but streets ahead of most in-ears with real refinement						15		295
	Shure E500PTH	420	Sophisticated in-ear design with three drivers, plus switchable 'voiceover' mic in the lead; high-quality stuff						20		285
	Stax SR-001 Mk II	239	Expensive and power hungry, but this electrostatic drags personal stereo into the world of high fidelity	-					280		268
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SPECSICEY 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.



Linn Akurate Music Server

Stax SRS-2020 Basic Sys. II 349 Luxury option at its price, but the sound delivery is five-star quality all the way

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our website at www.billyvee.co.uk to reserve your place.

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

Oehlbach NF214

Supra Sword-ISL

Wireworld Luna 5

Nordost Heimdall

OED X-Tube XT300

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Profigald PGA3000

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Van den Hull MC Silver IT MkIII 2.250.

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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.

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_	r favourite	_	BEST BLY [EE] EDITOR'S CHOICE		**	PECI
Inter	rconnects and spea	ker	cables	STRANDED	SOLID CORE	COPPER
BADGE?	PRODUCT	Ē	COMMENTS	Œ	Æ	H
ANALD	GUE INTERCONNECTS					
	Atlas Questor	70	Very open and informative at high and mid frequencies, with slightly dry bass. Imaging particularly fine			
	Audioquest Sidewinder	45	A lively and detailed cable, with fine tonality and excellent rhythm. Slight added upper-bass warmth does little to detract			
	Black Rhodium Prelude	80	Practical and sensibly priced all-rounder that seems happily compatible with a wide range of kit			
	Black Rhodium Coda	150	Superb bass and excellently neutral and detailed midrange: treble generally sweet with occasional slight constriction			
ŧC.	Black Rhodium Concert	255	This DCT cable from the Polar range gives a distinctively dark timbre, rich in detail, with low subjective noise			
	Cambridge Azur Reference	50	Performance wouldn't shame a cable at twice the price: especially adept in the treble with no trace of dryness			
1.0	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			
	Clearer Audio Silver-line	244	Complex, well-screened cable which offers good sound all round with exceptional bass – at a pricel			
EC	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			
	lxos lxotica IX 1	200	Notable for its relaxing sound, this cable still presents plenty of analytical detail			
	Monster M350i	45	Few cables at this price reveal so much about the recording space. Clear treble, too			
	Monster M1000i	200	Very capable, with only a hint of bass dryness to set against excellent results elsewhere			
	NordostWyrewizard Dream	95	Slight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass			

The bass is a matter of taste, but suits many smaller speakers. Very good mid and treble

Silky-smooth treble, with remarkably good detail too: midrange and bass also very fine

Authoritative bass and clear treble outperform many cables at twice the price

Not the ultimate for lovers of clinical precision, its character is engaging and detail and extension are good

Incredibly resolute and low distortion cable that makes the alternatives sound crude, pity about the price

Unusual inductance-free design, beautifully built, with bold, finely detailed and outgoing sound quality and excellent discipline

DIGITA	LINTERCONNECTS					
	Atlas Compass	50	Slight improvement in detail over giveaway cables, plus distinctly more tuneful bass and more open treble, make this fine value		Ε	289
EC	Clearer Audio Silver-line	125	Very satisfying performance with finely-etched detail and sweet treble		Е	278
404	Supra AnCo	80	This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context		Е	304
EC	Wireworld Starlight 5	90	Clear gains in detail and imaging precision are this cable's main strengths: good value and near-high-end performance		Е	279
SPEAK	ER CAELES PRICE PERIMITARE					
	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
EC	CrystalCable Piccolo	1,480	Tougher than it looks, Piccolo has some of the qualities of a solid core type generically – notably resolution, focus and articulation			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			280

Alternative to Valhalla, silver plated, micro-monofilament construction, low colouration, hi-res and suitable for exacting systems

Zero inductance construction, medium resolution cable that has an excellent midband and is fundamentally musical

Cryogenically treated 'impedance matched' cable with stabilising components added: great sound all-round

Budget biwire cable offering tuneful and extended bass, good treble, and midrange with just a little lack of detail

SPECSILEY 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. Oligital CABLE TYPE E – electrical, 0 – optical Cables are one metre length unless otherwise stated.

Better bass than treble, with good detail though a touch of constriction at times

Full bass and nicely detailed treble combine with good imaging - a budget bargain

A natural and well controlled sounding cable that's cost effective for mid-priced systems

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 | EDITOR'S CHOICE

				S250	SPECIFICATIONS					
Equi	pment supports	٤	ENT SUPPORTS	HEIGHT CM)	TOP PLATE SIZE (CM)	WELDED	NUMBER OF SHELVES	SHELF TYPE	SSUE NUMBER	
ADGE!	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	24	
	Atacama Equinox	280	Stable, modular design with style. Excellent bass transients and a fresh design concept	81	50,50		4	Glass	21	
	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	30	
	Custom Design Icon Signature	330	Gorgeous wood and glass looks: sound lacks a little detail but is nicely lively	75	56,37		4	Glass	28	
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal and largely harmless	65	60,42		4	Glass	29	
	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	26	
	Custom Design Concept 400	700	Slightly drab looks, but great sound and efficient use of space ('Acoustic' version tested – standard version $\mathfrak{E}300$)	74	48,40		4	Metal	24	
	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	30	
	Custom Design Vantige	449	'AcousticAluminium' shelves plus steel supports equal practicality plus musical satisfaction: just a shade bright	62	49,44		4	Metal	27	
	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		5	Glass	30	
	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	21	
	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	24	
	RA Torlyte Platform	130	This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound	8	48,36		1	Torlyte	30	
С	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	27	

Our favourite BEST BUY COLOR'S CHOICE SPFAKER STANDS

	aker stands			HEIGHT (CM)	LATE SIZE (CM)	FILLABLE	WELDED	MBER OF LEGS	ISSUE NUMBER
BAUGE?	Anvil Sound Display Stand	226	COMMENTS A variety of smart looks available - sound is clear and precise	50	20,17	0		1	293
101	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	0		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			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
fØ	Partington Ansa 60	99	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15			4	232
EC	Partington Dreadnought BS	249	The Dreadnought Broadside is a superb stand for high-class standmount speakers — and it looks great too!	61	17,15			5	261
EC	Partington Heavi II	399	Robust to the nth degree, this stand helps produce very taut, precise bass and detailed upper frequencies	53	31,22			6	287
EC	Russ Andrews Torlyte	299	Very relaxed sound from this metal-free design, with excellent imaging too	60,50	15,21			3	280

IENT SUPPORTS SPECS KEY HEIGHT Of complete stand. TOP PLATE SIZE (CM) Width by depth of the supporting platform(s). Single figures indicate a square platform 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

SPEAKER 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 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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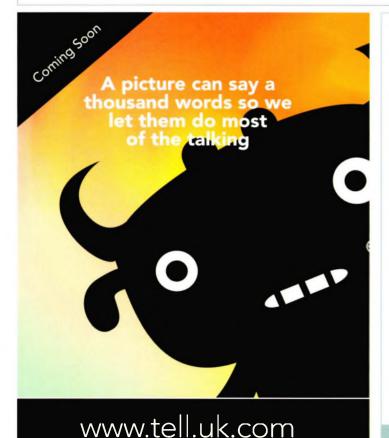




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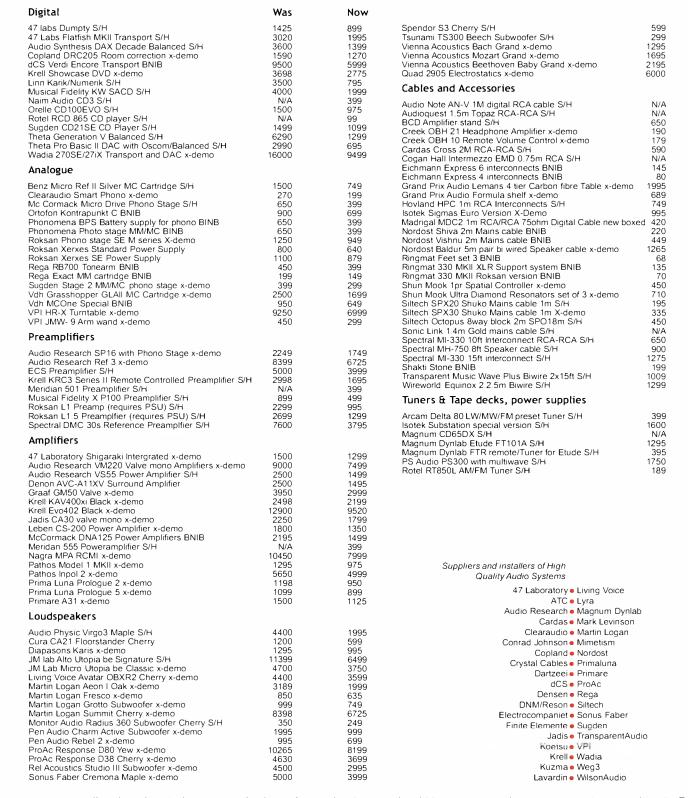
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f you're in the market for a high-end speaker, there are few safer places to put your money than on a pair of Quad ESLs. For transparency, staging and the ability to sound most un-hi-fi like, the ESLs are among the best in the business. Our £3,000 budget would buy us a choice of models, but we've settled on the ESL989. Launched in 2002, the 989 was larger than previous electrostatics. This gave it crucial extra bass extension that some had thought lacking in previous models. As with any electrostatic speaker, a few additional checks should be made when buying second-hand. Drive the speakers to normal and high listening levels and check that the protection circuits do not operate (if a spark is detected then the speaker reduces volume and adds distortion that lasts for approximately four seconds). This normally indicates a faulty element. With no input signal and ear close to the speaker, listen over the entire cloth area for discharge noises. Any fizzing, ticking or popping sounds could also indicate a troublesome element. A faulty element can be replaced, but with our budget the speakers should be mint. Quad recommends that if faulty elements are encountered, then these should be replaced

> as well as customer feedback tells them

with new ones. Their experience,

elements don't last very long. Quad's product backup is legendary and they now offer a 'same day service'. By appointment, a customer can deliver a pair of speakers for service before 10.00am and collect them between For something

that refurbished 3.00 and 4.00pm. with equal status but a little more

conventional. B&W's Nautilus 802's are well worth hunting out. Built between 1998 and 2004, these quasi-studio speakers cost £6,000 when new. Featuring twin 20cm woofers, as opposed to the 801's single 39cm driver, the N802's were always supposed to be the more domestic friendly version. That having been said, a large, well-damped room is still required to get the best out of them. Considering the original price of the speakers, parts prices are reasonable. £147, £70 and £57 are the amounts needed to buy replacement woofer, mid-range and tweeter units respectively. Provided they've not been thrashed, a pair of N802s should prove to be supremely reliable. When new, these handmade speakers came complete with a demonstration disc, cleaning cloth and speaker grill brush. If the owner still has these then the chances are they've been cherished. With regards to condition, tatty cosmetics could indicate that the speakers haven't been well looked after and may even have spent time in a studio. As B&W's warranty isn't transferable, our advice is to buy as late as



Above: Sonus Faber Cremona

supply at slightly cheaper prices. Our budget should be just enough for a perfect pair from a reputable source.

Tannoy's late-20th Century dual concentric speakers provide a vintage sensation. Essentially, the Tannoy's are known more by their drive unit's names than cabinets. Drivers made from the late-1940s are 'Silvers', followed by 'Reds' and then, finally, the 'Golds'

"...tatty cosmetics could indicate that the speakers may have spent time in a studio."

possible and preferably from a dealer for added piece of mind.

If the above both seem a little predictable, then the exotic Sonus Faber Cremona could prove tempting. Arguably the best looking of the lot, this Italian gem uses 32 sections of solid maple shaped into a boat tail cabinet design. It's as much a piece of furniture as it is hi-fi. That said, the sound's pretty impressive, too. In many respects the antithesis of the Quad, the Cremona has a surprisingly urgent and unrestrained delivery. I say, "surprisingly", as other Sonus Faber speakers tend to sound more refined. Sonus Faber are distributed by Absolute Sounds in the UK and they report no reliability issues with this speaker. Parts aren't cheap, however. A tweeter costs £210, with £270 needed for a woofer. The original Cremona was built between 2002 and 2007 with later models still covered by the three-year quarantee. Although £5,000 new, the recently launched 'M' model has meant there's a bigger

of the 1970s. The colour, incidentally, comes from the magnet cover. Driver size is 30cm or 39cm. In order to get the best from these dynamic drives units its best to get the largest cabinets you possibly can. Although our budget probably wouldn't stretch to the real biggies, it is enough for the third-up in the range - the Canterbury. These hefty corner units have a charming 1950s wireless look about them, yet won't invade on space quite so much as the larger York and GRF do. Obviously, speakers this old won't have new parts available, although there are plenty of specialists out there willing to service them. The most likely problem with speakers of this age is cone surround deterioration. A recone is straight forward, although for our budget the drivers should be perfect. £3,000 is just about right for a pair of Canterburys with a nice pair of reconditioned 'Red' 30cm speakers. HFC

Dominic Todd Next month: Subwoofers

Above: B&W 802 (pre-Diamond)

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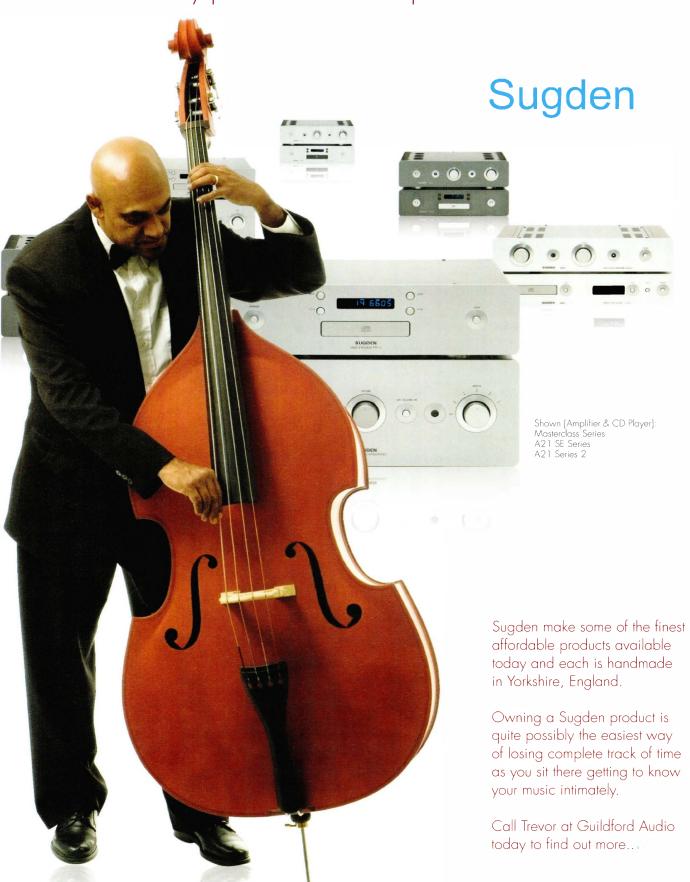
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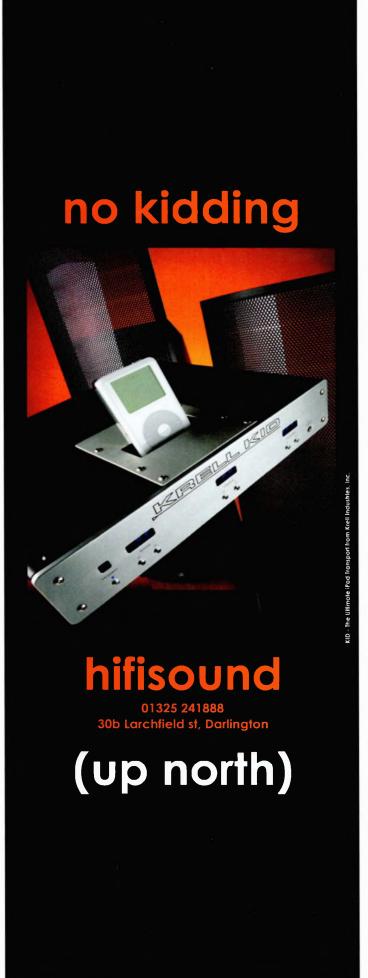
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MERIDIAN 502 or similar preamp wanted. Must have remote control. Also want Quad 405. 01277 219639 (Essex).

PIONEER A300R precision amplifier 1970's Sugden A21a Onyx OA21, Naim Nait amp. Inca Tech Claymore Sonneteer Campion amp. 07810 103908 (West Yorkshire)

WANTED tonearm lead with straight DIN plug. Cardas, Transparent, Nordost or similar. Quality headphones; AKG, Beyer, Grado etc. 07973 220663 (Leics) **WANTED** top quality separates and complete systems – Naim,

and complete systems – Naim, Linn, Cyrus, Meridian, etc. Fast, friendly response and willing to travel/pay cash. Please call John on: 0781 5892458



Above: Sony SCD-XA3000ES

AUDIOLAB 8000A integrated amplifier, good working order, boxed, £100. Ted, 020 8449 9648 (N London)

AUDIOLAB 8000S amp, £250. Rotel RQ970BX phono, £40. Soundstyle hi-fi separates stand, £100. All in very good condition, buyer to collect. 01603 483274 (Norfolk)

AUDIO PHYSIC TEMPO

speakers, mint condition, boxed,

EPOS M12.2 black, mint condition £275ono. Arcam CD192 CD player, £475 ono, DT91 tuner, £325ono, A90 amp, incl phono £575ono, P90 power amp, £350ono, all black, mint condition and boxed. Philip 0208 923 9757 (London).

EPOS M5 speakers in dark cherry, boxed as new, (£350) £225. QED XT speaker cable, brand new 2m pair with air-loc plugs (£62) £40. Wharfedale Diamond 9.1

BUYING TIPS

Buying second-hand can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right.

Do some research on which brands have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy.

Usually, speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper dem, and judge the seller as well as the goods!

FOR SALE

Totally reliable. Good condition. Black ash finish floorstanders. £90. 01395 264868 (Devon)

KIMBER 4TC jump leads, terminated both ends with PM25 spades, £25. Boxed, unused. QED Silver Anniversary bi-wire 2x5m, £60. Buyer collects. 01323 487640 (East Sussex)

LINN GENKI CD Player, Grey case, excellent condition with Linn interconnects and original packaging, £550 ono.
0114 2507866 (Sheffield)

LINN KANS MK 1, £150, Rega EL8, £125, Marantz CD62SE, £75. Also, Cambridge CD4SE CD player wanted. 07810 103908 (E. Yorks).

LOWTHER PM 6 pair of drive units. Buyer arranges collection or delivery. 0191 214 0473 (Newcastle upon Tyne).

MARANTZ CD17 black, £450. Musical Fidelity amp with separate power supply, £350. Nordost Solar Wind interconnect, £45. Owned from new, excellent. 07787 166713 (London).

MARTIN-LOGAN SEQUEL 2

hybrid electrostatic speakers. Six feet tall. Ten inch bass. Fantastic Sound. Excellent condition. Circumstances force sale. Real High-End quality. Only £995. 07853 498379 (Brighton).

MICHELL QC power supply (for Gyrodec or Orbe with AC motor) £100. Robert 07900 320318 (London/Kent).

MISSION 782SE in beech veneer, not a mark on them, comes with box and packaging,

very rare. 02392 465647 (Hampshire).

MUSICAL FIDELITY A308CR

pre and power, excellent condition, boxed, manuals etc. Fantastic sound. £3,900 new, sell for £1,950 ono including interconnects.
Andy 0115 912 6424 (Notts)

NAIM CD5I CD player, as new, mint, boxed, (£850) accept £450 07891 533084 (Swansea).

NAIM NAP 250 Power

Amplifier, Olive case in original packaging, excellent condition with Russ Andrews Power Kord but no interconnects, £750 ono. 0114 2507866 (Sheffield).

OPERA PLATEA floorstanders, SEAS drivers, antiresonant marble plates, one year old, like new, original boxes. (£1,100) £750. Contact (+40) 743 943 994, atlas_and_axis@yahoo.com (Romania)

PASS LABS X-350 stereo amplifier £2,950. Apogee Duetta Signature speakers £1,950. Both vgc 01926 653421 (West Midlands).

PURE SOUND A30 valve amplifier, as ne, boxed (£1,195) £760. Weight 20kg so buyer collects. 01491 614325 (Oxon)

PRIMARE 30.1 amplifier, excellent cond., boxed with instructions, £450. KEF 104/2 Reference Loudspeakers, v.g.c., with Kube and instructions, £100. (01255) 675115. (Essex)

QUAD ESL 63 electrostatic loudspeakers for sale, tub radiators gone in each, offers around £200 for pair, buyer collects. 01634 631322 (Devon).

QUAD 405-2 amplifier, upgrade by Lucid Designs, mint, £350. PMC TB-2 speakers with stands, as new, boxed, £450. AVC amp, KT88s, as new, £395. 01487 814015 (Cambs)

QUAD CDP CD player, 15 months old, excellent condition, demo if required £525 07779 615774 (Derby)

REVOX G36 valve quarter track 10.5in cap tape recorder. Replacement capstan assembly, hand book etc. fine example of machine £300. Leak valve Troughline 3 FM stereo tuner £50. 01782 256087 or mobile 07791 048621 (Stoke-on-Trent)

ROTEL RA-05 amplifier, Rotel RCD-06 CD player, (£700) £400. Both items 14 months old, boxed & mint. Wharfdale Diamond 9.1 speakers, rosewood, one month old, boxed as new with receipt (£150) £90. Kimber Timbre interconnect 0.5m boxed as new (£76) £45, QED XT speaker cable 2m pair with airloc plugs, (£62) £40, brand new & mint with reciept. lee-t@lycos. co.uk 01384 412234 (W. Mids) TEAC A450 cassette deck. Very

TEAC A450 cassette deck. Very rare, never used, still in box. Battleship build quality. Offers over £250.0161 865 9607 (Manchester)

THETA INTREPID five-channel amp, rarely availale, £3,000. Martin 0207 845 1193 (SW London).

THORENS 160BC MK II

turntable, Hadcock 228 unipivot super arm, Ortofon M20S cartridge. Boxed, one owner, £225. Marantz CD60SE, £70, Rotel RCD-965BX discrete CD player, £85. All excellent condition. 01722 334694 (Wilts).

stands. Fully welded construction.
Black. 63cm height. Mass filled.
Spiked feet. Photo available.
Ring for other dimensions.
Quality stands. VGC, £80
01582 423791 (Beds)

SONY DAT RECORDER, DTC-60ES, ES Range, £195. Musical Fidelity CDPre24, CD Player/Pre-Amp/Multi Input DAC, (£2,000) £595. JVC HM-HDS4EK, 80Gb HDD/S-VHS Video Recorder, New & unused (£700) £95. 01424 442802 (Sussex)

SONY SCD-555ES Super Audio CD player, excellent condition, boxed, £275 ono. Bryan 07866 3670060 or 01302 327513 (Doncaster)

SONY SCD-XA3000 ES, Super Audio CD player, black, excellent condition, 2005, £350, any trial 01302 538027 (Doncaster).

SONY SCD-XA9000 ES,

Super Audio CD player, champagne gold finish, manual, mint condition, (£2,000) £900. 01243 528010 (West Sussex).

SOWTER OUTPUT transformers 9593, 9066t, 9508, 9521 (mains). Two of each and one mains. High spec. Excellent bass extension. Suitable for parallel push-pull.
Simon 07895 197571 saselec2000@yahoo.co.uk (Cambridge).

SPENDOR CLASSIC Series SP2/3E speakers, rosewood, (£2,000) £650 ono. Suitable Acoustic Energy mass-loaded stands available, (£600) £200. QED Genesis Silver Spiral speaker cable 5m+7m lengths (£400) £150, 023 8073

8935 (Hants).

TRICHORD DINO phono stage and Dino+ power supply, both in black and like new with instructions, just no box. £250 the pair. Mark C, 07976 406313 (London).

VITA R1 DAB/FM Radios.

Gloss Red or Grey, £90.
Walnut or Cherry £80.
Vita R2 Walnut.
07949 910455 (Essex)

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HI-FICHOICE

APRIL 2008 ISSUE 305

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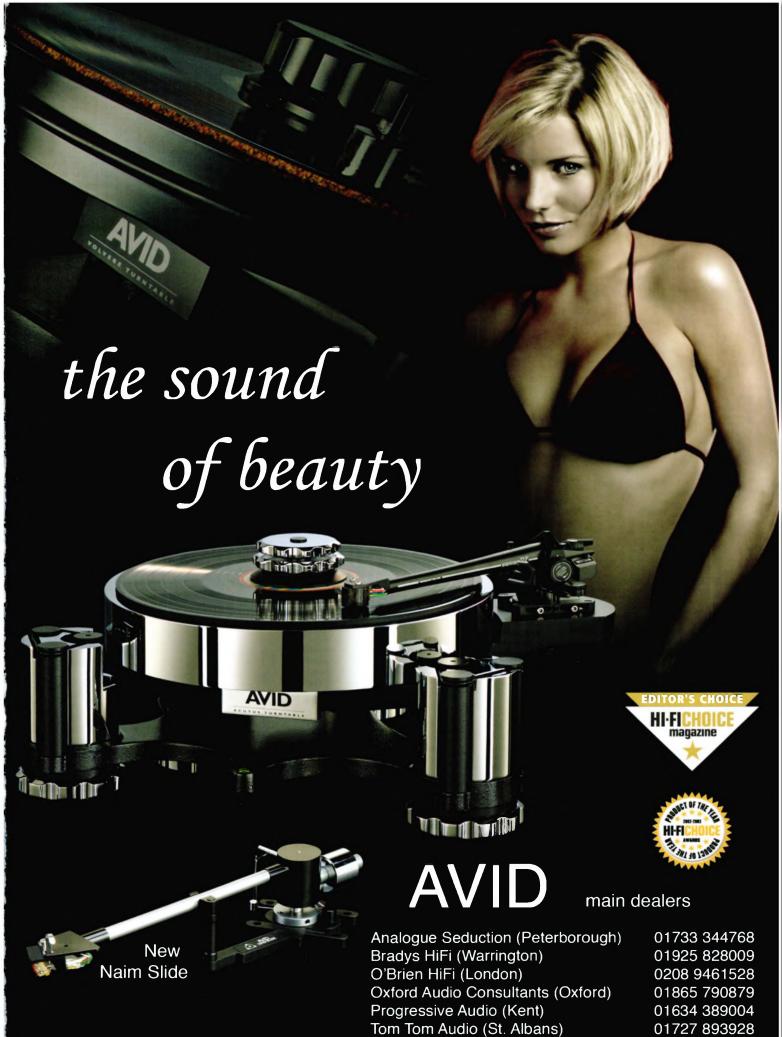
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Very Enjoyable Not very Not at all

Hi-Fi Choice is your magazine and we want to hear what you have to say about it. Whatever your opinion, please let us know by completing our survey. Whether you're a regular or occasional reader, we'd like to hear your views good or bad, and to say thanks we'll automatically enter you into a superb prize draw to win a pair of Monitor Audio PL100 speakers and stands worth £2,850!

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AROUT HILEI CHOICE

issue. How do you rate Hi-Fi Choice in terms	of
value for money?	
Excellent value for money Good Fair Not very good Poor value for money	□1 □2 □3 □4 □5
Q12. If the price of Hi-Fi Choice was increase £4.50, to provide more reviews of hi-fi produ how would this affect your frequency of buyi magazine?	cts,
I would buy Hi-Fi Choice more often It would not affect how often I buy Hi-Fi Choice I would buy Hi-Fi Choice less often	1 2 3
Q13. Is there anything specific that you particularly like about Hi-Fi Choice?	
particularly like about in 11 choice.	
пининаличения	errennens.
Q14. Is there anything specific that you particularly dislike about Hi-Fi Choice?	

***************************************	*********
Q15. Which hi-fi brands would you most like	to
read about in HFC?	
1	
2	
3	
Q16. What action(s) have you taken as a resi	
advertisements and/ or articles in Hi-Fi Choice	
the last 12 months? (Please tick all that apply)	
Bought products or services advertised, on the internet	
Bought products or services advertised, in-store Recommended purchasing products/services	□ 2 □ 3
Referred or discussed an ad/article with someone else	_ 4

MONITOR AUDIO

ABOUTHITTCHOICE		Enjoyable		enjoyable	enjoyable	1.6	
Q1. How did you obtain this copy of Hi-Fi Cho	ice?	News and Features 1	\square_2	 :	 4	value for money?	
Subscription		Equipment Reviews 🔲	□ 2	□ ₃	\square_4	Excellent value for money	
Bought at a local newsagent	 2	Round-Up 🔲 1	\square_2	□ 3	\square_4	Good	
Bought at a high street chain	□ ₃	Ultimate Group Test 🔲	2	□ 3	\square_4	Fair	<u></u>
Bought at computer store	\square_4	Hi-fi features	 2	□ ₃	\square_4	Not very good	
Supermarket	 5	Buyer's Bible 🔲	 2	 3	\square_4	Poor value for money	 5
Passed on to me	\square_6	Reader Services 🔲 1	 2	□ 3	\square_4	Q12. If the price of Hi-Fi Choice was increase	
Other not listed	7	Q8. Would you like to see r	nore, ti	ne same ai	nount,	£4.50, to provide more reviews of hi-fi produ	
Q2. How long have you been reading Hi-Fi Ch	oice?	or less in Hi-Fi Choice?	More	Same	Less	how would this affect your frequency of buying magazine?	ing the
This is my first issue \square_1 1-2 years \square_4		News and features			 :	_	
6 months or less \square_2 3-4 years \square_5		Lab reports on all reviews			□ ₃	I would buy Hi-Fi Choice more often	
7-11 months \square_3 5 or more years \square_6		in Hi-Fi Choice				It would not affect how often I buy Hi-Fi Choice I would buy Hi-Fi Choice less often	
Q3. How long have you spent/ will you spend		Buyer's Bible		 2	□ ₃	· ·	— 3
reading this copy of Hi-Fi Choice?		Reviews of low priced/				Q13. Is there anything specific that you	
Under 30 minutes \square_1 5-7 hours \square_5		budget products		 2	3	particularly like about Hi-Fi Choice?	
30-60 minutes \square_2 8-10 hours \square_6		Reviews of premium/				(**************************************	
1-2 hours		high-end products	☐1	\square_2	 3	101011111011111111111111111111111111111	
3-4 hours		Information about building				***************************************	
Q4. How many people, including yourself, wil	l read	own hi-fi setup	u i	<u>_</u> 2	_ 3		
this copy of Hi-Fi Choice?		Group Tests		2	<u>_</u> ;	Q14. Is there anything specific that you	
Just me \square_1 2-3 \square_2 4-5 \square_3 6-9 \square_4 10 or mo	ore D.	Competitions		2	<u>_</u> ;	particularly dislike about Hi-Fi Choice?	
		Interviews		<u></u> 2	<u></u> 3	***************************************	
Q5. What are the main reasons why you buy I	HI-FI	Music reviews	i i	 2	 3	***************************************	
Choice? (Flease tick oil that apply)		Reviews of non hi-fi equipme (e.g TVs, DVD players, home	1111				
To keep up to date with product releases		cinema systems, MP3 players	.1 🗖 .			***************************************	
To use as price/equipment buying guide	2	'How to' quides			ا ا	Q15. Which hi-fi brands would you most like	to
To help me decide which hi-fi		Free supplements	j			read about in HFC?	
equipment/products to buy	□ ₃	l ''		_		1	
A particular feature or cover story		Q9. Which price range of h like to read most about in	•	•	ula you	2	
caught my attention	4		mi-ri Ci	ioice:	_	3	
To browse the advertisements	_ 5	Under £800			<u> </u>	Q16. What action(s) have you taken as a resi	ult of
Loyalty - I always buy Hi-Fi Choice	\Box_6	Between £800 and £1,499			2	advertisements and/ or articles in Hi-Fi Choice	
Other	7	Between £1,500 and £1,99			□ ₃	the last 12 months? (Please tick all that apply)	
If other, please specify		Between £2,000 and £2,99 Between £3,000 and £4,99				Bought products or services advertised,	
	***********	Products priced £5,000 or				on the internet	_
Q6. Did you buy Hi-Fi Choice?		, , , , , , , , , , , , , , , , , , , ,			°	Bought products or services advertised, in-store	 2
For work/business interest		Q10. Which of the followin your opinion about the leve	_		_	Recommended purchasing products/services	3
For your own personal interest/hobby		Hi-Fi Choice?	ei or tec	chnical co	ntent in	Referred or discussed an ad/article with	4
Both	_;	There is too much technica	l conter	nt		someone else	
		The level is about right	COILE			Requested additional information	
Q7. How enjoyable did you find the following sections in this issue of Hi-Fi Choice?		There is not enough technic	cal con	tent	ا ا	from a company	O ₅
Please leave blank if you did not read or use the fea	ture	_				Visited a company's website	
(CONT'D)		Q11. Hi-Fi Choice currently	retails		per D ABOVE)	None of these	
, 2	,			,_0			W

HI-FICHOICE

Q17. How often are you asked for or do you advice to friends and family on hi-fi equipm		Different brand separates	\square_2	I like to buy the latest hi-fi equipment as soon as it	_
	_	Subwoofer	 3	becomes available \square_1 \square_2 \square_3 \square_4	□ s
Frequently	<u></u> 1	Speaker cables	4	I like talking to my friends about technology	
Occasionally		Interconnect cables	 5	1 2 3	_ 5
Rarely	3	Turntable	 6	I prefer to buy CDs rather than download music	
Don't know		Radio tuner	7	1 2 3 4	□ s
WO. ID		Mains conditioner	 8	Q27. Which of the following equipment do you	u
YOUR HI-FI EQUIPMENT		Stereo amplifier	9	intend to buy in the next 12 months? (Please t	ick all
Q18. Which of the following do you use for		Turntable cartridge/stylus	10	that apply)	
researching hi-fi equipment purchases? (Ple	ase tick	Stereo loudspeakers	01	Same brand separates	
all that apply)		Headphones	12	Different brand separates	
Superstores		Multichannel/AV amplifier	13	Speaker cables	Ğ
Independent Dealers		Multichannel loudspeakers	114	Interconnect cables	
The internet	ا ا	None of these	15	Turntable	o s
Exhibition/trade show		Q23. Which of the following brands of hi-fi		DAB radio	
Mail order	4 □_5	equipment do you own? (Please tick all that apply	/)	Radio tuner	ا ا
Specialist magazines (e.g Hi-Fi Choice)				Wireless surround speaker system	ص ا
General men's lifestyle magazines (e.g FHM)	6 7	Bowers and Wilkins		Stereo amplifier	ي ق
Word of mouth		Denon	2	Active studio monitors	10
	□ 8	Musical Fidelity	<u>_</u> ;	Stereo loudspeakers	
High Street Store Other	9	Focal	\Box_4	Mains conditioner	12
Other	10	Naim		Multichannel/AV amplifier	B
Q19. Which of the following websites do yo		Monitor Audio	□ 6	Turntable cartridge/stylus	Пи
when you research hi-fi products and service	es	Cyrus	7	Multichannel loudspeakers	Is
online? (Please go to Q20 if you do not use the i	nternet	Wharfedale	□ 8	Headphones	
to research hi-fi purchases)		Marantz	9	Subwoofer	16
Manufacturer websites		Quad	10	I do not plan to buy any hi-fi equipment	_ 1/
Retailer or suppliers websites		Linn		in the next 12 months	□ 18
Magazine websites		Audiolab	12		— 18
Price comparison sites e.g. Kelkoo		KEF	13	Q28. If you are not planning to buy any hi-fi	
Buying guide websites	5	Avid	14	equipment in the next 12 months, what are ye	our
Search engines	□ ₆	Cambridge Audio	15	reasons for this? (Please tick any that apply)	
3		DALI	116	I cannot afford to buy any more equipment	
Q20. When deciding on a product to buy, w		Meridian	17	I do not have the space for any new equipmer	nt 🔲 2
factors are most important to you? (Please t	ick all	Q24. How much have you spent on hi-fi equipm	nent	I already have the hi-fi equipment that I need	□3
that apply)		in the last 12 months?		I am waiting for new products to be released	
A product's specification				that are not available yet	\square_4
Manufacturer	2	Nothing		Other	 5
Price	□ 3	£1-£99		If other, please specify	
Reviews in Hi-Fi Choice	\square_4	£100-£499			
Reviews in other magazines	\square_5	£500-£999		Q29. How much do you plan to spend on hi-fi	
Reviews on the internet	\square_6	£1,000-£1,999	 5	equipment in the next 12 months?	
The opinion of a salesperson	7	£2,000-£4,999	\Box_6	, ,	
The opinion of friends/family	\square_{8}	£5,000-£9,999	 7	£1-£99	1
Other	9	£10,000+	 8	£100-£499	2
Q21. Which of the following outlets do you		Q25. Do you connect your TV to your hi-fi, givi	ng	£500-£999	В
normally use for purchasing hi-fi equipment	.7	you a single set-up for your TV and hi-fi system	n?	£1,000-£1,999	4
(Please tick all that apply)		Yes		£2,000-£4,999	5
		No		£5,000-£9,999	6
Superstores	<u></u>	Not at the moment, but I intend to in the future	ا ا	£10,000+	7
Independent dealers	2			Nothing	6
High Street stores	3	Q26. Please indicate the extent to which you a	igree	I don't know	9
Internet/online store	 4	with the following statements:		THE INTERNET	
Mail order (by telephone or post)	<u></u>	Strongly Tend to Neither Tend to S agree agree nor disagree o	irongly lisagree	THE INTERNET	
Second-hand through small ads	\square_6	l am really interested in understanding how hi-fi		Q30. How often do you read the following	
Second-hand through eBay	 7	technology works \square_1 \square_2 \square_3 \square_4	□s	magazines? (Please leave blank if you never	
Other	\square_8	The pace of change in technology is too fast for me			Occasional (1-3 out o
Q22. Which of the following hi-fi equipment	t do you		s	every 6 issues)	every 6
own? (Please tick all that apply)	-			issues)	issues)
		Lam interested in all aspects of consumer electronic	rs not	Hi-Fi Choice \square .	1.
Same brand separates		I am interested in all aspects of consumer electronic just hi-fi equipment $\square_1 \square_2 \square_3 \square_4$	cs, not	Hi-Fi Choice	

(CONT'D ABOVE) (CONT'D ABOVE) (CONT'D ABOVE)

Hi-Fi News)]	Q35. How do you access the internet?		mp3.com		
		(Please select all that apply)		Virgin Digital		ā
- -		Personal connection at home -		Other		ā
		broadband (fixed line)		O39 If you do	wnload music, how often do	vou nlav
		Personal connection at home -	_	it through you		you pluy
		broadband (wireless)	 2			
		Personal connection at home - dial-up	Ğ	Very often/free	quentiy	
		At work		Not very often		
		At school	o o	Hardly ever		
<u> </u>		Internet cafe		,	wnloaded music through	_
Q31. If you read more than one hi-fi ma	igazine, why	Wireless locations (e.g. airports)		my hi-fi system	_	
is this?		Other (not listed)		iny in a system		
		Q36. What do you use the internet for?		YOUR LIFEST	TYLE	
***************************************		(Please tick all that apply)		Q40. Which of	the following interests or ac	tivities
***************************************		Email			ly take part in?	
	_	Look for/apply for jobs		(Please tick all th		
Q32. Which of the following magazines		Downloading music	ا ا	Console/comp		
consider to be your primary source of I	ıi-fı	Download videos/films		Performance/r		ă
information?		Visited social networking sites		Listening to mu		<u> </u>
Hi-Fi Choice		(e.g MySpace, Facebook)	□s	Motorcycles	4510	ā
Hi-Fi +	2	Uploading, storing digital photos		,	playing an instrument	ā
Hi-Fi News	3	Downloading free/shareware software		Cycling/moun		<u> </u>
Hi-Fi World	\square_4	For publishing my own web pages/blogs	\Box_{s}	Watching films	_	
What Hi-Fi? Sound and Vision	 5	Online poker or gambling		Adventure spor		
Home Cinema Choice	\square_6	To visit auction sites (e.g ebay)	ا ا	Digital photog		
T3		Online sports betting		Health/fitness	' '	ā
I do not consider any magazine to be		Listening to radio		Home computi		ات ا
my primary source of hi-fi information	□8	To visit chat rooms/forums/noticeboards	II II	Needlecrafts/k	_	ă
Q33. Which of the following magazines	do vou read	Reading newspapers/magazines		Gadgets/new 1	_	ā
regularly? (i.e 4-6 out of every 6 issues. Ple	-	Research holidays/short breaks		Papercrafts/ca		
that apply)	ase tick all	Shopping	15 16	Online gamblir	-	
11.31		Playing online games alone		Genealogy	, ,	
Classic Cars		Play online games with others		Cars/motoring		
Esquire	2	To read customer reviews		DIY/home imp	provements	
What Car	<u></u> ,	Making phone calls over the net	ا ا	,	res of music do you particul	larly
The Economist	_4	Banking		_	no to Q44 if you do not listen to i	-
Which?	□s	3		Please tick all the		nusic.
Golf Monthly	 6	Q37. Approximately how many songs do you				
Total Film	7	download per week? (Please go to Q40 if yo		Rock	Jazz	
National Geographic	_8	use the internet to download music). Please		Blues	☐₂ Metal	
Empire	\square_9	include downloads from P2P or filesharing website	'S.	Country	Рор	
Q	Пю	1 - 10		Classical	□₄ Punk	
Edge	□n	11-19	2	Dance	Reggae/Ragga	
Runner's World	12	20-29	3	Folk	□ ₆ Soul	
SFX	В	30-50	\square_4	Funk	□ ₇ Other	
Home Cinema Choice	1 4	More than 50	□s	Indie	∟ 8	
GQ	15	I do not download music		Q42. Who are y	our three preferred musical	acts? (i.
None of these	16	Q38. If you download music, which sites do	VOII	artists, bands, pe	rformers)	
		use? (Please do not include downloads from filesh		1		
THE INTERNET		websites). (Please tick all that apply)		2		
Q34. How often do you access the inter	net, in any	iTunes				
location?		bandwagon	<u> </u>		ately, how often do you go to	
Several times per day		emusic	ا ا	gigs or concert		
Once a day		napster				
Several times per week		7 Digital	٥	At least once a		
Once a week		HMV		Several times p		
A few times per month	J.	Woolworths		About once a m		
About once per month		Tesco		Every two to th		
Never		Mycokemusic		,	ee to six months	<u></u> 5
	_ _/	Mycokemusic	 9	□ never usually (no to gigs/concerts	1.

(CONT'D ABOVE)

(CONT'D ABOVE)

HIFICHOICE

Q44. Are you planning to attend a hi-fi exhibition over the next 12 months? (Please go to Q46 if you are not planning to attend an exhibition)						Sat Nav system IPod	Flatscreen TV over 37in Camera phone				
	_					Other MP3 player	19	Wireless home netv	vork		23
Yes	Ц	1 N	10		2	Speed trap detector	20	3G phone			24
Q45. Which ever	nts are	you pla	anning 1	to atter	ıd?	In car stereo					25
						Sky+	22	Other mobile phon	e		26
						Sky HD Xbox 360					27
***************************************						Virgin V+	24	Bluetooth headset Media centre PC			28
Q46. Approximately, in an average month, how much do you spend on the following? (Please leave						Blu-Ray disc Player	25	Sat Nav system			30
						HD DVD player	26				30
blank if you have spent nothing on an item)						Other mobile priorie					32
Biarin if you have !	•	_	E20-E49		£100 or	Freeview digital TV recorder (hard disc or DVD)	28	About You			
					more	Flatscreen TV aver 37in	29	Q49. Are you			
Cinema tickets				□₄	<u></u> 5	Flatscreen TV over 37in	30			-	
Film DVDs	<u> </u>	<u> </u>	o i	□₄	<u></u>	Wireless home network PS3	31	Male	U)	Female	2
Music CDs				 4	□ 5	Xbox 360	32	Q50. What is your	age?	(Please enter as numbe	r e.g 25
Music DVDs		2	\square_3	\square_4	 5	Media centre PC	□ 33	in italics)			
Going out (pubs,						None of these	☐35	Q51. What is your v	worki	ing status?	
restaurants etc)	1	2	\square_3	\square_4	 5			Work full-time	\Box	Student (Further/H	igher
Toiletries/groom	_					Q48. Which of the following items do you inte	end to	Work part-time		education)	□s
products Clothes and train					5	buy in the next 12 months?		Work from home/		Unemployed	
Alcoholic drinks f	_	2	3	4	 5	(Please tick all that apply)		freelance	\Box	Retired	ت ا
home consumption			 3		□ 5	Desktop PC	□ ₁				
Music downloads						Other MP3 player	 2	Still at school		Other	\square_8
						Laptop PC	□ ₃	Q52. Are you employed in the hi-fi (or a related)			
Q47. Which of the following items do you own?						Speed trap detector	□₄	industry?			
(Please tick all tha	it apply)					Plasma TV	<u></u> 5	Yes	□1	No	□ 2
Desktop PC						In car stereo	□ ₆	053. What is your a	nnua	I personal income befo	ore tax?
Laptop PC					2	Projector	7	Under £10,000		£30,000-£39,999	\square_6
Plasma TV						Sky+	_ 8				
Projector					Q 4	Media centre PC	9	£10,000-£14,999		£40,000-£49,999	7
Media centre PC					<u></u> 5	Sky HD	16	£15,000-£19,999	\square_3	£50,000-£79,999	\square_8
PDA					 6	PDA	10	£20,000-£24,999		£80,000+	9
Digital compact of	camera				7	Virgin V+		£25,000-£29,999			
Mac desktop					Q 8	Digital compact camera	12				
Digital SLR came	ra				9	Blu-Ray disc Player	13	before tax?	annu	al household income	
Mac laptop	_				10	Mac desktop	Пи			520,000,520,000	
Digital camcorde	·f					HD DVD player	15	Under £10,000		£30,000-£39,999	\square_6
Camera phone 3G phone					□ ₁₂	Digital SLR camera	16	£10,000-£14,999	 2	£40,000-£49,999	7
Other mobile pho	200				В	Freeview digital TV recorder (hard disc or DVD)	□ 17 □ 18	£15,000-£19,999	\square 3	£50,000-£79,999	\square_8
Dab radio	JI IC				П ₁₅	Mac laptop Flatscreen TV 37in or under	18	£20,000-£24,999		£80,000+	 9
Bluetooth headse	at .				16	Digital camcorder	19 Os				_,
Diuetootii ileause	e.			(CONT'D	ABOVE)	(CONT'D A		£25,000-£29,999	 5		
The day of the		-		-	-			Alexander Class	-	I-4- 1741- A - il 2000	
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