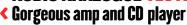




AUDIO ANALOGUE TESTED

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NEWS & VIEWS SECTION









New Elegante e83 puts Mission back on the map









FEATURING...

- BC Acoustique ACT-A1
- B&W 704 PMC GB1
- Quad 22L > Spendor S6e
- > Triangle Celius 202



·IH SC



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QUAD

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ELCOME TO HI-FI CHOICE To ensure you get the best information, opinion and advice, Hi-Fi Choice

employs the most knowledgeable and experienced hi-fi writers in the business



"Music digs deep into our emotional core like no other art form. It touches the soul and makes grown men weep. Hi-fi is simply a means to a musical end - it provides the conduit for its energy and detail, delivers scale and space.

ensures you get closer to the tone and impact of the original performance. It makes music seem more real and hence achieve its emotional goal. Quite simply, the music that moves you, moves you more." Tim Bowern, Editor



ART DUDLEY One of the most respected commentators on the American hi-fi scene, Art has written for numerous titles including Hi-Fi Heretic, Sounds Like, and Listener Among other things, he is currently 'editor-at-large' of US journal Stereophile



RICHARD BLACK Richard is a professiona musician, an experienced recording engineer and a highly knowledgeable hi-fi analyst to boot. He has a particular knack for writing about complicated subjects in a comprehensible way -and he only writes for HFC.



DAN GEORGE Dan is a huge hi-fi nut whose dream came true when he became HFCs reviews editor. Armed with a bristling contacts book and a pair of razor-sharm ears, he ensures that only the most interesting products make it into HFC



ALVIN GOLD Alvin cut his hi-fi teeth in retail, and has been writing about his obsession for more than 20 years. In that time he has contributed his encylopaedic knowledge to almost every hi-fi periodical you can think of (and everal more besides)



JASON KENNEDY Jason previously edited HFC, but can now be found swanning about the wilds of Sussex indulging himself with the very best hi-fi money can buy. His own system is simply sensational (trust us) and his love of music knows no bounds



DAVID VIVIAN An award-winning journalist, David's sharp ears and equally sharp powers of description are a valuable mix for HFC. He also writes about cars, but who needs try the latest Lotus when you've got the finest hi-fi to test drive?



PAUL MESSENGER A former HFC editor, Pa 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 sonic scribes and probably the UK's foremost loudspeaker reviewer



ALAN SIRCOM After a stint selling hi-fi Alan began his journalistic career at HFC some 12 years ago. Now a successful freelancer, you too can benefit from his extensive hi-fi knowledge, from purist two-channel stereo to the latest multichannel gear

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HI-FI CHOICE is your essential guide to audio excellence in the home, from vinyl records to the latest digital music formats. For 29 years, our unique tests have brought you the most thorough and reliable hi-fi journal around. And our mix of cherry-picked kit, rigorous group tests and in-depth equipment reviews continues to ensure that HFC is the magazine you can trust. Published 13 times a year, it's the smarter hi-fi read ...



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ULTIMATE GROUP TEST Six of the best new speakers, priced from £800 to £1,500, rigorously tested as only Hi-Fi Choice knows how

TOP TURNTABLES

The latest decks from Rega, the P5 and P7, reviewed exclusively inside

ELEGANT SPEAKERS Mission's new upmarket Elegante e83 gets its first ever review

HOT CD AND AMP COMBO

Audio Analogue's new flagship amp and CD player revealed for your delectation

AND MUCH, MUCH MORE ...

The next issue of Hi-Fi Choice is on sale 4 August. Ensure you never miss a thing - turn to p76 for our latest great subscription offer



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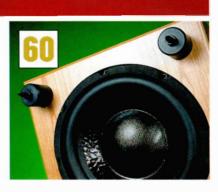


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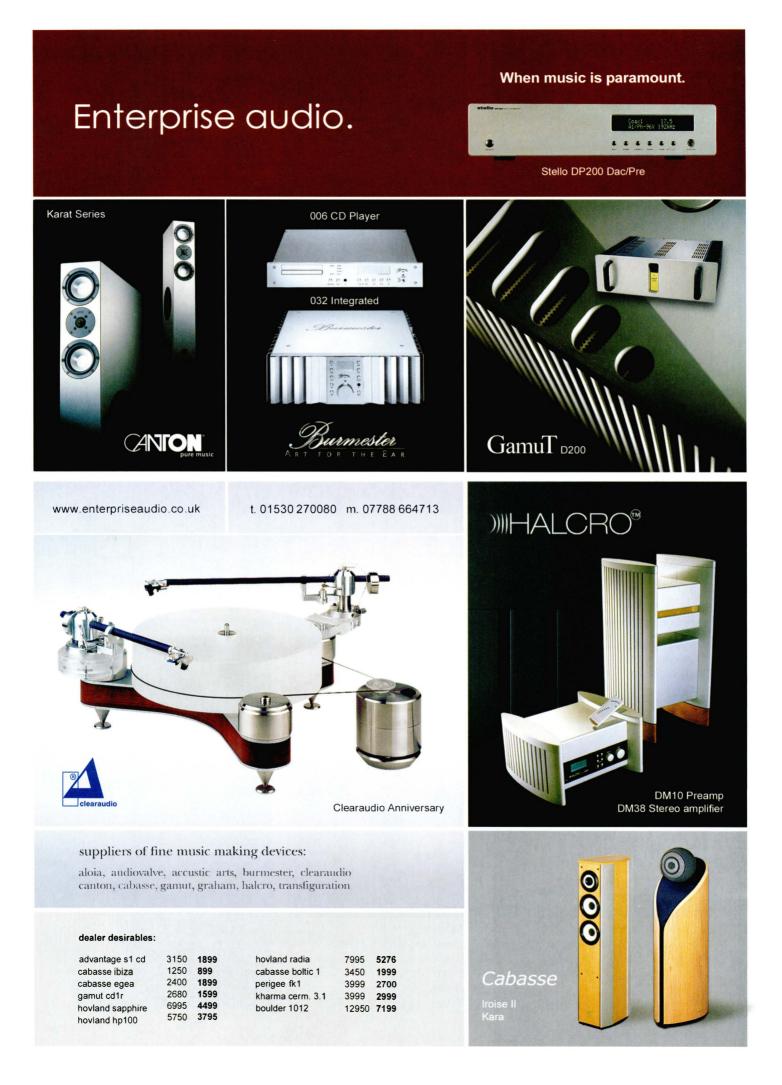
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DVD PLAYERS





■ NEW PRODUCT SPOTLIGHT

AUDIO NOTE Ongaku Valve Amplifier

If we were to compile a list of the greatest amps ever made, Audio Note's famous Ongaku would sit high and mighty near the top. Back in the 1980s, its brilliance put the single-ended triode valve amp back on the hi-fi map after half a century of obscurity. And it sounded simply glorious.

The good news, then, is that a new version of the Ongaku is about to hit the hi-fi scene. This completely revised model features a Brimar double triode input valve, coupled to a Telefunken wideband double triode, which is transformer-coupled to the 211 output valves. With transformers hand-wound with high-purity silver wire and extensive use of Black Gate power supplies and capacitors, the amp is as exotic as it is reassuringly expensive. Could this be the ultimate audio investment?

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

PRODUCT Audio Note Ongaku TYPE Integrated valve amplifier PRICE £29,500 (first ten only from on-sale date in September, thereafter price reverts to £39,500) KEY FEATURES Hand-wound, silver-wired transformers O New in-house designed driver transformer O Redesigned, simplified main circuit CONTACT © 01273 220 511 # www.audionote.co.uk



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NEW PRODUCT SPOTLIGHT

SONUS FABER Stradivari Loudspeaker

This beautiful piece of loudspeaker art is the top model in Sonus Faber's flagship Homage range, and is quite simply one of the most alluring speakers money can buy. Five years in development, its beauty reflects Italian craftsmanship at its best – hugely desirable, and wonderfully adept with all musical styles.

Inside the convex, multilayer enclosure lie some exceptional drivers – a 33mm tweeter with mechanical anti-resonator complements the 150mm ultra-linear midrange unit, with dual 260mm aluminium/magnesium alloy cones delivering a sumptuous bottom end. The gorgeous wood cabinet is specially designed to eliminate resonance and elicit drooling from the audiophile – the Stradivari is every bit as much about making sweet music as it is about creating a stunning-looking focal point to any high-end hi-fi system.

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

PRODUCT Sonus Faber Stradivari TYPE Floorstanding loudspeaker PRICE £22,000 per pair

KEY FEATURES Size (WxHxD): 65x136x50cm ♥ Weight: 75kg ♥ 33mm neodinium ring radiator tweeter ♥ 150mm midrange driver ♥ Dual 260mm bass drivers ♥ Sensitivity/impedance: 92dB/4 ohms CONTACT ♥ 020 8971 3909 ₩ www.sonusfaber.com





STELLO DP200/S200

Stello is a new two-channel brand from Korea's April Music - a Far Eastern high-end distributor which also produces its own hardware. The first product to arrive from a range comprising upsampling CD players and two-channel amps are the DP200 preamp with optional upsampling D/A converter and a 200-watt power amp called the S200, which can be bridged to 600 watts. Stello products will be distributed in the UK by Audio Reference, whose portfolio also includes Clearaudio, Halcro and Gamut. Price DP200 £1,495, S200 £1,495 Due Now

👁 01252 702705 🗰 www.aprilmusic.com



HEGEL CDP4A

Bent Holter, head honcho and passionate audiophile behind Norwegian specialist Hegel, is launching a new flagship CD player, the CDP4A. It's claimed to be Hegel's most technologically advanced player yet, offering music enthusiasts a combination of the latest upsampling DACs and HDCD (High Definition Compact Disc) compatibility. HDCD offers audiophiles the best possible sound quality from suitably encoded CDs and is a welcome feature in the face of competition from DVD-Audio/SACD players. Hegel's minimalist two-button aesthetic continues with the CDP4A - already the recipient of an award for design excellence from the Norwegian Design Council.

Price £2,300 Due Now

O1785 711232 www.hegel.com



LINDEMANN 820

This new reference standard CD/SACD player from German high-end specialist Lindemann is claimed to be so good with CD that there's little sonic difference between the two formats.

Lindemann, a high-end hi-fi manufacturer of ten years, has developed the 820 to become its flagship audio player, replacing the respected D680. Based around a Sony SACD drive, the new player is crammed with the latest electronics and includes a balanced analogue volume control, four digital inputs and user selectable sample rates.

Price £8.000 Due Now 🕿 01895 833099 🗰 www.gtaudio.com



AVID ACUTUS

Avid has improved the sound of its already excellent Acutus turntable (see review, HFC 194) by developing a special power supply upgrade. The deck will soon be available both in standard £6,000 guise, and with the new high-end power supply for a £3,000 supplement. For a similar price, existing Acutus owners can benefit from Avid's upgrade service and send their motor and power supply back to the factory for modification. The huge new power supply is said to offer massive power reserves and significantly increased stability. Price £9,000 Due August

🕿 01480 457300 🜐 www.avidhifi.co.uk



MERIDIAN G98

Meridian's new G98 DVD-Audio/Video transport/player should delight audio and videophiles in equal measure with its video scaling and resolution enhancement, plus compatibility with all CD and DVD formats. The G98 is available as a transport only (G98DH) with digital interfacing, or as an integrated player (G98AH) with full analogue outputs. The transport is ideally suited for connection to a Meridian Surround Controller (preamp/processor), or alternatively for direct hook-up to its DSP speakers in a two-channel set-up. **Price** G98DH £3.350. G98AH £3.625 **Due** Now

🕿 01480 445678 www.meridian-audio.com



AUDIOVECTOR MI3 SERIES

Danish loudspeaker specialist Audiovector is back in the UK with a new range of loudspeakers called Mi3, in celebration of its 25th anniversary. Audiovector is one of just a few manufacturers that allow customers to upgrade old models as new speaker technologies develop. This service, called IUC (Individual Upgrade Concept) enables, the basic Mi3 model to be upgraded to the flagship Mi3 Avantgarde standard, for example. All four models in the range share a two-and-a-half-way configuration, allowing tweeters and midrange units to be upgraded. **Price** From £1,140 to £3,420 **Due** Now 207985 514441 # www.audiovector.com



LINN EXOTIK

The Exotik preamp is the latest Linn product to embrace the surround sound future while still catering for the audiophile. This new multichannel preamp is derived from Linn's flagship stereo £6,000 Klimax Kontrol pre (see review, *HFC* 238) and has been designed with universal disc players in mind. An enhanced version with a digital audio processing module, the Exotik+DA, is also planned – this will offer decoding for all audio formats and also provide a surround option for two-channel sources. **Price** £1,750 **Due** Now

🕿 0141 307 7777 🌐 www.linn.co.uk



ROTEL RSX-1056/RSX-1067

Rotel has incorporated its own stereo amp circuits in its latest multichannel receivers. The RSX-1056 and RSX-1067 are claimed to offer a big improvement in sound quality, particularly when used in 'Direct' mode, which bypasses all digital processing. Two-channel sound may be further upgraded by adding a stereo power amp, like Rotel's own RB-1050. **Price** RSX-1056 £1,195, RSX-1067 £1,795 **Due** Now 201903 221500 www.rotel.com

⊘ Soundbites



SENNHEISER is now producing its fifth generation of wireless headphones. The RS100 and RS120 sport a new look, a range of up to 150 metres, and weigh just 230g. Prices start at £50. ☎ 0800 652 5002

VAN DEN HUL claims its new Integration cable is "the most advanced interconnect on the planet". It's a triple shielded, quad-core design made from a blend of copper, zinc and silver. Prices start at £120 for 0.6m set. ☎ 01235 511 166

SHARP is one of a number of mainstream brands now launching its first DAB products - the FV-DB1E is a DAB/FM 'kitchen' portable with an alarm clock facility and a line output. DAB broadcasting has now reached 80 per cent coverage in the UK. 20000262958



DENON has a new feature-packed DVD-Video player with PAL progressive scan and "high-performance" audio and video DACs for just £130. The new DVD-1710 is Denon's most affordable player yet and offers remote control plus a good complement of connectivity options. ☎ 01234 741 200

NORDOST and Isotek have joined forces to create the Nordost Thor, a mains distributor which uses high-end Valhalla mains cabling throughout. The product will be released in August/ September, priced at £1,600. © 01352 730251

audiofile ⊗ HAPPENINGS

⊘ The Insider

THIS MONTH, HFC TALKS TO.

DANIEL HAIKIN Job Title: International Brand Manager Company: B&W



What's your most exciting product in development at the moment? We've been working on a satellite speaker for some time now and owing to delays, we'll need to deliver something very special. It's due in October and I think it will change perceptions of how good very small speakers can be.

What's the future of hi-fi?

The challenge facing all of us is to make high-quality sound compelling to a new generation. Our new PV1 subwoofer is a case in point. People are intrigued by its unusual shape, yet at heart it's just a cleverly engineered subwoofer. If you can make a sub that's desirable, you can do all sorts of things with hi-fi.

What's the most innovative product you've encountered on the market recently?

Hard disk technology in both Sky Plus and the iPod, has genuinely enhanced the delivery of entertainment.

Which format do you support: DVD-Audio or SACD?

I am in favour of both. Most of all, I would like to see the music industry make a concerted and holistic effort (which is to say, include retail stores) in creating desire for higher quality sound.

⊘ Hi-Fi Diary

SEPTEMBER

24-26 The Hi-Fi Show and AV Expo Heathrow, London 020 8774 0847 London's established hi-fi show

OCTOBER

23-24 Home Entertainment Show Manchester 01524 36991 Premier AV show in the northwest

NOVEMBER

5-7 What Hi-Fi Sound & Vision Show Novotel London West Hotel 020 8267 8378 Second year for this new home cinema and hi-fi show

The Nautilus connection

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0

Laurence Dickie, the man who designed the B&W Nautilus loudspeaker, has joined forces with new South African company Vivid Audio. Dickie has designed three completely new drive units for the Vivid range using aluminium domes for the tweeter and midrange and a cone for the bass driver. Rather than a conventional hemisphere the domes have a catenary shape - the shape a chain makes when it's hanging between posts - and are reinforced at the edge. The purpose of this is to push high frequency break-up out to 40kHz in the case of the tweeter. Both this and the midrange unit feature Nautilus-style damped, tapered tubes to absorb rearward radiation. Two 165mm bass drivers are used fore and aft with a bar between the magnet structures to inhibit movement, the speaker's chassis being decoupled from the carbon fibre and mineral-loaded resin cabinets by compliant mounts. The Vivid B1 standmount will retail for £6,500 when it launches in the UK this autumn.

DualDisc is here

DualDisc, the new variant of DVD that allows the combination of both CD and DVD sides on a single disc for music delivery, has been officially approved by the DVD Forum. It will give DVDs of both Video and high resolution Audio varieties the sort of broad compatibility offered by SACD and is hoped to herald a boom in the music DVD market.

A spokesman for the Warner Music Group described DualDisc as: "A feature rich and flexible music product with the highest quality fidelity available, identical in size and looks to a CD or DVD disc." All five global record labels have been involved in its development – BMG, EMI, Warner Music Group, Sony Music and Universal – and all contributed albums to the 13 test titles launched in the US earlier this year, including AC/DC's *Back In Black*, and REM's *Automatic For The People*, though there's no firm word yet on what titles will be among the first to receive a full launch.



AAC approved

The DVD Forum has introduced a DVD-ROM zone to the DVD-Audio specification which would allow the inclusion of a compressed version of the material on the disc that could be played on an 'MP3' player such as Apple's iPod. The DVD Forum has now officially approved HE-AAC (High Efficiency Advanced Audio Coding) as the codec for the ROM zone. Also known as AAC+, it's a combination of the popular AAC codec and SBR (Spectral Band Replication) and its advantage is that at lower bit rates (20-64kbps) it increases coding efficiency to effectively increase headroom. At higher bit rates the codec behaves in the same way as regular AAC.

DVD Forum member John Kellogg, General Manager of Multichannel Music and Audio Production for Dolby Laboratories, and a big advocate of AAC commented: "I use my iPod daily and I love it. I have no problem with any of the alternatives – I just think that AAC sounds great."





iTunes launches in UK

Apple launched its iTunes Music Store in the UK, France and Germany in June. The most successful legal music download site in the US, iTunes has helped turn what was one of the music business's biggest headaches, MP3 filesharing, into major revenue. It uses the AAC format which is both more secure than MP3 and better sounding but not always compatible with older MP3 players.

European iTunes offers 700,000 songs supplied by the big five record companies as well as "dozens of independent record labels", priced at 79p or €0.99 per track. At the London launch Steve Jobs, Apple's CEO said: "The number one online music store in the world has finally come to the UK, France and Germany... we think this is the digital music store that Europe has been waiting for".

JIMMY'S TWEAKS #23

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



Take care of your ears (2)

If you're demonstrating hi-fi – or simply listening alone – it's a good idea to start with music that's fairly simple and not too demanding. Your ears need time to adjust. Immediately putting on a loud dynamic complex piece to impress a friend (or yourself) has the exact opposite effect if your ears aren't

ready. In much the same way your eyes adjust to bright light, ears alter their sensitivity according to levels of ambient noise.

As ambient noise drops, the ear's sensitivity increases, making it possible to hear things with increased subtlety and fine detail. This is one reason why hi-fi systems sound better late at night; ambient noise has decreased and your ears have reqained their sensitivity.

TOP 10 TRACKS FOR TESTING BASS...

- 1 Teardrop Massive Attack (pictured)
- 2 Sunglasses At Night Tiga and Zyntherius
- 3 Brown Paper Bag Roni Size
- 4 Dwr Budr Orbital
- 5 Who Am I Peace Orchestra
- 6 19/ 2000 Spacemonkeyz vs Gorillaz
- 7 Love For Sale Julian 'Cannonball' Adderley
- 8 Gonna Work It Out Chemical Brothers
- 9 Release The pressure Leftfield
- 10 Poison Prodigy

New Music

IN THE STUDIO

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



GORILLAZ Title: tbc Release date: autumn

Blur's Damon Albam has almost completed the second album by his multi-platinum, cartoon-fronted side project, with contributions from the Bees and De La Soul among others. Meanwhile, he has also been in Nigeria recording a second album with African musicians as the follow-up to 2002's *Mali Music*.

FINN BROTHERS Title: Everyone Is Here Release date: late August

Neil and Tim Finn of Crowded House are back together. "The last time we did a Finn Brothers record, it was kind of a side project," Neil says. "We only took four weeks. This one we've been a lot more deliberate about." Recorded in LA, the album also reunites the brothers with Crowded House producer Mitchell Froom and mixer Bob Clearmountain.

BLUE NILE Title: tbc

Release date : Aug 30 They said it would never h

They said it would never happen – but Paul Buchanan is putting the finishing touches to what will be only the Blue Nile's fourth album in 20 years and the first since 1996's *Peace At Last*. Insiders are likening it to the shimmering beauty of 1989's critically acclaimed *Hats*. "Cracking songs which will reduce you to tears," says our spy in the camp.

BRIAN WILSON Title: Smile Belease date: Sentem

Release date: September Following his first album of new material in six years (see review, p26), Brian Wilson has re-recorded the legendary 'lost' Beach Boys album, *Smile*. He's



rejoined by original collaborator Van Dyke Parks, the idea coming about after the pair listened to the original tapes in preparation for Wilson's live *Smile* shows in London this year. He is accompanied on the album by his touring band, Baby Lemonade.

PAUL WELLER Title: tbc Release date: September 13

Paul Weller has confirmed that the follow-up to his chart-topping 2002 album *Illumination* will be his long-touted covers collection. A version of Gil Scott Heron's *The Bottle* has already been released as a single and other covers are likely to include songs by Sister Sledge and Tim Hardin.

ALSO COMING SOON... JAZZ/ CLASSICAL

Soulive Turn It Out (July), Janine Jansen Vivaldi's Four Seasons (Sep), Juan Diego Florez Great Tenor Arias (Sep), Nils P Molvaer Streamer (Oct)

DVD-AUDIO/ SACD

The Police Every Breath You Take (DVD-A, July), Allman Brothers Band Eat A Peach and Live at Fillmore East (SACD, July), Diana Krall Love Scenes (SACD, July), Mike Marshall Gator Strut (SACD, July), Bonnie Raitt Nick Of Time (DVD-A, July)









The State of the States

Great kit from across the pond

A aving managed to assign to another the pandemonium of the recent *Stereophile HE 2004* show in NYC, I feel joyfully unscathed. Without any shackles of nagging guilt, I was able to play with my children and my audio system, replete with the knowledge that it was to be 'placed under the microscope' by other writers come the end of the show.

For this column, I've been asked by *HFC*'s editor to virtually 'free-associate' my thoughts and put fingers to the keyboard. So, at the risk of rambling a bit, I'd like to share with you some American kit that has recently held my ears in a vice-like grip.

On the amp front, two models have grabbed me. From deHavilland, a small Western US

"I've been weaned on and fed high power for years, whether valve or solid state."

company, comes an unassuming-looking 845 SET (single-ended triode) amp, the Aries 845-G. I've been weaned on and fed high power for years, whether valve or solid state, so it came as a shock to find that it was able to drive my big Overkill Audio Ovation speakers to earbleeding levels – with only 30 watts on tap! Its maker's website is rife with praise from all who have heard this fabulous amp; unfortunately, the pictures are ghastly – the amp is far better looking in person and the sound is simply glorious. Keep this company in mind if SETs have seemed overpriced/underpowered – it may be the perfect cure.

Another Western US amplifier to come my way is the Renaissance, from Red Rock Audio. I had the pleasure of listening, for several days, to the almost-finished amplifier, which had gorgeous looks that were matched by their ergonomics and, more importantly, their sonic splendour. They're tall and slender yet heavy, truly a testament to the massive transformers and choke regulators inside. Once finished, I expect these amplifiers to really be something special. They're almost 100 per cent there already. Perhaps there's something in the air in the Western US? One squat and wide amp, one tall and thin, both with glorious sound.

I hoped I'd have more space for the last bit of kit I want to mention, which comes from Stealth Audio. Its Indra interconnect is the best I've ever heard at any price. It has a line-up of other extraordinarily good product as well (the Varidig digital cable leaps to mind), but the Indra will well and truly give every other manufacturer in the world an interconnect to have nightmares about.

In closing, I'm currently testing the Crystal Cables from Belgium and they're showing something akin to greatness already.

I'm looking forward to next time. Meanwhile, please feel free to contact me at shanaphy@optonline.net.

Joe Shanaphy is a US-based distributor, critic and commentator on all things hi-fi



Vintage technology

Nostalgia attack, anyone?

used to think I'd never buy a second-hand phono cartridge, for all the obvious reasons. But things have changed, among them the supply of interesting yet affordable new cartridges (which is worse than it used to be) and my attitude toward hi-fi in general (which is quite a bit better).

Now there's an old Supex in one of my spare tonearm tubes, and I enjoy every moment I spend with it. The 20-year-old 900 Super is from a day and age when hobbyists weren't so worried about bolting things together 'Linn-tight', so it lacks the machined alloy body and threaded mounting holes we now take for granted. Similarly, the cantilever is a stodgy old aluminum tube and not some exotic number from the local gem mine or reliquary. Rare earth magnet? Silver coils? Cryogenically treated pins? No, no and no.

From there, it's as contemporary as three-button suits and foreign wars. The 900 Super is a low-out, moving-coil cartridge, fitted with what appears to be a Vital stylus. It weighs about nine grams and in every respect it behaves like a medium-compliance cartridge. (It would be a *perfect* match for the Aro, except its stylus-to-mounting bolt distance is two millimetres longer than the Naim tonearm wishes it to be.) A downforce of two grams keeps it happy.

I can't tell you that the Supex gives the younger competition a run for its money; in a great many ways, it would rather lie under the porch than run with the big dogs, its bottomend performance in particular being overbig and wobbly. It doesn't let go of bass drums soon enough – the one in that rightly famous *Rachmaninov Symphonic Dances*, for instance (Johanos and the Dallas Symphony Orchestra on Vox/Turnabout) – and musical timing in upbeat music suffers as a consequence.

But the Supex's midband is rich and ripe and deeply hued, like velvet. And there's texture: more string sound and wood sound and reed sound than you might have thought a microphone could hear. The experience of listening to Elgar's *Cello Concerto* for the first time is forever lost to me, but with the





Okay, hands up. The Celeste was several things, but it probably was never an authentic copper-bottomed, qold-plated classic. It was a

dammed good speaker in its day, and a landmark for KEF as its first serious shelf-mount compact speaker, but it was not an especially expensive one, and just one of a number of candidates for the crown of the best in its category. But there is a bit of self interest here. So what if it wasn't a classic: it was mine. The MkI Celeste was the first genuine hi-fi speaker I ever owned, and – I confess – I loved it dearly.

It wasn't even a proper pair. The two speakers were purchased second-hand, and had different finishes – one was oiled American walnut, the other sapele with coffee-fleck grille – because having just returned from living abroad, that was the only way I could afford them.

By today's standards, the Celeste is unremarkable enough externally. It was built into a simple sealed wooden carcass measuring 46x27x17cm, but it was wood-veneered. The cost benefits of vinyl wrap still lay way off in the future.

At the time – we' re talking about the late sixties – KEF had a reputation as a radical producer that made most of its counterparts seem old fashioned. Its early emphasis on plastic diaphragms made an enormous impact on the market at the time. These could be easily vacuum-formed, were stable under different temperature and humidity regimes, lent themselves well to smooth, low distortion and were relatively resonance-free (if not always particularly 'quick') transducers. This technology propelled KEF, then a wholly UK-owned company (Kent Engineering & Foundry, based near Maidstone in Kent), to something approaching superstardom.

KEF's thinking of the time is apparent from an early company document, which notes that its philosophy is founded on the premise that the studied use of plastics and metal alloys can improve sound reproduction, reliability and consistency, beyond the potential of



"At that time, KEF had a reputation as a radical producer that made most seem old fashioned."

traditional materials. The Celeste was also notable for being home to an early version of the B139, a 13x9-inch oval 'racetrack' bass/mid unit with an expanded polyurethane foam cone, which was skinned with metal foil. This was an early but spectacular example of squeezing a quart into a pint pot, and in a modern speaker of similar dimensions its role would be taken by a 15 or 17cm unit which would have enormously greater power handling than the paltry 15 watts RMS (or 30 watts peak) that KEF specified at the time. The T15 tweeter was an early and relatively large dome unit with a 1.5-inch voice coil and presumably a similar size dome diaphragm. It purported to work all the way up to 20kHz, which must have been a bit of a struggle.

Of course, I cannot say for sure how the Celeste would audition today. As I remember, it was an unusually smooth and transparent speaker by the standards of the day, with an impressive but rather woolly bass. I used it with a Connoisseur turntable, SME arm – I cannot remember the cartridge – and a Cambridge P50 amplifier, and it helped fuel a lifelong fascination with reproduced sound, as well as the music it reproduced. I couldn't really have asked for more at the time. Not even a matching pair. **HFC**

Alvin Gold



Supex and a nice pair of Quads I can re-live, at will, the first time I heard that indispensable 1965 recording of Jacqueline DuPre and Sir John Barbirolli playing the hell out of it.

Is there room for nostalgia in a hobby that's driven by technology? Sentimentality and science don't always play well together, but to me, home audio is as much about the art of music as it is the science of music playback. And in a world bereft of wonder, I'll take my musical pleasures wherever I find them.

Fidelity's all very nice, John, but there's room for whatever makes you happy, as long as you're footing the bill.

Art Dudley has written for Hi-Fi Heretic, Sounds Like, and Listener. He lives in the northeastern US where he also works as Stereophile's editor-at-Large



Retail therapy

Why the web hasn't killed the high street

B ack in 1989 I bought a Denon DCD-910 CD player. It had received excellent reviews, looked good and cost, from a mail order hi-fi discounter, about half price. So I sent off my cheque and waited eagerly for the Parcelforce van to arrive, smug in the knowledge that I'd got myself a bargain. It was, without doubt, the most disappointing hi-fi purchase I'd ever made. It wasn't so much the player itself, more that it just didn't fit with my system. It was only after that experience that I realised that listening to hi-fi before parting with the cash wasn't a luxury but an essential part of the process.

These days, of course, we have the wonders of the world wide web. With the ease of access and tempting prices, it's not hard to see why an ever-increasing amount of hi-fi trade is moving in that direction. Those in the hi-fi industry that have always proffered the 'try before you buy' principle are understandably concerned. Whether or not you happen to consider Dixons to be a hi-fi shop, the recent closing of a third of its stores around the UK has sent mixed ripples of delight and concern through the hi-fi industry that haven't been seen since the death of Laskys.

With John Lewis having pulled out of the hi-fi separates market, what I'd call



"Richer Sounds, Sevenoaks, and Superfi would be lying if they said they'd all had fantastic profits of late."

'mainstream hi-fi separate chains', have a greater share of the market than ever before. Yet Richer Sounds, Sevenoaks, and Superfi would be lying if they said they'd all had fantastic profits of late. Competition is extremely tough, and while it may have reduced on the high street, it's stronger than ever on the internet. I was recently asked by one of the above trio to analyse their online competition. The result brought up more than 70 competitors, most with exceptionally keen pricing policies and virtually none with an expensive chain of hi-fi stores to maintain.

Yet the reason that Richer Sounds, Sevenoaks and Superfi have remained on the high street has been their realisation that one has to adapt and react. All three of these companies refused to be cowed by the internet, instead embracing it wholeheartedly, yet all in slightly different ways. It's interesting to see that although all three offer exclusive internet deals, Richer Sounds and Sevenoaks in particular are keener for customers to come down to their stores. Yet if you use a price comparison website you'll see these three names cropping up within the top five suggestions time and time again. Believe me, balancing a competitive web pricing structure and offering customers the benefits of high street stores takes some doing, but I feel this particular triumvirate have got it just about spot-on. It's not just these three either. Many of the successful independents have taken a similarly balanced approach.

All of this is great news for the consumer, of course, who can take advantage of the fiercely competitive pricing, while still receiving expert in-store advice. The reduced likelihood of a disappointing blind purchase can only be a good thing for the industry in the longer run. In the meantime, bargain DCD-910 anybody?

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



Format frenzy

Will bad marketing cost us higher resolution?

N o matter how good a music delivery format may be, either in terms of sound quality or the potential for added-value bonus material, if the marketing drive isn't there it will end up alongside the other failures of our time, like RCA SelectaVision, DCC and all the various flavours of Quad (as in quadraphonic sound).

It doesn't take a great mind to appreciate this point – the lessons were learned from previous format launches, but for some reason the importance of coherent and focused marketing has been completely lost on those responsible for selling DVD-Audio and SACD software to general consumers.

A format needs hardware and software support, the old chicken-and-egg scenario. Hardware isn't a problem; there are ample universal machines to choose from and literally dozens of DVD-Audio-equipped DVD players from manufacturers all trying to outdo each other when it comes to bundled features. Yet while small, independent labels do their best to get the word out about their latest disc of Icelandic poetry, which, let's face it, will only sell ten copies, when it comes to a high-profile artist or recording, more often than not the majors drop the ball, usually on the big toe of the format with which their loyalties supposedly lie.

Last November, Warner Music Group, purported to be a champion of DVD-Audio, released In Time: The Best Of REM 1988-2003 on CD, DVD-Video and DVD-Audio. Promotional material was everywhere, including television advertisements, but did any one of them mention that the album was available in a high-resolution surround version? Of course not - heaven forbid, someone might want to buy a copy! In the United States, Warner Bros Music A&R representatives such as Jim Baltutis have been instructed to remove references to DVD-Audio versions of their major titles from publicity materials, the most recent example being Seal's IV, which just happens to be a tremendous disc.

While the total DVD-Audio marketing budget world-wide may have just broken the 20 pence barrier, with the millions of advertising dollars poured into promoting SACD, you'd think the situation would be better. And in fairness to Sony and Philips, it has been – albums from LASSIC ALBUMS U2 THE JOSHUA TREE

The most ostentatious of all lish rock albums has a huge widescreen sound like its remarkable cover, its contents a Cinemascope view of America. (The album screamed at the hypocrisy of the American right while holding a huge light aloft for the dispossessed and disenfranchised of the world.) As somebody once said, "all death and life was in there" and with "their exhilarating shimmer" U2 not only made the fastest-selling album in history, but at 20 million copies, the best-selling of their career.

Recorded in two-week bursts around Bono's trans-global trips to Central America and beyond, The Joshua Tree was produced by Daniel Lanois and Brian Eno in 1986. It was recorded in the South Dublin residencies of Edge and Adam Clayton, as well as that city's renowned Windmill Lane studios. When Where The Streets Have No Name was becoming 'the big song', Eno famously threatened to wipe the master tape because it was using up too much studio energy. French-Canadian Lanois was the key to getting the 'live' sound of the album. Instead of using headphones and waiting for later fix-it-in-the-mix routines, Lanois decided to use stage monitors and record directly off the floor.

This is apparent from the spiralling sound of *With Or Without You*, with Clayton's bass full of steel tension, highlighted by Eno's gossamer-sounding DX7 synthesiser. This drama builds to such a height that we're relieved when Edge bursts into view with his guitar riff; Lanois has conceded that the first third of the song had sequenced drums before Mullen kicks in with his acoustic kit. Another example of Lanois' immediacy was the recording of the slide-guitar part for *Running To Stand Still.* In a small room, Edge was practising his guitar through a ghetto blaster. Lanois came in, liked the EQ, rigged up a mic and recorded "this lovely sound".

Lanois himself provided plenty of atmospheric texture, playing guitars including an electronic autoharp called an Omnichord guitar. Edge, of course, never sounded better playing on a variety of Fenders, Gibsons and



"Edge was a convert to The Infinite guitar, an invention by Lanois' mate that played like a sitar."

acoustics. Strafing Hendrix-like Stratocaster leads adorned *Bullet The Blue Sky*, while scintillating echoplexed rhythms made *Where The Streets Have No Name* an instant classic. Moreover, Edge was a convert to The Infinite guitar, an invention by Lanois' mate Mike Brook that played like a sitar with almost infinite sustain. He uses it for that high violin sound at the beginning of *Streets*. The filthy-dirty guitar sound of *Exit* meanwhile came from an old promo guitar with a fretless plastic neck, which Lanois found in Edge's house at the end of a session and hooked into an old Chorus amplifier.

From the gorgeous keyboard/synth contributions of Eno to Bono's eloquent vocals, the album had a lustre and pace that was all its own. But it nearly never got there, because at the end of 1986 it wasn't finished. With the deadline looming, Eno/Lanois mixed seven tracks on an Amek 24-Track console at Edge's house and Steve Lillywhite was drafted in to work on four tracks at Windmill Lane. Done in three weeks, the album's release in March 1987 preceded U2's global domination as superstars of rock. Never remastered, the original Island vinyl and current CD possess an expansive 'analogue' sound; audiophiles might wish to check out the gold Mobile Fidelity Sound CD released in 1996. HFC

Mark Prendergast





"Logic doesn't rule the part of the brain that clocks an iPod and wants one."

☑ Pink Floyd, Sting and the Rolling Stones have received ample publicity, but chart pop, the only type of music that still sells in any meaningful quantities, has been largely forgotten. At Metropolis Studios in London, producer/engineer Matt Lawrence created a fantastic hybrid surround SACD of *Statues*, Moloko's most recent album, yet not even The Echo Label or Moloko websites have recognised its existence, even though it effectively renders the CD-only version obsolete.

DVD-Audio and SACD have many hurdles to overcome, but both formats have the potential to push the boundaries of reproduction fidelity and musical enjoyment far beyond what has gone before. There are stunning high-resolution recordings available from labels large and small, but without the promotional might of the majors we run the risk of losing two more formats for no better reason than a lack of drive from those who should know better, and that would be a real tragedy.

Stuart M Robinson is editor and publisher of HighFidelityReview.com, a website dedicated to high-resolution digital sound



Cooling off Musings on the epitome of cool

Why has the Apple iPod been so successful? Possibilities: it's a personal MP3 player (uh, don't think so); small size/big memory (maybe, if you're into that sort of thing); fabulous battery life (unlikely somehow); it's absolutely the best thing ever in the history of the universe (...bingo!).

It isn't, of course. It's a neatly designed compact MP3 player with a user-friendly interface – remarkable, partly, because most of its rivals look so naff. But logic doesn't rule in the part of the brain that clocks an iPod and wants one. And it possesses that most coveted of product qualities – the one that major corporations employ people on six-figure salaries to think up – the 'must have' factor. When I was a boy, they called it 'cool'.

Pinning down 'cool' is an almost impossible task. According to quantum theory, it's impossible to simultaneously measure the speed of an object and its position in space. Nail one and the other goes for a Burton. Weird.

Likewise, cool is a state of being that's clearly observable, but try to analyse the swine and it goes all misty. There are certain rules, though, and they're supported by numerous examples. First, and most obviously, the harder you try to be cool the less likely you

are to achieve it. Look at Rod Stewart post-Rachel Hunter. And, indeed, before her.

At least Rod's one-time motor, a Ferrari F40, hits the spot. A bit obvious, maybe, but the F40 is cool central. It's something to do with the toughness and functionality of its shape. Not too pretty, not too flash. It's a doer first and a looker second. This is why Naim kit has oodles of 'must have' appeal. It isn't pretty, but it is deeply attractive. Too much conspicuous beauty and people think you're trying to compensate for something.

Movie stars are a good signifier. The two coolest actors in cinematic history? Easy: Steve McQueen and Lee Marvin. McQueen's mush was squinty and squashed up; Marvin had a big hooter and puffy lips. Yet you couldn't take your eyes off either of them. One look from McQueen was more fascinating than Tom Cruise's entire career. The way Marvin moved made other actors look as if they were walking in treacle. Both were magnetic forces, looked as if they didn't have to work at it and, for the most part, their actions did the talking. That's cool.

Hi-fi has always had its 'must haves', exemplars of cool you immediately feel an affinity with and know you can't live without. Examples that have passed through my hands include a Naim Nait 2, Sony Walkman Pro, Michell Gyrodec and, one I've still got, Chord's DAC64. Coolest piece of hi-fi ever? That's easy: the Nakamichi Dragon cassette deck. David Vivian has been wallowing in gorgeous hi-fi and then describing its virtues/vices in Hi-Fi Choice since 1990



Second-hand classics

You don't have to pay too much for quality

W hile budget gear prices have remained very stable over the past few years, those of 'high-end' hi-fi components seem to be accelerating much more rapidly than inflation alone can account for. Some of this increase is justified by worthwhile improvements in sound quality, but the law of diminishing returns is also clearly at work.

Recent years have seen a proliferation of very costly 'high-end' products, which is fine for the few that can afford it, but potentially alienating for the vast majority who can't. I don't have a recipe for getting hold of the latest high-end hi-fi at budget prices, but those prepared to search out second-hand classics from the past can still enjoy excellent sound quality at a surprisingly modest cost.

The key to this is to save money 'downstream'; that is, towards the end of the chain. I recently connected a pair of 30-yearold Spendor BC1s, and was shocked at how good they speakers sounded when fed a topquality signal. The BC1 has long been revered as a classic loudspeaker, and while its 25x50x25cm shape might look very unfashionable now, the midband voicing in particular – aided perhaps by the alnico magnets it uses – can still give many (perhaps any) more recent design a run for its money.

Placed on modern, top-quality 40-50cm stands and fed via modern, top-quality cables, this speaker was a revelation, with a midband delicacy and transparency rarely found even today. Yet a quick check on eBay found a pair on offer for just £110 – good value at several times that price!

Imaging is superb, the most obvious criticisms being a very modest sensitivity (c84dB), and some thickening and excess through the mid-bass region. You have to treat them with care, because the voice coil glues used back then don't cope with high temperatures as well as those used nowadays. As long as you're prepared to exercise restraint with the volume control and don't try to throw dance parties, all should be well.

The classic power amp I'd choose to partner these is an even older design, but one that again left me deeply impressed when I recently heard a restored example. It's the Leak Stereo 20, one of the last of Leak's valve amps, using small EL84 output valves that always sound particularly delicate and delicious to these ears. Price is difficult to predict here, and will probably ultimately depend on the source and condition, but £150-£300 is a ballpark figure for one in working order. At a nominal 20 watts per channel, the combination won't go loud but will sound lovely at modest levels.

Feed this from a decent CD player such as a Rega Jupiter via a Creek 'passive pot' preamp, and the result will give a real audiophile flavour at way below high-end prices.

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

TECHNOLOGY EXPLORED THE WARP EFFECT: HOW TWISTED IS YOUR SYSTEM?

What is distortion? Sounds like a simple enough question, and in truth, the quick answer is simple and pretty much definitive.

Distortion is the difference between what goes into an audio system and what comes out of it. Fine so far, but several decades' worth of experience have made it abundantly clear that not all forms of distortion are equally important. For instance, suppose some wondrous system is assembled that can reproduce every nuance of a symphony orchestra with perfect precision – except that the volume is just one per cent too low. In absolute terms, that means that we have one per cent distortion but no one would ever notice. By contrast, some forms of distortion, present at a level of one per cent, can sound quite atrocious.

Conventionally, absolute level is ignored in talking about audio distortion, and other forms are categorised as linear or non-linear. Linear distortion is, in principle, completely removable if one knows a bit about it; for example, non-flat frequency response, which can be flattened out by suitable filtering. Non-linear distortion, however, is much harder (generally impossible) to remove after the fact, and a significant difference is that non-linear distortion produces frequencies in the output that weren't present in the input signal, as, for example, with harmonic distortion in amplifiers. Linear distortion doesn't do that.

Practically all forms of distortion are produced, to a greater or lesser extent, by virtually all components and stages that a signal passes through, though in many cases the extent may be really minuscule. So the crunch is this – when we talk about 'distortion', it's essential to have some understanding of just how much of a given kind of distortion represents a real problem in practice. In other words, what are the audibility thresholds?

This is fiendishly hard to answer, simply because it's generally impossible to separate the variables and be sure we're listening for



"The study of dither has yielded some amazing implications, though few have picked up on them."

only one kind of distortion. However, we can pick up important clues. Many come from research into digital audio, where it's relatively easy to analyse the signals we're listening to. Specifically, the study of dither has yielded some quite amazing implications, though it's surprising how few people seem to have picked up on them.

Dither is the linearising noise that's added to digital recordings. In CD-based systems, it sits around the -92dB level or lower, in weighted terms – that's about 0.0025 per cent. A pretty low level, but listening tests have repeatedly shown that different dither spectra have different audible effects. We really can hear things that far down, clearly and consistently.

If that's so, hadn't we better assume that we can hear other kinds of distortion (dither is a 'distortion' inasmuch as it's a difference between input and output) at least that far down relative to full level? Allow a few dB safety margin and we're looking at an audibility threshold, at least for non-linear distortion, of well below -100dB (0.001 per cent). Hard to believe, perhaps, but also quite hard to refute given what the audibility of dither teaches us. Are we all now quite so confident that 'all well-designed amplifiers sound the same'? **HFC**

Richard Black

audiofile



IXOS XHW406 SUBWOOFER CABLE £30 (5M TERMINATED)

There's not necessarily any unique requirement of subwoofers from a cabling point of view, except that they exist singly and often some distance from the amp, so you need a long, mono, phono cable.

Here's one. It's thick but flexible, terminates in excellent quality plugs, and is assembled using Ixos's own 'Gamma Geometry'. That, plus good materials, give it good electrical characteristics that seem to give it an edge. 201844 219000

 www.ixos.co.uk



L'ART DU SON RECORD CLEANING FLUID £28 (DILUTES TO FIVE LITRES)

The price might look high for a fluid that looks and smells like cheap shampoo (it definitely isn't, though – feels nothing like it on the skin), but this really does work. You can use it in automatic cleaning machines or, in small quantities, on a well-saturated rag. Rinsing with pure water is recommended after this though. It results in a very clean record that sounds clearer and more open than discs cleaned with alcohol-based fluids.

CREEK OBH-22 PASSIVE PREAMP £300

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Creek is filling a market niche with this: a passive preamp with remote control. It offers just three line inputs plus main and tape outputs, and all it does is select one input and control its volume. But for many users that's as much as is needed to fill the void between a CD player, a radio and some kind of recorder, and a power amp of fairly high sensitivity

Arguments have raged in the past about the advisability of passive preamps, but with most modern kit you're unlikely to encounter problems either driving the OBH-22 or sending signals from it. Its impedance of 20kW is well judged, and output cables of up to 3m will cause negligible HF loss unless they're weird designs with extremely high capacitance. And when all's well the sound is beautifully clear and unsullied, thanks to the high-quality volume pot and relays, and the absence of anything else. Nifty!



PHILIPS HDD060 MICRO JUKEBOX PORTABLE HARD DISK AUDIO PLAYER £150

Nothing particularly novel about a hard disk jukebox – Apple's iPod has ensured that. This little model appears to go pretty much head to head with the new iPod Mini, though with smaller capacity. The upside, of course, is price: it's £50 less than Apple's baby. And truth to tell, it's a nice enough device with adequate capacity for most folks. Its 1.5GB will store about 25 hours at 128kbps, but don't overlook the possibility of using a higher bit rate for nicer sound with less capacity.

Operation is simple enough and the supplied PC software works fine, transferring via USB. The claimed battery life of ten hours per charge seems about right. Just upgrade the earphones and you're well away! 20 0870 900 9070 ⊕ www.philips.co.uk



ALPHASON ARAGON

EQUIPMENT SUPPORT £79

This hi-fi support can be screwed to the wall or assembled to a heavy metal base, and it not only supports your equipment but stores up to 44 CDs too. Extra shelves are available as an option (£22), though you lose some CD storage. Cables can be tidied away inside the support pillar.

Assembly is easy enough and it looks very nice, but sound seems to take second place to appearance – at least when it stands on the floor. There's a thickening of musical textures when the stand is in use, and detail generally takes a bit of a hit. On the wall, its effect is less pronounced. Probably its natural home is supporting modest (and light!) kit in a bedroom or study-based system, where it serves its dual purpose efficiently and smartly. 201942 885600 # www.alphasondesigns.com



DR CHESKY'S 5.1 SURROUND SHOW SACD/ DVD-AUDIO SURROUND SOUND DEMONSTRATION DISC £20

Okay, this might be stretching the meaning of 'essential' a little, but this frankly bonkers collection of music and sound effects in surround and stereo (available as SACD or DVD-Audio) is unusually entertaining, stretching as it does from the New York subway to a thunderstorm to African drums to a vocal quartet. Oh, and the space shuttle taking off, recorded at (relatively) close range by Bob Katz using equipment that could handle very high sound pressure levels – the 'distortion' really is part of the sound. For interest alone, that probably justifies the whole disc! But it's all a great proof of surround sound for doubters.

2 01293 822186 @ www.chesky.com





PURE DIGITAL 'THE BUG' TABLE-TOP DAB DIGITAL RADIO £150

There's a slight air of pretension about some of the literature accompanying this, er, creature, but it's at worst a bit of harmless fun and at best an inspiring example of the application of design to audio. What's more, behind the glitzy visuals there are some unusual and handy audio features, including a pause and rewind function, and the possibility of recording to a removable Secure Digital memory card (not supplied: around £25 for 128Mb). It's an alarm clock too, and even includes an optical digital output so that you can connect it to your hi-fi properly.

The funny thing is, that the admittedly limited internal speakers do a lot to conceal the warts of most DAB broadcasting, making this one of the most communicative DAB sets we've heard: no real bass, but voices are clear and music surprisingly comprehensible. The buttons can be frustrating, mind. 201923 277488 # www.thebuq.com



CLEARLIGHT RDC2 EQUIPMENT ISOLATION CONES £30 (SET OF 4)

Available in various sizes and shapes, and also with threaded studs, this cone is made of Clearlight's own 'Resonance Damping Compound'. RDC is made up of granules of assorted materials with differing stiffness, the result being light but quite rigid and exceptionally 'dead'. Between various equipment, shelf and floor types, these cones gave results varying from marginal to impressive, seeming particularly useful under standmount speakers, where they give a lift to clarity and openness. 20 0870 240 7228 the www.choicebits.co.uk



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The New Densen B-350 Monoblock

For all at Densen the birth of the B-350 is a significant moment. For Densen the B-350 has for several years been the internal reference, and therefore is a pleasure to be able to show audiophiles all over the world the true musical world of Densen. The design process has taken a staggering 4-5 years. And in periods Thomas Sillesens insisting on a true breathtaking product has delayed the process, which has been further enhanced by the fact Thomas seemed more interesting in listening to the B-350 than finish it for production.

The B-350 is build using surface mounting techniques, and the components are mounted with a precision of 0,02mm (I) using silver solder. All solderings are made in an artificial atmosphere, consisting of nitrogen, to avoid oxidation of the solderings. The powersupply is massive and consist of a 750VA transformer and a storage capacity of 100.000µF with 4 separate rectifiers of which the 2 of them are capable of 3.000VA. All resistors are laser trimmed metalfilm from Vishay with a precision of 0,1%. The B-350 delivers 125W at 8 ohm and 250 W in 4 ohm.

The B-350 will be retailing for GBP 2500/per unit. Like all Densen products it comes with lifetime warranty.

Review by Stereoplay: Sound: Absolute Spitzenklasse Verdict: Very good Price - performance ratio: Very good

"No manipulation with the soundstage, no strange atmospheres, in stead the musicians just play more enthusiasticly. With perfect timing and pace it outperforms the competition."

Densen Lundevej 10 6705 Esbjerg Ø Denmark Phone: (+45) 75 18 12 14 www.densen.com

Crossroad puzzle

Eric Clapton has gone back to his roots with an album of covers by legendary bluesman Robert Johnson. Why now? Interview: **Nigel Williamson**

or a man who changed the face of rock and was once referred to by his fans as 'God', Eric Clapton is extraordinarily modest. We're talking about his current album, *Me And Mr Johnson*, a collection of covers by the legendary 'king of the Delta blues', Robert Johnson. It's a record he claims he always wanted to make but never felt "mature" enough. Until now. "For years, recording his songs seemed intimidating. I needed to become an old man," he says.

Johnson died in 1938, aged 27, seven years before Clapton was born and his recorded legacy consists of just a handful of sides, full of hiss and crackle. Clapton's versions are pristine, making full use of modern recording technology.

In the 1960s, from the Yardbirds through his time with John Mayall's Bluesbreakers and on to Cream, Clapton's guitar sound forged the template of modern blues rock. Despite his deep respect for the tradition of the blues, he has also in his time been a significant innovator. With Cream he invented the concept of the power trio. But again the

"For years his songs seemed intimidating. I needed to become an old man."

modesty kicks in. "I'd seen Buddy Guy with a trio and that's where the idea came from. You could do anything with that format if you were a maestro like him. I was suffering from delusions of grandeur in that direction." Released in 1967, Cream's second studio album, *Disraeli Gears*, became something of a hi-fi demonstration disc, due to its inventive use of stereo techniques and such innovations as Clapton's use of the wah-wah pedal. "I picked

it up at Manny's Guitar Shop in New York," he recalls. "They told me Jimi Hendrix had one and so that was enough

for me. I had to have the second one." Cream was followed by Blind Faith, the first of the 'super groups'. Then came Derek and the Dominos, whose one studio album, Layla And Other Assorted Love Songs, also remains a hi-fi landmark. Again, the Clapton modesty kicks in as he attributes much of the album's sound to others. "Duane Allman came in and his guitar took it from being an all-right record to something extraordinary," he says. How Clapton's paen to model Patti Boyd (Mrs George Harrison at the time) came to be coupled with the track's piano-led instrumental coda is one of the great studio stories. Clapton had blockbooked Criteria in Miami and late one night he caught Dominos drummer Jim Gordon sneaking back into the studio long after

everybody else had left. He was recording the piano theme that was to become an integral part of *Layla*. "He was poaching and making his own record and we caught him," Clapton recalls. "The deal was we'd let him keep using our studio time if we could have that tune." In recent years, much of Clapton's work has taken on a softer, AOR sound with songs such as *Wonderful Tonight* and *Tears In Heaven*,

... audio

written for his dead son, Conor. "I tried to make more consciously commercial records. It was the beginning of a very conflicting period for me. I felt like I was selling out," he confesses. "I always have to censor myself not to go too far in that direction. I have to try hard not to let it get too sweet."

Which perhaps explains why periodically he always returns to his first love of the blues. "You could say with the Robert Johnson album I'm back where I started, although I hope I'm playing and sounding a little more sophisticated than I did back then." HFC

The Cream of Clapton

1. Me & Mr Johnson (2004) Eric's tribute to the master imitates the original's rawness, but with added hi-fidelity.



2. 461 Ocean Boulevard (1974) A warm and mellow collection ranging from covers such as I Shot The Sheriff to Let it Grow, one of Clapton's most enduring compositions.

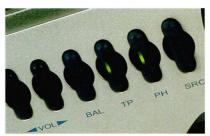
3. Derek & The Dominos: Layla & Other Assorted Love Songs (1970) The slide guitar of Duane Allman and Clapton's unrequited love for Patti Boyd combined to create an all-time classic.

4. *Cream: Disroeli Gears (1967)* The only track clocking in at longer than 3:30 is *Sunshine Of Your Love* on an album of tightly focused psychedelic blues-pop.









Quad's stunning 99 preamp and 909 power amp worth £1,650!

he Quad name is one of the most prominent in hi-fi circles world-wide, fondly remembered for its legendary and innovative products from days gone by, as well as its high-quality components of the present. Its amplifiers have provided a window deep into the music for decades, and last month's Ultimate Group Test review of the 99 preamp and 909 power amp confirmed Quad's standing in 2004 as a leading brand. We awarded the combo a Best Buy Badge after our blind listening panel praised its powerful and clean delivery and superb bass weight and tunefulness. With 140 watts of power on tap, this pre/power pairing delivers music with scale and authority while offering an impressive range of features, including a switchable phono stage as standard and Quad's 'tilt alignment' tone controls. For your chance to win both of these superb amps, simply answer the question below. A winner will be drawn out of the hat. Good luck!



CONGRATULATIONS...

to our last winner, Mr R Timms of Barnsley. He receives a fabulous Audio Note Oto SE valve amplifier!

HOW TO ENTER:

Answer the question by circling the correct answer, then fill in your name, address and daytime telephone number below. Please also take the time to fill in our small questionnaire - we want to make Hi-Fi Choice as good as you deserve, dear reader.

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Q

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Would you like to see more expensive or less expensive kit reviewed? _

What would you like to see more of in Hi-Fi Choice?

Please tell us if there's anything you don't like.

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The closing date for this competition is 4 August 2004. Winners of the Quad competition will be judged from all correct entries submitted, and drawn at random after the closing date. Winners will be notified by post. The Editor's decision is final and no correspondence will be entered into. The Quad competition is not open to employees of Quad, Future Publishing Ltd, nor their suppliers, agents or associates. We regret this competition is only open to UK residents. No cash alternatives will be offered. By entering the competition you will be bound by the rules. We reserve the right to substitute alternative prizes with equivalent value to those shown, in the unlikely event of stock being temporarily unavailable. All entries must be on this official coupon, but photocopies are acceptable. Only one entry per household. Send your entry to:

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John Roberts: t. 01562 731100 f. 01562 730228 m. 07721 605966

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The Premier series of conrad-johnson products are precision music reproduction instruments designed to meet the needs of audio industry professionals and other audiophiles who require near perfection from their Premier series of vacuum-tube power amplifiers, the capturing delicate textures and subtle nuances while reference systems. The latest in the highly regarded Premier 140 is the proverbial iron hand in a velvet glove demonstrating muscular power, authority and control. The Premier series of conrad-johnson

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AUDIOPHILE VINYL

EDDIE HENDERSON Comin' Through

Capitol/Pure Pleasure 180g vinyl Music: This is the first album from new reissue specialist Pure Pleasure, a label clearly driven by an

enthusiasm for the music. Trumpet player Eddie Henderson was a member of Herbie Hancock's quintet and sextet in the early 1970s and produced largely hardcore jazz material until this, his

most successful 'crossover' album. Released in 1977 it is a predominantly instrumental soul-funk offering that features contributions from members of Earth Wind and Fire, Lee Ritenour and Patrice Rushen. While a niche record, its appeal is easy to hear and the tunes, though light in presentation, have a depth and integrity that is reminiscent of Michael McDonald. Nice. ★★★

Sound: A smooth and sweet slab of vinyl, this sounds entirely faithful to the style of the recording. The horns, drums and keyboards have plenty of life but never grate. $\star \star \star \star JK$

DEEP PURPLE Machine Head

Warner Bros/Rhino Vinyl 180g vinyl Music: Drive, energy, power, great drumming and *Smoke On The Water...* All this and more can be

album from Britrock meisters Deep Purple. This stands next to Led Zeppelin IV as one of the pillars of hard rock yet despite the power and virtuosity of playing it

features some damn funky tunes and tracks like Never Before genuinely 'chug'. It's a spare, efficient album without a hint of excess. Featuring Ritchie Blackmore, Ian Paice, Jon Lord, Ian Gilland and Roger Glover, this is the Purp's finest studio offering and one which has influenced countless metal and grunge bands over the last thirty years. *****

Sound: This is a reissue of the US print so there's a green Warner label and a smoother sound than the UK prints of yore. Nonetheless, it all sounds glorious. $\star\star\star\star$ JK

These and other audiophile LPs are available from Simply Vinyl: ☎ 0208 545 8580 ⊕ www.simplvvinvl.com

COMPACT DISC & VINYL



NICK DRAKE Made To Love Magic

Music: The shifting major/minor chord changes, that beautiful burring voice, that wonderful finger-picking guitar, the tinge of melancholy. His early death. Yet Drake lives on. Back in 1986 we were given Time Of No Reply as his final album. This updates it with out-takes and newly-discovered tracks, put together by Drake's original recording team and Cambridge friend Robert Kirby. River Man sans strings sounds superbly finished while we get a new Three Hours with members of Traffic. The harmonic guitar style on Black Eyed Dog still produces shivers while the album climaxes on the totally new Tow The Line. Peerless. **** Sound: Often sourced from valve recorders, the tracks benefit from fresh digital mastering to create a lovely, breathy acoustic sheen. **** MP



BRIAN WILSON Gettin' In Over My Head EastWest

Music: 40 years after the Beach Boys' first number one comes Brian Wilson's first new material of the 21st century. The 13 new songs unashamedly reference that classic endless summer sound and the voice of late brother Carl Wilson is even heard on Soul Searchin' with harmonies from Brian Yet he didn't need his superstar mates. Paul McCartney turns A Friend Like You into a chummily mawkish duet. Elton John hijacks How Could We Still Be Dancin' and Eric Clapton adds nothing to City Blues. While they all sound like sad old men, Wilson resembles pop's Peter Pan. *** Sound: Perhaps his live shows creak a little these days. But in the studio, Wilson is still able to turn even a throwaway doodle into a symphonic pop masterpiece. **** NW



PDQ BACH

Classical WTWP Talkity-Talk Radio Professor Peter Schickele Telarc CD-80295

Music: Professor Peter Schickele is a pukka composer in his own right, but he's better known for his discovery of PDQ Bach, "least talented of the Bach dynasty... and the only dead composer who can still be commissioned" (don't ask). This purports to be a radio broadcast to celebrate the 184th anniversary of PDQ's death. In case you haven't got the picture yet, PDQ Bach is a musical joke, but an excellent one. The music, at one level naïve and bizarre in every possible respect, is artfully written and a real pleasure great for the car. $\star \star \star \star$ Sound: Although (or perhaps because) the recording isn't a serious enterprise,

the recording isn't a serious enterprise, the sound is clean, straightforward and enjoyable. Done on the cheap, but all the better for it. $\star\star\star\star\star AG$



DR JOHN N'Awlinz: Dis Dat Or D'Udda

Parlophone Music: Time was when just by listening to a

record, you could tell where it was made. Detroit, Memphis, Philadelphia and a dozen other American cities all had their own unique sound. Such regional variations have today



been blanded out so that most modern records could have been made anywhere. If you lament this musical homogenisation, then Dr John has just the medicine. His voodoo funk and Mardi Gras jazz could only come from New Orleans – or N'Awlinz as he styles it. Call it witchcraft. But taken daily, the roots-drenched southern gumbo of Dis Dat Or D'udda will soon banish the toxicity of modern manufactured pop. ********

Sound: Modern life isn't all rubbish. Roots music and studio technology combine to conjure the warmth and intimacy of a French Quarter club. You can almost taste that mint julep. $\star\star\star\star$ *NW*



YOUSSOU N'DOUR Egypt Nonesuch

Music: The archetypal 'world music' star, Youssou N'Dour's latest marks a departure from the genre-straddling pop of his previous albums. It's a collection of Sufi devotional songs, incorporating elements of north African music, as well as that of his Senegalese homeland and intended as a counterpoint to what he saw as his muslim religion being hijacked by extremists, and blamed for many of the world's ills. The result is a spine-tingling collaboration that lifts the soul - and offers a lot more fun than you'd think. $\star \star \star \star$ Sound: The production is smooth enough not to jar at dinner parties, but N'Dour's voice soars and groans, croons and wails over the intoxicating, polyglottal rhythms. **** DO



THIS MONTH'S CLASSIC HI-FI TEST DISC "Power and majesty that remains unmatched."

KING CRIMSON Larks' Tongues In Aspic V Music: In 1973, Robert Fripp rebuilt King Crimson from its sixties folk/art rock beginnings into a prog rock machine with a power and majesty that remains unmatched. With David Cross (violin), John Wetton (vocals, bass), Jamie Muir (percussion) and Bill Bruford of Yes (drums), he had a line-up which meant business. There are two versions of the title track, Part Two being a "teenage, easy, New York" version of the tense, searing opener. A piece which

stretched the dynamic range of vinyl in its day and really warrants a hi-res remastering to give of its all. The playing is stunning, Bruford, Wetton and Fripp providing the meat on which their cohorts place their trimmings. Sound: The original CD mastering delivers much of the energy and focus along with the gorgeous sound of the instruments. The 2000 remaster, however, offers a lot more as well as extensive liner notes. $\star \star \star JK$



CRAIG ARMSTRONG Piano Works

Sanctuary

Music: This Scottish composer made his name with soundtracks for Moulin Rouge and Love Actually, and his string arrangements for Madonna and Massive Attack among others. He already has two albums under his own



name but this sees him revisiting past successes and some new works on solo piano. There's no doubt he has a way with a (usually melancholy) tune, but he can play a bit too, and while there are no overt displays of virtuosity, he can certainly extract the maximum feeling from his instrument and compositions. Fugue, divested of the electronic trickery of the original, is naked in its sense of constrained longing, and Glasgow Love Theme, a bit syrupy in the context of Love Actually, reveals itself as a moving, heartfelt ode to love. **** Sound: While Armstrong's style is fairly easy on the dynamics, the overall feeling is perhaps a little too cosy at times when it could have been a bit sharper. *** DO



MATT DEIGHTON Wake Up The Moths Barleywheel

Music: Acoustic is now trendier than Hoxton so it's about time ex-Wolfhound and Mother Earth member Matt Deighton - the singer-songwriter who helped start the revival with his Villager CD - should get in the frame. Recorded in various studios over three years, this could've been a mess but does, instead. completely justify those Nick Drake comparisons. Highlights include the touching Falling, the spiraling If You Get Swayed and an ethereal cover of Brian Protheroe's Pinball. It's a melancholy triumph - quite simply, mesmerising. ****

Sound: Deighton's always had an ear for sound - his hi-fi set-up was once featured in HFC - and he's blended both that and subtle atmospherics to good effect. **** PS

R

HANS ROTT Symphony No 1, Orchestral Works Sebastian Weigle, Münchner Rundfunorchester

Arte Nova Classics 82876 57748 2 Music: By all counts, the 'hapless' Hans Rott (1858-1884) was Anton Bruckner's favourite pupil, but despite the august backing, he was never taken seriously by the establishment of the day. He was derided by the jury when this symphony was presented at a musical competition, yet an admiring Gustav Mahler was a fellow student, and the influence of Wagner is also obvious in the very approachable and full blooded first symphony. Rott may be a forgotten tributary of late 19th century music, but here his music is performed with conviction. $\star \star \star \star$ Sound: A successful if not always very elegant sounding recording, with a full and weighty balance. **** AG

DVD-AUDIO & SACD

BOB DYLAN

Blood On The Tracks

Columbia

Music: Regarded as Dylan's most emotionally revealing album, this 1975 classic marked a return to the acoustic style of The Band and features some of his finest material. Written after the breakdown of his marriage, it is a sad but tranquil album full of insight, retrospection and superb tunes. Opener Tangled Up In Blue is for my money Dylan's finest work - it rambles along in tight but



loose fashion and hooks you in with an intrinsically musical lure that is beyond mere words. Among the nine other tracks are obvious winners like Idiot Wind, If You See Her, Say Hello and Lily, Rosemary And The Jack Of Hearts, a ballad of unusual length and descriptive power. As Sony owns Columbia it's not surprising to see this on SACD but none the less welcome for it. ***** Sound: A crisp and revealing remastering, the extra resolution of the SACD layer gives you more information about the nature of the recording (about par for the period) and the musicianship which is understated but keen. **** JK

MO7ART

Requiem Concentus Musicus Wien, Nikolaus Harnoncourt (cond), Christine Schäfer (soprano), Bernarda Fink (alto), Kurt Streit (tenor), Gerald Finley (bass), Arnold Schoenberg Choir

Deutsche Harmonia Mundi 82876 58705 2

Music: Mozart's valedictory Requiem has been recorded many times over the years, but rarely with the passion and the deeply considered attention to detail of this one, which is sung with a near ideal mix of authenticity and

body by the quartet of soloists and the Arnold Schoenberg Choir. They receive more than usually dynamic and colourful backing from the orchestra playing with the clarity of line that comes from original instruments, but without the pedantry and occasional sterility. This performance has that rare quality of making the music seem new and fresh, despite years of familiarity. * Sound: A marvellous live recording from the Grober Musikvereinssaal Wein, Austria, this disc has a strong sense of occasion and a three-dimensional soundstage, and greater expressive power from the SACD layer. $\star \star \star \star \star AG$

GRANDMASTER FLASH, MELLE MEL AND THE FURIOUS FIVE Greatest Hits

Silverline

Music: Disco magicians and pioneers of the global art form we know as hip-hop, Grandmaster Flash, Melle Mel and the Furious Five were a highly creative collaboration of innovative street urchins. The group borrowed heavily from the disco, funk and soul of the decade preceding its eighties heyday, creating a new street-level soundtrack from the forgotten black ghettos of New York. But twenty years on, for every legendary hit

like The Message or White Lines, there are twice as many primitive rhymes that echo the early days of rap, and are perhaps best left to memory. *** Sound: Hugely entertaining with obvious advances in resolution, the rear channels have been thoughtfully involved in this new mix which brings forth the flavour of the old skool in a way that CD (and original vinyl) could only dream of. The crude original samples are brutally exposed, however. **** DG









Write to: Hi-Fi Choice, Future Publishing Ltd, 99 Baker Street, London W1U 6FP Or email your letters to dan.george@futurenet.co.uk

LETTER OF THE MONTH

THE BIG SPEND

Your Cambridge Audio Azur 540C CD review (HFC 255) shows how much audio electronics have progressed in the last 15 years. However, change has not been so drastic with speakers. I think speakers have the most difficult job to do and are much slower to evolve than the fast-paced digital domain. So I would suggest that the time has now come to devote 40-50 per cent of your budget to speakers, with 20-25 per cent each for CD and amp. Speaker spend should be even greater at the high end, though we should not discourage makers from competing on lower prices! Fouad Diouman via email

HFC You've raised a very valid point about how digital sources have improved, and confirmed our preferences for spending a bit more on speakers. The exact balance however, is always a question of personal preference.



WIN IXOS INTERCONNECTS!

The author of our letter of the month receives a free pair of Ixos XHA606 interconnects worth £60, featuring Gamma Geometry and silver plated OFC conductors for superior sound. So get writing! (250 words max please ...)



RELIGHT MY RELIC

I have read many reviews of the Roksan Caspian M Series with interest. Most give credit to the Caspian pedigree and generally agree that the M Series makeover has squeezed out more joy from this design. However, many reviews remark that the Caspian M Series CD player uses almost museumgrade components (20-bit DAC etc). Your CD group test (HFC 252) said that the Caspian player bench tested poorly, without much improvement over previous versions.

I would like to improve on my all-Capsian components using Roksan's upgrade service, but my dilemma is that I might be wasting money on the CD - perhaps an upsampling DAC, cabling or mains improvements would be better?

Chris Kinnear via email

HFC Roksan's latest Caspian player might have attracted some colourful comments on test, but overall, we considered it an enjoyable and dynamic player. If you are unhappy with the sound (which you don't state), you could achieve small sonic improvements with some good interconnects. A new DAC however, is likely to breathe the most life into your player although you may find a good one prohibitively expensive. We'd suggest first carefully explaining to Roksan exactly what you're trying to achieve to see if they can help with the upgrade service, or try

your player at a dealer that has a few DACs in stock. Try Musical Fidelity's X-DAC^{V3} (£400) and take a look at Monarchy's range. Do let us know how you get on.

THE NUMBERS GAME

It used to be multi-decimal performance figures of questionable relevance from the



"Who in their right mind wants to listen to 50 hours of compressed audio, even if they are on the move?"

lab that determined enjoyable sound. Now that we have fallen in love with computers, it seems to be how many songs you can cram on to an MP3 player, or transfer onto a CD-R or MiniDisc. Why on earth would I want my entire music collection crammed on to such a device if it's going to be at sub-standard levels of quality?

Who in their right mind is going to want to listen to 50 hours of compressed audio, even if they are on the move? What is more, who has the time to collate/index all of this material?

Then there is the 'game' of multichannel audio have we forgotten just how good real stereo can be? A proper stereo recording can convey all the height and depth information you need. Maybe it's time the technology pundits returned to the first principles of high fidelity, a term that's very meaning seems to have been long forgotten

Douglas Marc via email

HFC: It's certainly not the audiophile who chooses compressed audio, although for the music lover on the move, the hard disk portable has much to offer (by the way, 'Poddies rarely input track details, as most are now available on the web). We can only hope that the popularity of these products turns more people on to music, who in turn develop an appetite for high-fidelity sound from their equipment. 🔼



Choice Mail Readers' letters





Above KEF's O Compact speaker with its time-aligned Uni-O two-in-one driver

TIME GENTLEMEN PLEASE

Over the years there have been numerous speaker design methods to get the correct time alignment between drivers. To this end, we have seen external tweeters, concentric drivers and angled drivers, all to help overcome this acoustic problem and create great reproduction of sound. Now we are seeing more expensive speakers being developed, such as the Rega R9 and the Focal-JMlab Diva Utopia Be, that have the main bass drivers set on the sides of the cabinets. Not only that, but these speakers pump bass frequencies away from the listener's ears. I don't doubt the high marks given these speakers in the reviews but can you help to alleviate my present confusion about these different approaches?

Andy Benford via email

HFC: The placement of side-firing bass drivers is non-critical to time alignment and is used purely to facilitate a decent-size bass driver on a slim-fronted speaker - bass is non-directional after all. There are a variety of speaker designs that have specifically targetted time alignment, from full-range drivers to clever electrostatics, but one of the more succesful is KEF's Uni-Q array. This two-drivers-in-one approach creates an effective coincident point source, which is effective at creating an accurate time-aligned output.

UP WHERE WE BELONG

Like many readers, I'm content with my modest system, but aspire to owning a truly high-end set-up. However, rather than spend thousands on gear, I've decided to spend a bit of money on improving my

"Rather than spend thousands on gear, I've decided to spend a bit of money on improving my room."

room. I figured a dedicated room should give a significant sonic gain - more so than expensive kit in a sub-standard room (think hotel-based hi-fi shows)

So I cleared the loft, put in a suspended floor and boarded up the walls. The result - a dedicated, nonparallel-sided, damped room where I can play my music as loud as I like. The only thing I miss is a solid concrete floor for better bass, but otherwise it's money well spent. There's even room for a projector and 5.1 speakers should I have a temporary lapse of commitment. It's been a while since Hi-Fi Choice did a feature on room acoustics - come on guys, I had to dig out a musty old back issue!

Adam Gibson via email

HFC: We admire your dedication - let's hope you don't get in trouble for neglecting friends and family in your new sanctuary! It's easy to underestimate the importance of a good room. For many of us, hi-fi is compromised by being plonked in the living room with all the other furniture - setting yourself up with a dedicated room is often a richly rewarding venture.



ONLINE FORUM

A few choice comments plucked from our online forum. Join in the fun at www.hifichoice.co.uk



Alternative Russ Andrews mains cable usage - the ultimate cup of tea! AMDworld

Stop telling us the figures point to digital. My ears are not programmed - they're analogue/chemical - digits don't figure. Vinyl is more involving than any CD or derivative has ever been.

Mel.Bro

Here's a beautiful system you shouldn't miss. I heard it at Mr Kuzma's (maker of the Stabi XL turntable). It was Gryphon Mikado CD player, Gryphon Antileon Signature Stereo power amp Avantgarde Trio horn speakers. Breathtaking! Murchadh

I have four PCs in use with various soundcards. Three of them reverse the left and right audio channels at several stages in the chain. I guess there's a lot of audio software out there that sounds a bit odd. Charliestumpy

When I evaluate gear I use the A/B test. On occasion, though, I haven't been able to tell the difference, but by just leaving it playing, i.e. not critically listening, differences become apparent over time. Is this a better a way of evaluating gear than A/B testing I wonder? SanJ

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> Andy Grove Hi Fi World



"in essence, the Sugdens handled our program material with such proficiency as to transcend its existence" Emle Fisher - The Inner Ear Report

"the Masterclass AA Pre/power is one of the most organic and dynamic transistor amplifiers you can buy" Jason Kennedy - Hi Fi Choice



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AUDIO RESEARCH CD3 MK2 CD PLAYER | AUDIO RESEARCH LS25 MK2 PREAMP AUDIO RESEARCH VT100 MK3 POWER AMP | SONUS FABER CREMONA LOUDSPEAKERS | £22,387



Fame Academy

High-end brands don't come much more iconic than Audio Research and Sonus Faber. Sweet music? You bet

here comes a time, and this is it for Beautiful Systems, when you have to accept that not all high-end hi-fi is wildly esoteric. Tempting as it is, I don't think we've ever been quilty of choosing kit for its obscurity value. But, this month... well, welcome to the 'no introduction required' celeb party. Audio Research and Sonus Faber: sublime exemplars of the high end without a doubt, but also two of most iconic hi-fi brands on the planet.

And not for nothing. Sonus Faber's far flung fame is, perhaps, the easier to understand. As an Italian company with a reputation for making loudspeakers with the same general outlook as Ferrari makes cars - outrageous performance and visible sex appeal sit at the top of the agenda - maintaining a low profile isn't a realistic option.

Why Audio Research has lodged in the collective audiophile psyche is less obvious, but I reckon there are probably three main reasons. One, it all looks exactly as you imagine deadly serious, souped-up-to-the-max, zero-frills hi-fi should - all beefy grab-handled, studio rack-ready, heavy-duty functionality. I'm tempted to call the style 'lab chic' except there's nothing chic about it. Two, no other name says 'American high end' with guite as much stern gravitas. For all its sci-fi menace, 'Krell' sounds vaguely frivolous by comparison.

And three, Audio Research has gone the distance. Founded by current company president William Z Johnson in Minneapolis some 34 years ago, it's one of the oldest continually operating audio manufacturers in America. Johnson's efforts as an audio engineer were certainly instrumental in reviving tube designs as a superior means to an enjoyable musical end when most of the industry had decided to back solid state. And, boy, has he stuck to his guns. All right, there must be half a dozen US audio luminaries who can lay claim to being the 'father of high-end', but Johnson is one of the more credible.

YESTERDAY TODAY

Today's Audio Research hardware looks much the same as yesterday's. And the day before that. Longevity, serviceability and steady evolution are held to be more important than the wow factor-led designs of some rivals. If Audio Research were a car maker, it would be Porsche. As the company says of the fact that much of its early kit is still in service doing the business some quarter of a century on, "these products are workhorses, not museum pieces"

The CD3 Mk2 CD player could hardly be described as anything else. With a top plate painted in what appears to be black Hammerite and a fascia comprising just grab handles, a green LED display and six square buttons, the top-loading CD3 is to plain design what Woody Allen is to chronic neurosis. There's something about that stark functionality that's strangely attractive, though. Perhaps it's the lack of pretension. Besides, it's what's happening under that sturdy lid that makes the CD3 such a remarkable spinner of the original silver disc. 📮

"Sonus Faber makes speakers with the same general outlook as Ferrari makes cars - for outrageous performance and visible sex appeal."





£6.400

The most popular tube amp on the planet says AR. It's too big to fit on most equipment racks, but it sounds as big as it looks.



£4,998 per pair It's a pair of these or a used Fiat Panda OK, the Panda moves but once you've heard the Cremona, you won't want to go anywhere.



Research CD3 Mk2 CD player £5.190

AR's statement digital player doesn't mess around with SACD or DVD-Audio It just sets out to extract the absolute max from CD



Research LS25 £5,799

This respected AR preamp has had extensive upgrading in Mk2 form. "High definition," it says on the box. Ain't kidding, either.

september 2004 HI-FI CHOICE 33



years ago, superseding the widely acclaimed CD2 as the company's 'statement' on digital replay. Why not an SACD machine à la Krell, or even a universal player? Audio Research argues that the CD3 is designed to do one thing, and one thing only: play normal 'red book' standard music CDs. CD-R and CD-RW discs with "maximum fidelity and full musical expression". And that means eschewing not just all the extra circuitry needed for SACD and DVD Video and Audio, but also any form of upsampling. Yes, the CD3 uses the latest 24-bit/192kHz Crystal DAC, but AR's empirical research has suggested that there's an unavoidable sonic compromise that comes with sample rate manipulation and approximating errors it would rather not make.

So the CD3 really is unusually simple. The laser mechanism is the best one Philips makes, the cast-metal Pro 2, mounted on a massive machined base for maximum rigidity and minimum jitter. The Crystal Semiconductor 24/192 DAC was chosen for its resolution and musicality when matched with AR's fully differential, Class A JFET analogue output stage. Massive regulated power supplies are also crucial; likewise the top grade capacitors for both bulk supplies and bypass components. In fact, all the components used in the CD3 have been "carefully selected" and, in many cases, tweaked to get best performance.

What was the drawer front on the CD2 is now where the CD3's six function buttons sit, including a standby mode. Round the back, digital outputs comprise an AES/EBU (XLR) socket alongside S/PDIF coaxial (BNC), while analogue outputs include both single-ended and balanced. The plastic remote looks and feels low rent but works fine.

In 'Mk2' guise, AR says it's pushed the CD3's resolution up and distortion down, as well as lowering noise floor and increasing micro and macrodynamics. As you've probably guessed, there is no eureka component responsible for the improvements, it's all done with judicious tweaking or, as AR calls it, "the careful application of proprietary, mechanical and optical modifications and treatments". In hard figures, that's 45 parts changed or added.

CATCHING THE TUBE

A stalwart of the Audio Research line-up for nearly three years, the LS25 vacuum tube stereo line preamp has also been given the 'Mk2' treatment, featuring trickle-down input stage technology from the much more expensive VTM200 monoblock power amp. The exterior design of the LS25 is deceptive. The thick alloy fascia sports what looks like an old-fashioned array of knobs and toggle switches but, in fact, they're all mid-sprung and entirely microprocessor controlled.

Inside, there's a new motherboard architecture that incorporates a JFET input stage similar to that used in the VTM200, followed by a cathodefollower/output driver stage using two 6H30 twin triodes. These are Russian military valves and supplant the 6922 tubes of the previous model, though their heater elements have higher current requirements, hence the Mk2's new power transformer and power supply adjustments. The good news for owners of the original LS25 is that all the mods are retro-fittable by AR.

More famous even than the LS25 is the VT100 stereo power amp which has been around since 1996 and now sells as the Mk3. Despite its prodigious weight and size (and price), this 100-watter remains the world's best-selling tube amp, according to Audio Research, not least, presumably, for its ability to drive speakers loads that would wither more delicate designs.

Taking its cue from from the VTM200 monoblock, the Mk3's input stage has direct-coupled JFETS for ultra-low noise, and is followed by a 6H30 driver/gain stage, capacitor coupled to a 6H30 follower, driving two matched pairs of 6550C output tubes per channel. There are now four internal bias adjustments, up from the previous two, to allow more accurate DC balance adjustments

1

[Beautiful Systems]



"The broad character of this combo's sound can be summed up by The Fast Show's Jazz Club bloke – nice. Amazingly nice. Grrreat too. And, when the occasion demands, most definitely shmokin'."

for the output tubes and the line fuse has been beefed up to 6.3 amps, allowing the Mk3 more dynamic headroom. As with the updated LS25, there's now a 12-volt power on/off trigger for remote or custom installation purposes and the two components can be linked for remote operation.

BRAINS AND BEAUTY

Want to know why this is a beautiful system, visually as well as sonically, when the electronics are clearly from the brutally functional side of town? The Sonus Faber Cremona. This tall, lissome Italian three-way floorstander from the maker of the world's sexiest speakers has beauty to burn - more than enough to cover for the shortfall from team AR. A jaw-dropping fusion of high-tech engineering and instrumentmaker-standard cabinet craftsmanship, the Cremona's lavish mix of solid woods and veneers (32 pieces of solid and laminated maple), synthetic leather-clad front baffles and state-of-the-art drivers - including a honey of a ring radiator tweeter - is madly over-the-top and desperately desirable.

The elegance of the sculpted lute shape (or boat back, if your prefer) has a lot to do with it. Technically, it improves cabinet stiffness and cuts down internal standing waves. Aesthetically, it replaces your knee ioints with marshmallows. And that's with the four drivers exposed. Attach the black elastic strings that stretch top to bottom in place of grilles and, wow, suddenly you can actually do that David Blaine levitation thing. What do you need to know? Two rear-firing ports, non-resonant first order crossovers, 4-ohm impedance, 90dB sensitivity, 32Hz-40kHz frequency response. That's the Cremona.

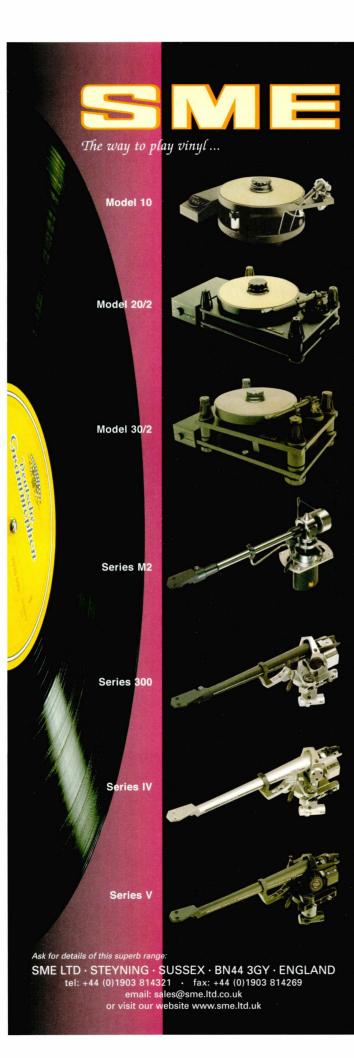
Okay, let's be straight about this. The broad character of this combo's sound can be summed up by the Fast Show's Jazz Club bloke – nice. Amazingly nice. Grrreat, too. And, when the occasion demands, most definitely shmokin'. Naturally, kit of this calibre has the 'hi-fi' side of things down. Detail, drive, rhythmic integrity, tonal texture and colour and musical communication are all, frankly, pretty wonderful. The amps also prove that valves needn't sound overly warm and lush. Whatever CD you feed the CD3, the presentation is natural, lucid and expressive. It only sounds electronic when Keith Emerson is murdering his Moog.

That said, they are most definitely valve amps in the best sense and do err on the rose-tinted side of neutral. Their romanticism is utterly bequiling, though, and shamelessly promotes the life in music. Claire Martin's Too Darn Hot on the Linn label sounds simply gorgeous on this system; it makes you forget you're listening to hi-fi altogether, let alone a humble CD. Nor does the AR/SF marriage underestimate the importance of bass as a solid foundation - everything above falls into place convincingly. The invitingly weighty presentation fleshes out weedy productions but stops short of making lush recordings sound obese. And the Cremonas have bags of poise, even at window-rattling volumes.

As a system, this one just disappears like Jean-Luc Picard in the transporter room, letting the music sing for itself. Simply exquisite. **HFC**

David Vivian





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Our most-loved turntable is back after all these years. The subject of a wonderful review last month, this gorgeous sculpture conveys so convincingly the eternal truth of vinyl's matchless musicality.

MARTIN LOGAN DEPTH Small sub, fantastic sound, a must-hear!

The PINEWOOD MUSIC COMPANY

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Agencies include: Krell, Sonus faber, Jadis, Copland, Pathos, Oracle, Audio Research, Unison Research, Martin Logan, Chord Company, Transparent, BCD, Futureglass, finite-elemente

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

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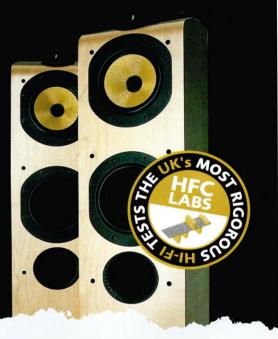
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III TIMATE GRO LOUDSPEAKERS £800-£1,500

- BC Acoustique ACT-A1 66
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You can find more civilised players for the Percentage ratings for hor an money. But few combine dynamics with fine c we liked The things we like most timing skills as effectively as this. HFC various different criteria, point here is Jason Kennedy about the product like sound quality and p to the job of VO. value for money VERDICT recom nend vo with maranizs ±800 player, the SOUND >> 83% 17 MkII M, which has excellent build and The things we think e a very good impression in HFC 243. At same price there's also the Cyrus 7, a FEATURES >> 85% could be better ng all-rounder in a compact case. 'ter trying the Heart with the standard s we switched over to the Siemens BUILD >> 85% CON grade, a comparison somewhat muddied by VALUE >> 85% e fact that it was a cold for hot swap - the The product's final

after a livelier w tubes shone Our overall conclusion hrough. The Siemens equipped player has an in snappier sound with better timing that es with dense material with remarkable fidence and ease. It even seems to be

OUR RATINGS EXPLAINED



R AWARD BADGES EXPLAINED

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

Revolutionary Rega

Rega has plugged the gap between its budget and top-end turntables with two new vinyl spinners



PRODUCT Rega P5 and P7

TYPE Turntables

PRICE P5: £698 (inc. arm) P7: £1,298 (inc. arm) KEY FEATURES (P5) Size (WxHxD): 45x13x36cm ♥ Weight: 4kg ♥ RB700 tonearm ♥ Class platter ♥ Passive motor equalisation ♥ (P7) Size (WxHxD): 45x13x36cm ♥ Weight: 6kg ♥ RB700 tonearm ♥ Ceramic oxide powder platter ♥ Twin drive belts CONTACT ♥ 01702 333071 ₩ www.rega.co.uk

ega is the largest British hi-fi company that has not become involved with home cinema; it makes loudspeakers that can be used in surround sound systems, but doesn't make anything specifically for that market. In an increasingly AV-orientated age that might seem to be a commercially dangerous policy, but the continued success of the company would seem to indicate otherwise. That success is interlinked with the commitment to music-orientated hardware, and the people at Rega don't see home cinema as being related to music. In a recent interview (in trade magazine The BAJ), Rega founder Roy Gandy said that "the AV market has nothing to do with producing high-quality sound or anything whatsoever to do with music".

BEST BUY HI-FICHOICE magazine This commitment to music has served the company well, and the fact that it is introducing two relatively expensive turntables simultaneously suggests that things are quite rosy in the analogue stereo market.

RIII

magazine

Of these two new turntables, the P5 is a replacement for the P25 we originally reviewed in 2000 (HFC 203), and despite some similarities it differs in many respects from its stylish forebear. Gone is the solid wood floating frame to be replaced with a tubular aluminium section that gives the turntable the same proportions, but changes its appearance and reduces the weight. It's perhaps less of an aesthetic success than the P25, but that's a matter of taste, and it's hardly ugly by anyone's standards. The P5 retains the 12mm glass platter (as pictured, without the supplied felt mat) and it has the same manual speed change arrangement of two pulleys on one motor spindle. Power is supplied by a plug-in lead attached to a 'wall-wart' transformer, a system that can be upgraded to include the Rega TT power supply

"The P5 is good, very good for the money, but if you double the budget there's a real treat in store with the P7."

(PSU) should you wish to take advantage of the socket fitted for the purpose.

Apart from the surround, the big change with the P5 is to the tonearm; this is the same arm that's found on the more expensive P7, so we've included its details in a separate box.

As with all Regas, both decks have an attractive and practical lid to keep out the dust. The manuals suggest you use it instead of most forms of record cleaner, leaving it down when playing records and generally looking after the vinyl rather than using a brush when it's spinning. Both turntables also appear to share the same plinth, the black bit within the aluminium frame, but the specification suggests otherwise. The P5's plinth is described as "low mass micro-fibre", while the P7 uses "medium lightweight fibre composite encased in highly ridged phenolic resin laminates". If you remove the arm from the P7, you can see that at its core it uses a variety of chipboard – not a very glamorous material, but one that has been identified by several manufacturers as being better than the more easily machined MDF in terms of sound quality. Of course, there are plenty of varieties of chip, and Rega has gone for a lightweight, high-stiffness variety.

The P7 was originally to have been called the P30; the P25 celebrating Rega's 25th anniversary and the P30 marking another five years. But somewhere down the line someone decided that a bit more consistency across the turntable range would be helpful, hence P7, which slots between P5 and P9. While

REGA RB700 TONEARM

The RB700 (pictured right) replaces the RB600 found on the old P25, but the only similarity between the two is the colour, and even that is only superficial because the arm has been 'specially coated in a unique finish'. The precision, hardened, stainless steel bearings are of a higher tolerance, and they fit on to ground shafts using an interference fit. The arm tube itself is the classic Rega silicon/aluminium casting found on all of its tonearms, but the armbase is based on the design that was originally conceived for the RB1000 – the arm you'll find on the range-topping P9 turntable. Instead of the threaded collet of the RB300/600, this has a three-point fixing that offers considerably greater rigidity. It's still fixed in terms of height, so there's no quick way of adjusting VTA should you use a cartridge that differs in height to Rega's range of moving magnet designs.





We spoke to Roy Gandy, managing director of Rega Research, about his firm's latest brace of winning disc spinners



HFC: The P5 and P7

both have an aluminium frame. Why is this? **RG:** One problem with a turntable is the mass of the base or plinth that everything is mounted into. I know that lots of manufacturers like to make heavy bases but the engineering reality is that the lighter it is the better it is. Because it is something that contains noise from the motor and bearing and has the ability to transfer that to the platter and put it into the record, the heavier it is the more energy will be transferred into the platter – like a lorry hitting a mini, the big thing will transfer energy into the small thing.

A turntable base needs to be as light and as stiff as possible but it also has to look good and feature a dust lid to have broad appeal.

The aluminium surround brings the turntable up to the right size for it to support a lid and is both light and non-resonant.

Why twin belts on the P7?

However well you make a belt it has inaccuracies. If you use two the likelihood of the same inaccuracies being there at the same time is highly unlikely, so variations will be damped and the speed will be more constant.

What's the advantage of the three-point fixing on the RB700 arm?

Our usual arm fixing arrangement (on the RB250 and RB300) stresses the plinth – any stress in something that's vibrating at microscopic levels creates an increased likelihood of it vibrating at a specific frequency. This creates a resonance with a higher energy level and the three-point fixing puts less stress into the plinth.

This is true of any hi-fi component and it's why clamping records is not a good idea, you can hear a difference with a clamp but what you realise after a while is that the change it makes is the same with all records, because you are stressing the record and encouraging it to resonate at a specific frequency.





"Its ability to define the leading edge of each note is what keeps you listening and appreciating the subtleties of the music."

■ these decks inhabit similar basic structures and have the same arm, one look under the felt mat reveals a major difference in the white ceramic platter. This is described as an evolution of that on the P9, and unlike that deck it has peripheral mass loading in the form of small cylinders that give a flywheel effect. This is an unusually high-tech approach for any turntable, let alone one at this sort of price, and Rega is to be commended for using it here.

The bearing and platter support are much heavier duty items than on the P5. Made using CNC cut aluminium and featuring three support points for the platter, the sub platter is driven by two round section belts. The aforementioned TT PSU is supplied as standard with the P7 and generates a 24-volt balanced supply that drives an onboard anti-vibration circuit. Speed change is electronic, but on/off switching is a pain. The power switch is at the back of the PSU to discourage turning the turntable off when changing LPs.

SOUND QUALITY

The P5 came fitted with Rega's penultimate moving magnet cartridge – the Super Elys (£150), an elliptically tipped one-piece design with a low profile that ensures correct VTA (vertical tracking angle) when used in Rega arms. Phono amplification was provided initially by a Trichord Dino+ and latterly by that company's Delphini Mk2.

The P5 has a very coherent and tight sound; it keeps everything in its correct perspective and has a keen sense of timing. In fact, it's the timing that's central to this player's character. Its ability to define the leading edge of each note, whether it be alone or in contrast to other simultaneous notes, is what keeps you listening and appreciating the subtleties of the music.

Tonally, the P5 with Super Elys is a shade on the forward side – many will undoubtedly enjoy the hint of edge that it adds to proceedings, because it's subtle enough to be hard to pinpoint and euphonic enough to blend in with most musical styles. There are occasions when a hi-hat, for instance, seems a little further forward in the mix than you'd expect, but not to the extent that it's grating. The track on this occasion was HIM's *Elementals*, which remained rhythmically tight and spontaneous without sounding lightweight, the various percussive instruments and bass guitar co-existing in very tidy fashion.

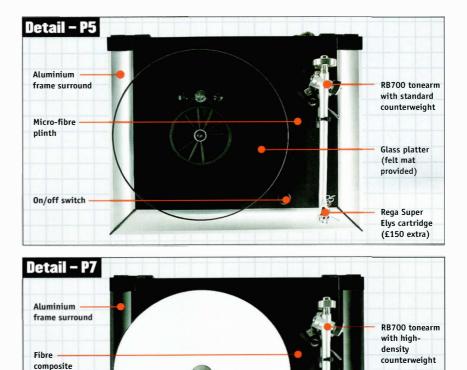
Indeed, the P5 does bass with considerable aplomb, delivering Jeff Buckley's *Grace* with plenty of grunt not to mention a generous dollop of energy. This isn't the most dynamic of turntables, but it's sensitive to the energy levels on the disc and quite capable of supplying bass weight, if not the full breadth of its character. It's always a lot of fun too; you can't help but be bounced by Outkast's well-meant if politically challenged *We Luv Deez Hoez*, which has an elastic energy that's contagious.

Moving over to the P7 with Rega's Exact cartridge (£275, 'Vital' tip) is a very pleasant experience. Now, the P5 is good - very good for the money. But if you double the budget there's a real treat in store with the P7. The benefit is largely in terms of relaxation and naturalness, plus a stronger sense of body and shape to the sound. The P7 is a significantly more sophisticated and refined record player; it has the same great sense of timing, but this is joined by a considerably higher level of resolution. We could hear right down through the mix on Bugge Wesseltoft's Moving, which revealed a strange flutter effect on the piano, presumably some form of reverb. Backgrounds are extremely quiet if the vinyl allows, which means that all the subtleties come through and all the problems too if the album has 'issues'. Bugge's track has a steady build-up of tension that is unmissable on a player of this calibre, the rhythm gradually increasing in tempo while the energy builds up beneath it.

Keith Jarrett's Köln Concert revealed a lot more of its quieter elements too, with the creak of the stool and the sense of the venue being far clearer than with the P5. There was still a slight shortfall in image scale compared to more expensive designs, but that wasn't for want of detail.

Zakir Hussain's *Making Music* provided more insight into the tangibility of the P7's resolving power, the deck producing a vivid and realistic image between and in front of the speakers. The acoustic instruments here were uncannily real, and the metallic tap of his fingers on the table revealed their own distinct reverb.

While the Exact is a pretty impressive cartridge for the money, having something rather more capable in the room in the form of a van den Hul Grasshopper (£2,800) proved too great a temptation; having fitted three spacers under the RB700, it was duly bolted on. A very worthwhile exercise it was



too, even if it meant that the counterweight was hanging off the end of the arm¹

plinth

Rega Exact cartridge

(£275 extra)

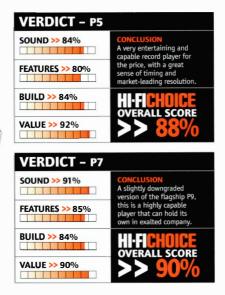
This moving coil added a sense of acoustic space to the P7's many skills, refining the tone of instruments and exposing more shape and colour in everything played. The sound was still a little restrained in 'grunt' terms, but there was no getting away from the big differences it revealed between LPs – the real sign of high resolution. What's more, albums that had previously seemed compressed ceased to be so – a real boon. Upgrading to Tom Evans' The Groove phono stage added more of the energy we crave, alongside a great sense of poise which comes in very handy when you're cranking Jeff Buckley's more excitable moments to the max! With these ancillaries, the P7 revealed that it's a high-resolution record player with considerable finesse and great sensitivity to the music. While its unsuspended nature means that decent isolation is pretty much essential, there are few other reasons why it shouldn't end up ruling the roost in its price range. Avid, Clearaudio and Michell had better pull their socks up if they want to compete with this. **HFC**

Jason Kennedy

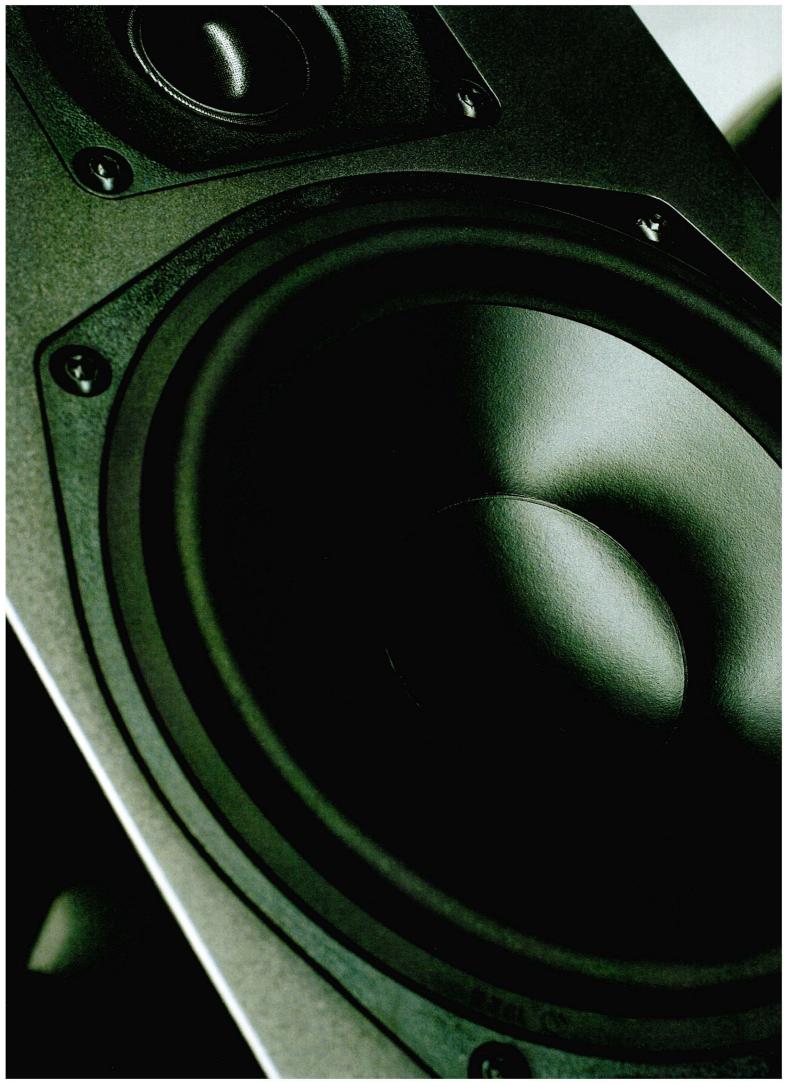
Ceramic oxide powder platter

(felt mat

provided)







Mission accomplished

Polish and refinement are the touchstones of the new Elegante range leader from Mission

 PRODUCT Mission Elegante e83

 TYPE Floorstanding loudspeaker

 PRICE £1,990 per pair

 KEY FEATURES (WxHxD): 33x111x36cm

 O Weight: 22.1kg ○ Two-way configuration ○ Five

 165mm Paramid-S sandwich cone mid/bass drivers

 (three passive) ○ Viotex-S fabric dome tweeter

 ○ Sensitivity/impedance: 90db/4 ohms (minimum)

 CONTACT ② 01480 451777 ↔ www.mission.co.uk

t's common practice in the loudspeaker industry to develop a cost-no-object flagship model, paying scant attention to practicality, cost or any factors other than sheer outright performance. The flagship then serves as a starting point for more affordable, practical loudspeakers using the same technology base, feeding also on the kudos that the flagship has (hopefully) generated.

Mission followed this well-trodden path with its top-end Pilastro speaker, introduced in 2002 with no less than 13 drive units nestling within its frame. Ten of these are actually passive bass radiators, built into a non-homogenous enclosure that starts life as a poured resin into which minerals are added. At first sight the Elegante range, of which the e83 – a two-way floorstander – is the senior model, looks like a scaled-down but still very substantial replica.

From Pilastro to e83, the hardware has changed, but the ideas are clearly from the same pool. A Pilastro-style loaded resin enclosure isn't practical at sensible prices and has been replaced by a Grania enclosure, which consists of five layers - a 6mm-thick central particleboard core, with two outer and two inner layers of 3mm MDF. in which the sharper. high-Q resonances characteristic of the latter are damped by the chipboard. The glue used between layers also plays a part in controlling the enclosure, as does the extensive internal bracing and the lacquer outer coating. According to designer Peter Comeau, when the enclosure is as well controlled as this one, the effects of the lacquer coating, or different

wood veneers in other loudspeakers, become identifiable aurally. Vertical internal bracing bears on the back of the bass driver magnets, and his take on this is that unless the enclosure is particularly well controlled, this can lead to degraded rather than improved performance.

Of course, the lacquer coating is a key part of the Elegante's aesthetic too. Each of the seven coats is rubbed down by hand before the cabinet is resprayed, and the complete cabinet takes three weeks to pass through the factory. External stability is ensured by a large-area integrated plinth fitted with six 8mm spikes. ABR is an acronym for Auxiliary Bass The tweeter dome is made from Viotex, a man-made fibre with an elastometer coating that is very light and well damped, and that operates up to 30kHz (-3dB). The crossover is at a low 2.2kHz and is split into two sections, one carrying the treble network and sensitive capacitors, the other the high power coils that in close proximity would cause interference.

SOUND QUALITY

Some products just slot cleanly into their host systems and listening rooms; others such as this one require more application. We started by treating it similarly to other comparably

"The e83 is a very easy loudspeaker to get along with, even if it's not so easy to set up."

Radiator, which is a loudspeaker-like drive unit with no motor, magnet or voice coil. ABRs work similarly to reflex ports, except that there are more variables for the designer to play with diaphragm mass, suspension compliance - and there's no wind noise and less sound output from inside the box. Classic ABR theory suggests using ABRs with a surface area similar to or smaller than the main bass drivers, but Mission found that using a larger area has some advantages in shaping the low frequency response and reducing the frequency of the upwards kink in the response shape that is characteristic of the breed. In the e83, there are three ABRs, each comparable in diameter to the two 165mm bass/midrange units, which tune the system for a low Q (un-peaky) bass response.

The bass/mid drivers that are arranged in a d'Appolito configuration flanking the tweeter use Paramid sandwich cones, which consist of a substrate of loose fibres in a polymer matrix, with a hard lacquer external coating. The units have very powerful magnets and two copper rings to control inductance and eddy currents.

MAKING IT MULTICHANNEL

Home cinema and multichannel audio were very much on the menu when the Elegante was conceived, the elegant looks and smooth, open voicing making it a natural. Mission has produced a ready-to-go, e83-based system called, erm, the Elegante e83 system! Apart from e83s as the main L/R speakers, the system includes

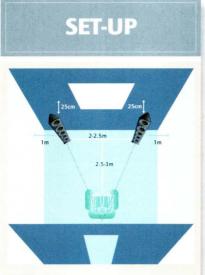
two (or three) e81 stand/wall-mount rear effects speakers, an e8c centre speaker and the e8as2 500-watt active subwoofer, which features four Pilastro-type drivers. Wall supports are provided with the e81s, and the system sells for £4,490 for 5.1 channels, or £4,790 in 6.1 channel form.



sized speakers, and quickly discovered that although the sound is very smooth and clean, and despite a bass response that was clearly well extended, the sound lacked power and gravitas. Experiment showed that there were a number of contributory factors, which in combination made a huge difference. The eventual solution involved positioning with



[Review] Mission Elegante e83 loudspeaker



POSITIONING

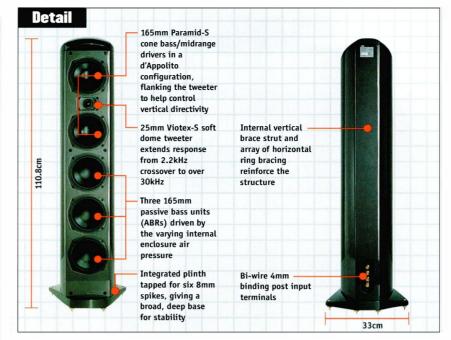
While Mission recommends placing the speaker well away from room boundaries, our tests indicate that the balance is too lightweight unless it receives some support from the back wall, which means no more than a handspan between the back of the enclosure and the rear wall. Start with the speaker pointing directly ahead and gradually increase the amount of toe-in – the optimum orientation in our test room had the forward axes of the two speakers intersecting just behind the listening plane.

The balance of the speaker alters perceptibly with listening range, which is uncommon if the extreme treble is excluded from consideration. As a consequence, you can choose the listening distance to the speakers according to your personal taste, but our experience suggests a rather longer-than-usual range, to the order of 2.5-3 metres, for what we judge to be the most accurate balance. There's surprisingly little to lose by listening from off-axis.

SYSTEM MATCHING

This is a high-resolution speaker, so there's no excuse for shoddy electronics, but some other factors will make the choice of partnering equipment easier. Firstly, this is a design with relatively high sensitivity. Mission claims 90dB/watt at one metre, and for once this appears to be very close to reality. Secondly, the e83 is a low-impedance load, hovering around the 4-ohm mark over much of the passband, but it hardly dips below this level and the phase angles are modest and should cause amplifiers few obvious problems. So think in terms of good-quality, medium to high-power kit such as the Arcam A32 used for much of the test work. but there's enough resolution here to respond to better if you have it available.

The Mission e83 turns out to be one of the few speakers I've tested lately that doesn't suit my normal Nordost Valhalla and probably other Nordost cables too. Think in terms of, say, Naim or Chord Company cables, and choose bi-wire connections if possible. If you're stuck with mono-wiring, throw away the pressed metal shorting links and use properly wired links from one of the specialist cable companies. This is a cheap tip, but it makes a surprising difference.



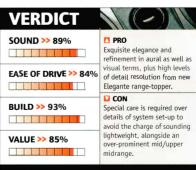
respect to walls, orientation (toeing in), cable types and use of bi-wiring. It also included removing the baffle covers, which do nothing for system performance. The Positioning and System Matching sidebar (left) goes into more detail, but the biggest single step was to position the speakers no more than about 25cm from the rear wall. This contradicts the maker's recommendations, but it does fill out the midbass very effectively.

The smoothly rounded low-diffraction enclosure and low mid/top crossover frequency contribute to the e83's smooth, effortless and open sound quality, which also holds up extremely well off-axis. Treble is crisp and clean, with no discernible peakiness or 'grain'. By the same token, the bass is unfailingly tuneful and resistant to boom, with strong, propulsive timing and nothing that could be identified as overhang.

Although the balance problems were eventually sorted out as described, the speaker is still more obviously 'voiced' than some models - the MartinLogan Mosaic, for example (see p54), whose testing proceeded in parallel. The Mission is far from being a dry, literal interpreter of the notes. It has a bright (not sharp) and breezy quality, and is capable of producing a very wide range of tonal colours that generally steer away from the rich, sonorous end of the spectrum. Imagery is very precise laterally, with excellent layering of the depth plane, though the soundstage tends to be mostly forward of the speaker plane. It was also notable that imagery remained stable when heard from well off the preferred forward axis

Taken as a package, the e83 is a very easy loudspeaker to get along with, even if it's not so easy to set up. And it's hard to think of realistic circumstances that might cause it to sound unpleasant, short of misbehaving source components or amplifiers, or source material that is itself distorted. Apart from what sounds like a slightly elevated presence region, which from subsequent discussion with Mission may be owing to broad. low O diffraction effects around the cabinet, the output is extremely smooth right out to the frequency extremes, and the level of detail and what is sometimes described as microdynamics - the ability to resolve individual instruments or voices in a group, or follow subtle differences in intonation make this an unusually talented and a very rewarding loudspeaker to listen to. It's also one whose qualities tend to grow with time if our experiences are typical. The e83 has all the fluidity and articulation needed to deal with chamber music and piano, and if it lacks some of the sonority that can add to the drama with heavy-duty orchestral music or rock, it more than makes up for it with the insight it shows into the detail and expression at the core of the music **HFC**

Alvin Gold



CONCLUSION

You might, at a pinch, criticise the e83 for a lightweight balance, but voicing emphasises detail and low dynamic level dynamic resolution without harshness or grain. This is an unusually refined model, and a clean, crisp musical interpreter.



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Radio ga-ga

MULTIPATH

It's a radio tuner with valves in it... and very little else!

PRODUCT Magnum Dynalab MD90t TYPE Analogue FM radio tuner

PRICE £1,195

KEY FEATURES Size (WxHxD): 48x11x38cm
 Weight: 7.96kg ● Fully analogue – no digital synthesis or presets ● Two Philips 6922 double triode valves in special amp stage ● Pin-point manual tuning
 Switchable IF bandwidth to remove sideband stations
 CONTACT ✿ 020 8948 4153
 ♥ www.audiofreaks.co.uk

anadian tuner manufacturer Magnum Dynalab is profoundly analogue in its approach. What's more, the MD90t is the ideal starting place to demonstrate this. Forget digital radio, digital synthesis or even presets – this is about as analogue as it gets.

This isn't quite the entry point to the Magnum Dynalab range – that particular laurel goes to the MD90. What's the difference? The MD90t features a special amplification stage with a pair of Philips mil-spec 6922 double triode valves, whereas the standard MD90 is purely solid state. Both valve and solid-state tuners are the spiritual heirs to the FT101A, considered to be the best tuner in its class through much of the 1990s.

The big feather in the Magnum Dynalab camp is the company-designed custom tuner

head, in place of the FM Synthesis tuner stages used by almost every other tuner maker these days. Doing without FM synthesis allows pin-point fine tuning onto a signal, using a tuning dial, a trio of VU meters and two types of Intermediate Frequency bandwidth settings. This is more painstaking than simply zapping over to the station's frequency, but the level of accuracy this manual method entails is considerably more accurate (suggested to be within +/- 2kHz) than the digital version, which jumps in 50kHz steps.

Analogue tuner stages rely on the power supply to stabilise the fine tuning; as a consequence, the tuner will take one or two days to stop drifting slightly. Because of this, there is no provision to turn off the tuner – once the mains is engaged, it is permanently on standby at least.

Magnum Dynalab claims that the tuner is "one of the most sensitive, selective and sonically accurate FM tuners of our time", and the sensitivity and selectivity at least seems borne out in practice. The 200-ohm Balun transformer input means normal tuner aerial connections are out of the question, so a Magnum ST-2 indoor aerial was used instead. This steel whip aerial is more akin to a car aerial, and gives good gain and little multipath distortion, but isn't a Ron Smith Galaxy 17 (for example) in terms of signal gain. Nevertheless, even using the ST-2, the sound is virtually noise-free and the signal strength meter hit a healthy 8.5-9 out of 10 (in fact 10 is impossible on the signal strength meter, as it is buffered to prevent damage). This is helped by an autoblend circuit, however, which actively balances stereo against noise, to make sure the stereo quieting of the sound is optimal at all times.

and with

The tuner is very well laid out, in a sort of classical style. The rear panel has two solid WBT phono sockets, a 200-ohm aerial terminal and a central IEC socket. On the thick front panel, there are four toggle switches; one putting the tuner into standby, a stereo/mono toggle switch, two IF bandwidth settings and mute. The IF switch allows you to tune to a broad or narrow setting, eliminating sideband interference. One of the few oddities of the design is the mute switch. It mutes the tuner, but only when tuning, to prevent nasty random noise as you scoot round the airwaves. It doesn't mute the tuner if it is tuned to a station.

The remaining three VU meters (multipath, tuning, signal strength), the tuning display and blue stereo light all make picking your station easy, while the big, damped, tuning dial makes running round the airwaves a joy. There is even an option to add a remote control with presets, but this adds hundreds of pounds to the price of admission.

SOUND OUALITY

Unless you have been subjected to the even more upmarket tuners in the Magnum Dynalab range or the small handful of similarly stunning tuners from rival brands, the MD90t is almost certainly going to be the best sound you have ever heard from radio. For two days or so, the drifting makes stations move off tune slightly and this manifests itself as a growing sibilance every half hour or so. But a few days later, the tuner is rock-solid stable.

It is law-droppingly good with the right material. Listen to a Radio Four play and the MD90t is like placing you directly behind the microphone. You no longer need to look at the Radio Times to discover who's acting - diction, vocal tics and accent are so precisely and accurately rendered that you will able to recognise them... and that's when the magic happens. Historical plays become costume dramas: you imagine the actors in costume. not standing around in Jeans and T-shirts talking into a mic. Perhaps that old BBC radio insistence on announcers wearing dinner dress when speaking isn't so silly after all ...

The sound is largely as good as the source material, but you always get a performance that seems unconstrained. There's no depth or width or height foreshortening, just a wonderful sense of full-range reproduction. The valves may be in tow, but there is none of that valve sweetness that people seem to expect. This just 'is' - it gives you an insight into the radio studio that no FM synthesis tuner can do.

It doesn't announce itself as a top product instead the MD90t slowly seduces you, meaning the tuner becomes a regular source on the inputs, often supplanting the CD player as you listen to new music and new voices. Of course it is wonderfully detailed and articulate and dynamic, but all this isn't that important. Instead, it becomes a constant companion, like radio always should be. The profusion of talk radio stations on digital radio suddenly seems unimportant here, you play a station and stick to it for days and days on end.



"Bar just a handful of equally stunning tuners, the MD90t is almost certainly the best sound you have ever heard from radio."

There is often a strange move from live recordings and their holographic realism to a distinctly tighter soundstage with closemicrophoned speech. This sounds odd on many good tuners, but even this doesn't phase the MD90t - instead the sound shifts from the foreground to the background naturally.

So, what happens when you spend more? Aside from getting even closer to the sound in the studio itself, compression becomes less noticeable and bothersome on the very best It's still there, still making many stations seem good for clock radios and nothing else, but the sound somehow manages to retain the musical savoir faire. On the MD90t, although it still makes the best of a bad job, it doesn't seem to make compression unimportant. Of course, this depends on your musical tastes - paradoxically. if you listen to Kiss FM and nothing else, you need something even more able than the MD90t to side-step the nasties of compression. But if your tastes run to Radio Four plays and Radio Three broadcasts, the MD90t offers a magical insight into BBC recording quality.



The world of radio is turning digital. There is only a finite time limit and number of channels on analogue radio, so why should anyone fork out £1,200 on a tuner that has no digital component? The Magnum Dynalab MD90t is why - there isn't a digital radio on the planet that can compete with its performance and what better way to listen to analogue's twilight years than through the one of the best tuners money can buy? HFC Alan Sircom



ars with the best sounding tuner this side of £2,000? If you nt to get serious about radio, this is the place to start.





The spherical satellite specialist's new speaker is a full-range system without a main enclosure

PRODUCT Anthony Gallo Nucleus Reference III TYPE Floorstanding loudspeaker

PRICE £2,400 per pair

KEY FEATURES Size (WxHxD): 20x89x41cm
 Weight: 21.4kg ○ Three-way 'enclosureless' speaker system ○ Individually enclosed 250mm bass driver, 2x100mm midrange drivers plus 'CDT' tweeter
 Sensitivity/impedance: 88dB/8 ohms (nominal)
 CONTACT ② 08703 501348 ⊕ www.roundsound.com

uite what I was expecting when I decanted this pair of Anthony Gallos from their enormous flight cases I am not sure, but I know it was not the rather petite speakers that confronted me. Divested of their cloth over steel frame covers which are designed to make them look almost conventional, the speakers themselves are much smaller than any design of such wide frequency range has a right to be – just 89cm tall and 20cm across the beam at their widest point. But size apart, this is one of the most exotically constructed loudspeakers you are ever likely to encounter.

The Nucleus Reference III is a three-way moving coil loudspeaker system which is about as different from the mainstream as it is possible to get. For one thing it has no conventional 'cabinet'. Each drive unit inhabits its own entirely separate enclosure - apart from the tweeter, whose diaphragm completely covers what might otherwise be described as its enclosure. The CDT (Cylindrical Diaphragm Transducer) tweeter diaphragm consists of a hoop of silver-plated Kynar, a light and extremely flexible plastic, which is said to "expand when a voltage is applied across the silver conductor". The tweeter, fed by its dedicated drive transformer, claims a 330 degree horizontal radiation pattern, and its response extends to 50kHz (-3dB), rendering a separate super-tweeter superfluous.

The tweeter is flanked in a d'Appolito configuration by a pair of 100mm midgrange drivers with woven carbon fibre cones, each in a spherical enclosure. Why spherical? In the maker's words, because a sphere has no internal standing waves (in fact there will be one dominant resonance corresponding to the sphere's diameter), because there is no external baffle diffraction to smear the signal (an oversimplification, since diffraction still takes place, but of a less damaging character). In addition, a sphere has the lightest possible weight (compared to a rectangular box of similarly low resonance). These qualifications are spelt out here to illustrate the difficulty of assessing this speaker according to the usual criteria, a difficulty encountered with various design elements, some of which have had to be taken on trust.

The bass unit is a 250mm driver housed in what appears to be a sealed stainless steel

Anthony Gallo Nucleus Reference III loudspeaker [Review]

can about the size of a large domestic saucepan. The unit is equipped with two voice coils, one wired to the amplifier in the usual way, the other optionally to a low pass filtered input, essentially a subwoofer feed, which extends bass output from a claimed 34Hz to an impressive 22Hz (-3dB). The maker will eventually release an optional BAM (Bass Augmentation Module) filter/amplifier to support this feature.

The four drive units are mounted via rubber gaskets to a curved aluminium spine that sits on a spiked platform. The curvature provides an upwards tilt to the mid/treble drivers, which in combination with adjustable spikes allows the speakers to point towards ear level. The bass unit is fairly close to the floor, and benefits from boundary reinforcement. The spinal column has a varying cross section, deepening out towards the base, and houses the first order (6dB/octave) minimum phase crossover at 125Hz for the bass/mid units only. The 3kHz mid/treble crossover is purely mechanical, with similar 6dB/octave slopes.

The bass unit enclosure in particular looks much too small to function normally. This would indeed be the case, except that it is open to an internal spine cavity, which is part filled by a dense, shredded, sound-absorbent material. This appears to have the effect of making the enclosure behave as though it's much larger than it actually appears.

SOUND QUALITY

By now you should have realised that we're not dealing with just another loudspeaker. In fact, we're not dealing with a loudspeaker that is like anything you've heard before, and sure enough it auditions differently. But first there is the issue of set-up, which is complicated to a degree by the number of variables. The first question to answer is whether the bass units should be pointed outwards or inwards, and this is followed by adjusting the enclosure for correct orientation (vertical and toe-in) and the appropriate setting of the three-position tweeter level was being overcooked and it seemed that some fundamental miscalculation has been made in the voicing. Of course this wasn't so. Next, and in the absence of the Anthony Gallo BAM module. I wired the sub inputs to subwoofer outputs on an Arcam AV8 processor via an Arcam P7 power amp. Although the mono feed is far from ideal, it was more than enough to show the extra depth and muscle available from the Reference III. Even without the added low-frequency reinforcement, the speaker behaves creditably like a full-range transducer, belying its compact dimensions. But with said reinforcement implemented, the bass has almost unfeasible strength and stature, and generates an image of what can only be described as unprecedented scale for such a compact loudspeaker.

Without a properly designed feed for the second voice coil however. most of the listening was conducted with this feature disconnected. In my four-metre-wide room, system balance and stability of the centre image was better with the two bass units facing each other, but with more room available you may find that swapping the speakers over gives improved image scale and consistency. It functions happily when close to the rear wall, pointed towards the listening position. With a sensitivity of 88dB per watt at one metre you won't need a lot of power, but it is very responsive to the quality of the amplification. We used a Hovland valve pre/power amp, which sounded guite marvellous.

And this is the real point. From the outset it was obvious that the Reference III has some very special qualities, and I ended up feeling that there was still a lot to learn about the abilities and limitations of the design, and of the many possible

"We're not dealing with a loudspeaker that is like anything you've heard before."

switch, which spans about 2.5dB. An even more fundamental decision is whether to avail yourself of the second bass unit voice coil, which in the absence of the BAM module will require a separate low-pass filter and amplifier. No on-sale date has yet been decided for this add-on.

Being one of those who parks his car by Braille, I bi-wired the speaker without noticing that the second set of input terminals was not a bi-wire connection, but was marked as a sub input. Immediately it was obvious that the low to mid bass (centred on 40-100Hz or so) system and set-up permutations. But there was no mistaking its main qualities, namely the complete absence of the normal wooden box type colorations and smearing, and the unusually dynamic quality, albeit with the volume set moderately high. For some reason the music failed to communicate properly when the volume was set too low.

The bass is bold and extremely tuneful, and the treble is just as impressive, with levels of subtlety and detail that many tweeters simply don't reveal. There are some minor colorations, a pervading slight roughness, but it more than makes up for this by its bold, lively qualities, and its ability to get at and reproduce the expressive core of well recorded music. In particular, it was adept at showing the benefits of high resolution discs, SACD and DVD-Audio, which too often are more potential than actual. **HFC**

Alvin Gold



VERDICT

SOUND >> 88%

▶ PRO Tuneful, vivid and dynamic loudspeaker which is almost completely lacking smear and other box-type artefacts, and which delivers full bandwidth music from tiny dimensions.

CON

Some mild but noticeable midband/treble colorations, love it or loathe it aesthetics, mild sonic degradation with removable covers in place.

CONCLUSION

This radical speaker sets a new paradigm at the price, one that is unfailingly musical, with less of the sometimes comforting wooden box coloration of traditional speakers. Rather raw at times, musically it's never less than informative and engaging.



Bravo Maestro!

Music Maestro please! The new high-end Audio Analogue duo are two slices of musical heaven

PRODUCT Audio Analogue Maestro 192/24 and Maestro Settanta

TYPE CD player and integrated amplifier PRICE £1,650 (CD player) £1,750 (amplifier) KEY FEATURES (CD player) Size: 45x14x41cm O Weight: 15kg O 24-bit/192kHz upsampling converter O Balanced (XLR) and single-ended (phono) outputs O (Amp) Size: 45x14x41cm O Weight: 18kg O Rated power: 2x70W O Five inputs O MM/MC phono stage CONTACT © 01753 652669 ↔ www.ukd.co.uk

CD player is essentially a specialised computer. It's possible – and altogether practical – to consider amplifiers in much the same light. Audio Analogue is now in the habit of making extremely specialised computers, and guess what... they've never sounded better.

The new Maestro 192/24 CD player and Maestro Settanta integrated amp are very sophisticated audio computing stations, but without the complexity that would appear to entail: just two knobs and a display on the amp and a seven-button rosette, a standby button and a display with the CD player. Yet both have a flexibility that belies the elegantly minimalist lines. Both feature RS232C connections at the rear for control by AMX or Crestron multiroom controllers, the CD player has both XLR balanced and (high-quality) phono single-ended connections and the amp has a built-in MM/MC phono stage that can be accessed from the remote. Those big knobs on the front of the Maestro Settanta are not what they seem, either - they are essentially digital switches leading back to logic circuits.

The Maestro 192/24 represents the top of the Audio Analogue CD tree. It's built around a humble CD-ROM mechanism, like the Primo before it. This is no bad idea, as CD-ROM mechs are plentiful and robust. Unlike the Primo though, it takes the S/PDIF output of the CD-ROM mechanism and puts it through the company's 24-bit/192kHz upsampling circuit, with Analog Devices chips. This is fed by a potent power supply – eight regulators and two power transformers. Naturally the demon jitter is held at bay, even through the sample rate converter, and everything else bristles with high-class componentry.

In contrast to the 192/24's range-topping status, the Settanta is the lowest rung in the Maestro amp ladder. It's a 2x70-watt design with five single-ended inputs (the first of





"This duo marks a continued return to form for Audio Analogue, first seen in the Primo products tested a couple of months back."

which is switchable between line level and phono) and uses fully electronic switching throughout. The volume control is a buffered 100-step resistor array, selected electronically, and – like the CD player – sports high-quality components internally and has a massive power transformer driving individual supplies fine-tuned for each section. According to the literature, it doubles its power from 70 watts into eight ohms to 140 watts into four, a statistic that will bring satisfied, knowing nods and mumblings of "good, stiff power supply" from the technoscenti.

Opening those delicious alloy cases goes some way to demonstrate why the AA kit is so damn heavy. It's filled with heatsinking to dissipate the heat generated in the amp stages and power supply. The amp is more densely packed, with four pesto-tin sized reservoir capacitors, massive heatsinks and a hefty power transformer. Although it may not be germane to the sonics of the player, the wiring of the transformer isn't as dressed as you might find in a Naim amp, for example. Instead of neatly arranged rows of leadout wires aligned with military precision, the cables are just tied together in a more organic manner.

No review of this AA Maestro duo would be complete without discussing their fantastic remote handsets. Chrome, teardrop shaped and with a rosette of buttons controlling amp and CD, for once all the usual grumbles fade away and you end up wanting to have two almost identical handsets in the room. They feel as good as they look, too, with excellent weight and the right balance. They are so Italianate, they look like the shiny-cool bits that occasionally fall off Alfa Romeos.

SOUND QUALITY

A good 24 hours are required to bring both CD and amp on song; they sound good out of the boxes, but get better with time. Only one oddity springs to mind in functionality terms – why does the CD player include balanced connections but not the amplifier?

This duo marks a continued return to form for Audio Analogue, first seen in the diminutive Primo products tested a couple of months back in *HFC* 255. After fabulous, classic products like the Puccini SE, AA seemed to rest on its laurels and some of the intervening products have been considered relatively so-so by comparison. The Maestro designs of old, for example, always had promise and poise, but not so much of the passion. The new Maestro Settanta and 192/24 hark back to earlier, more sanguine times. These are detailed and satisfying sounding products, with an amp that has ideas above its station; there seems no way this model delivers just 70 watts as suggested by its maker... it has all the makings of a bigger amp, with the sort of volume levels and bottom end grip that seems more like a 150-watter at least.

The upsampling DAC makes the player sound truly musical and magical, the way few players costing less than £4,000 could before the turn of the 21st Century. There is a strong, robust, Wadia-like sound, here - the player is smoothly extended, detailed and exceptionally natural. There is also a decent sense of soundstage, though with a close-knit bolus of sound between the speakers rather than the wide steppes of some of the masterpieces of the CD player art. That's about the only area where the AA shows its limitations against the big league, however. In fact, the player is so enjoyable that it invites the question about the need for SACD or DVD-Audio - if CD can sound this good and there are millions of CDs on sale, why bother with new formats? In particular, the close-miked vocals of Damien Rice's 'O' came out so beautifully well, and the CD layers of SACDs like Eleanor McEvoy's Early Hours were so well presented, it was hard to question the performance in absolute terms. Yes, you get slightly better sound as the money rises, but the law of diminishing returns kicks in around this point.

The Settanta amplifier is almost in the same league, but in fairness, it has more rivals from amp manufacturers (and, indeed, from AA's own higher end range). Once again it's consummately musical, fluid and detailed. It is also extremely extended in both the top and bottom ends of the register, yet has a smooth and attractive mid-band. Perhaps the amp is not the most keenly dynamic product on the market today, but it makes up for this with its smooth and detailed presentation.

But the two together blend so perfectly that you would never want to break the chain. They look right together and they sound even better. The refinement and detail of the



[Review] Audio Analogue Maestro 192/24 CD player and Maestro Settanta integrated amplifier



We spoke to Stefano Blanda, Audio Analogue's managing director, about his brand's latest pairing



HFC: What changes have been made to the new Maestro Settanta?

SB: The Maestro Settanta can be considered a simplified, less powerful version of the big Maestro Integrated. The Maestro Settanta has completely new control and protection circuits and, like other new products in the Maestro line, it uses Vishay-Dale military standard resistors and polypropylene WIMA Capacitors (MKP4 and MKP10 series).

What about the 192/24?

The new Maestro CD 192/24 and the old Maestro CD player are two completely different products: from the CD mechanism to the output stage there is almost nothing similar. The only common characteristics are that both have a fully discrete and balanced circuitry.

Will these developments trickle down the Audio Analogue range?

When we start the development of a new product, generally speaking we try to give to each model its own character. Of course, at the end, many things can be similar about the aesthetic or in the choice of components. This can be even more evident in products in the same family.

All new products are designed with quality of construction, raw materials used and especially sound quality in mind. But we never forget that our company is quite famous as a manufacturer of products that are good value for money and our target is to keep the same philosophy for the entry level as for the real hi-end products.

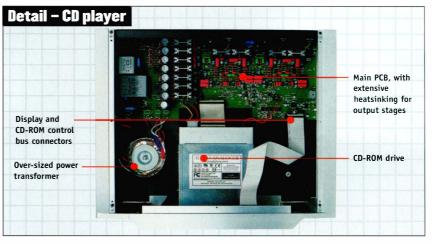
The CD includes balanced outputs, but the amp has no balanced input. Why?

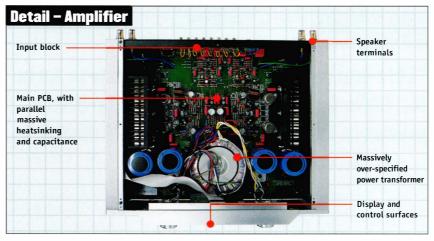
For the size it has it would be almost impossible to do a real fully balanced integrated amplifier, so instead of having a pseudo-balanced input we preferred to give the end users the possibility to use the amplifier only in its best conditions using only the unbalanced inputs.

What's next for the Maestro range?

We are focusing our efforts mainly on six new products: a reference SACD player, a reference phono stage, a 100/120-watt integrated amp, a Class A integrated amp, a Class A power amp and a Class A monoblock. All of these products will be introduced between the end of 2004 and 2005.







CD player combines with the energy and musicality of the Settanta to make a sound that gives a palpable sense of 'thereness' that only high-end gear can muster. Out came old faves like Tom Waits' *Rain Dogs* and the diction became almost understandable, the space around the notes (always important in a sparse recording like this) became more expansive and the sense of bonkers fun came across perfectly. The same applied throughout, save for some discs so thrashy that they drove the amp to the limits.

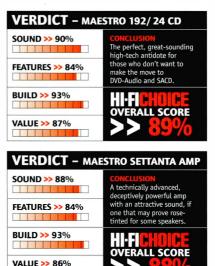
Of course, neither component is beyond criticism. The CD player may be a champion resolver and the amp as sweet as a nut, but the two don't single-handedly revolutionise audio. The neutrality of the Maestro 192/24 can come across as worthy-dull in the wrong context, and its magical transformation of CDs does not apply universally – stick on a bad disc and you get bad sound, while some players do a better job of bringing out the good side of a bad disc. Similarly, the smoothness of the



Settanta amp can readily descend into being too warm and rose-tinted with some speakers.

And yet, given the state of today's high-end hi-fi scene, this Audio Analogue Maestro set represents something of a bargain. You get all the looks, all the build and much of the performance for a fraction of the cost of the big-name league. Specialised computers they may arguably be, but your PC will never sound this good! **HFC**

Alan Sircom



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1

Review MartinLogan Mosaic loudspeakers

Mosaic floors

ATF thin film technology brings electrostatic-like qualities to a new audience

PRODUCT MartinLogan Mosaic TYPE Floorstanding hybrid planar loudspeaker

PRICE £1,799 per pair

KEY FEATURES Size (WxHxD): 24x102x30cm ○ Weight: 13.6kg ○ Three-way speaker with ATF thin film tweeter/midrange units and 20cm bass driver ○ Sensitivity/impedance: 90dB/5 ohms (nominal) CONTACT ② 020 8971 3909 ₩ www.martinlogan.com

et's go back to the beginning. The core idea that led eventually to the Mosaic (and its junior sibling, the Montage) was to make a panel-based speaker that would be more affordable, less physically imposing and that would interact more constructively with its immediate room environment than traditional planar designs (electrostatics, for example). The final requirement meant retaining the dipolar radiation pattern, but restricting lateral and vertical dispersion. This would result in nearfield reflections within the 10m limit that marks the transition between muddling detail and imagery and enhancing ambience.

Another impetus for the Mosaic sprang from development work on wall-loaded electrostatics, which with traditional planar technology was deemed impractical. The eventual solution was found in some fundamental work on push-pull magnetic planar drive unit technology from Bruce Thigden's Eminent Technology in the 1970s, and some more recent refinements from Citation's Bohlender Grabner, though there is also prior art from Wharfedale with its Isodynamic headphone drive units, also from the 1970s. These may not have been push-pull and they didn't use rare earth magnets (they're more recent). Magnepan's bass panel drivers also used a similar idea, but they lacked efficiency and were also not push-pull. But the core idea in each case is much the same.

The driver technology was developed with an 'offshore' (that is, non-US based) manufacturer. The resulting drive units are grouped under the ATF (Advanced Thin Film) banner, using diaphragms made from Dupont Kaladex, a five-micron-thick polymer similar to the diaphragm material in MartinLogan's electrostatics, but with the aluminium voice coil etched onto its surface. The diaphragms are suspended between arrays of neodymium rare earth magnets and operated in push-pull. The static magnetic field from an array of stationary magnets interacts with the varying flux from the audio signal passing through a voice coil etched onto the ultra-thin, lightweight polymer diaphragm, causing the

diaphragm to move. Push-pull operation minimises distortion and improves linearity, as well as ensuring high sensitivity: 90dB is claimed for the Mosaic as a whole. AFT is also said to be essentially non-inductive, which implies more linear dynamic behaviour and, again, lower distortion.

The Mosaic features a tweeter and midrange unit made in this way, operating above 3.2kHz and 450Hz respectively. The tweeter operates smoothly up to 22kHz, with the roll-off commencing around 18kHz. The -3dB bass limit is 46Hz, which is modest but perhaps a little deceiving – see later. A 20.3cm aluminium cone driver plugs the gap below 450Hz. The size of the two ATF driver diaphragms and the design of the housings limits dispersion to 60 degrees horizontally and 30 degrees vertically, but rear radiation is essentially unimpeded above 450Hz.

Like other smaller models from this marque, the Mosaic is well built, with attention paid to flexure modes in the large area front baffle, while fit and finish are up to their usual standards. With that aforementioned sensitivity of 90dB/W at one metre and a nominal impedance of five ohms, raw amplifier power output is not the issue, despite the (surely optimistic) 175 watts power handling rating, but the ability to drive a relatively low impedance load certainly is.

SOUND QUALITY

The Mosaic was run in for some days in accordance with the maker's guidance, and was used with a range of partnering equipment, including a Krell KAV-280P/KAV2250 pre/power amp and an Arcam FMJ A32 integrated amp. The Krell was better, predictably, but the Arcam did an excellent job at a much lower price. There was enough power on tap to drive the Mosaic up to the point where it was beginning to show audible signs of distress, and it's a very good amplifier, that controls the moderately difficult load well.

Positioning is often a point of contention, and usually requires a lot of fine-tuning with





"The Mosaic has many of the aural fingerprints of a true electrostatic."

MartinLogans. But one benefit of the controlled directivity of the ATF drivers and the careful voicing of the vented moving coil bass section (one of ML's first) is that positioning is comparatively unfussy. With 60-90cm of space between speaker and back wall and moderate toe-in, the Mosaic sounded at home in the neutral conditions of our listening room, where the speakers flanked a shallow bay across the smaller dimension of a longish room. Nordost cabling was used throughout with good results.

MAKING IT MULTICHANNEL

Talk of controlled directivity is an obvious clue that the designers of the Mosaic also had home cinema in mind, and sure enough there's a fully worked-out multichannel package designed to complement the Mosaics. It involves the slightly simpler Montage (£1,399 per pair) as the rear speakers, along with the Grotto subwoofer (£999 each), which uses servo control to reduce harmonic distortion, and the unusually shallow Fresco (£898 each, pictured right) as the central dialogue speaker. The total system price is £5,095.



From the first, and despite the unfamiliar AFT drive unit technology, we felt completely comfortable with the Mosaic. No, it's not a true electrostatic, but it has many of the aural fingerprints of one, bad as well as good. It has much of the characteristic, spacious and open quality of a true 'static, as well as the ability to project a broad but sharply focused image. It also has the pin-sharp precision that is usually part of the package. Somewhere in the passband of most MartinLogans, there's usually a hint of quacky colorations, and sure enough it's here in the upper midband, but at a low level. If you're not attuned to the effect, you probably won't notice it, and in any case it's audibility reduces as running in proceeds.

There are some surprises too, especially with the bass. The 46Hz (-3dB) cut-off suggests that the Mosaic might be a good candidate for a subwoofer, but not so. Although bass depth is fairly modest, the musical effect is hard-hitting, with a solid, architectural effect, a pit-of-thestomach feel that is genuinely impressive. Bass lines cut through well, and full orchestral and rock material alike are reproduced with impressive scale, authority and dynamics, but the specific voicing adopted avoids excess. This is a speaker that punches well above its weight.

Elsewhere, the Mosaic shows fewer signs of overt voicing than most. It's lean, clean and detailed, but voicing is straight down the line, dry rather than overtly colourful, with few signs of obvious coloration other than that hint of quackiness referred to previously.

So although at first the Mosaic might seem like just a cut-down model from a high-end marque, there's a lot more going on under the skin. From one point of view, ATF technology preserves the essential qualities of MartinLogan's electrostatics at lower price points, and it does this genuinely well. But it's also designed to work in normal rooms and with real-world partnering equipment in a way that electrostatics are hard pressed to achieve, and the way it accomplishes this triple whammy is what sets the Mosaic apart. **HFC** *Alvin Gold*

VERDICT				
SOUND >> 84%	Clean, articulate and precise loudspeaker that preserves much of the special magic of MartinLogan's more costly electrostatic designs.			
EASE OF DRIVE >> 73%				
BUILD >> 85%	CON Slight upper midband coloration, moderate power handling capacity and limited			
VALUE >> 86%	bass extension (though bass quality ranks higher than the numbers suggest).			
CONCLUSION A curious design that features new technology ATF thin film drivers in a hybrid configuration and turns out to deliver many of the qualities of MartinLogan's more costly designs, in an only mildly watered-down form.				
HI-FICHOICE	> 85%			



Arcam aims to please both music and movie fans with its all-new AVR300 multichannel receiver

PRODUCT Arcam AVR300

TYPE Multichannel AV receiver
PRICE £1.300

KEY FEATURES Size (WxHxD): 43x15x42cm ♥ Weight: 16.2kg ♥ Dolby, DTS and PCM decoding ♥ 7x100 watt/2x120 watt power ♥ Built-in RDS FM tuner ♥ Multi-room functionality

CONTACT 2 01223 203200 # www.arcam.co.uk

rcam's previous AV receivers have been somewhat singular of purpose – good with music but with surround sound bolted on almost as an afterthought. Not so the new AVR300. This model has been built from the ground up as a true dual-purpose design, intended to marry the sonic grace of a good stereo amp with the functionality and digital wizardry of a home cinema monster. A tall order indeed, made taller still by the AVR300's relatively modest price ticket.

That price ticket is certainly not given away in the look or feel of the AVR300. It is suitably weighty and finished to Arcam's usual high standard of build quality. Even the underside is a work of art as the fan grilles are chrome finished. The fascia looks solid enough to stop a small calibre bullet, although it is cluttered by an array of buttons for when the remote control does a disappearing trick. The remote itself is a programmable universal type finished in soft-touch rubber and has a trendy blue backlight.

Under the lid, the design centres on a monster toroidal power supply and discrete audio and video circuitry. The DSP side is driven by a new Crystal Semiconductors CS49400 processor and 24-bit Wolfson DACs, while the software offers some very useful features over and above the standard AV amp fodder. These include a variable bass crossover for LFEs down to 40Hz, ideal if you're using large main speakers, and lip-sync delay up to 220ms, which should cope with even the most complex of external video scalers. The analogue side is populated by seven power amps running at 100 watts apiece with all channels driven, and 120 watts x2 in direct stereo mode. This mode also shuts down the DSP side of the receiver, leaving you with what amounts to an integrated analogue amp. Rather usefully you can also reconfigure the rear-back channel power amps to bi-amp the main stereo pair. While this limits you to 5.1 surround sound, the sonic benefits to stereo music playback far outweigh the subtle improvements in movie surround sound that two more rear effects speakers will make. It saves having yet another set of speakers too!

The AVR300's back panel offers a good spread of connections but, while adequate for the average home entertainment system, is no match for its Japanese competitors in terms of sheer number of inputs. Moreover there is a distinct shortage of high-tech AV connections such as i.Link, DVI or HDMI. On a more favourable note, the AVR300 employs video signal up-conversion, turning S-video and composite video input into component video for output. While this feature won't actually enhance picture quality from inferior inputs it does ensure there is less detail lost on the output side and cuts down on the cable runs between amplifier and display device.

Power up the receiver and after a few seconds you are greeted with the main set-up menu. Cosmetically the on-screen display is not even in the same league as some AV amplifiers' full-colour graphic-driven interfaces, but the chunky block lettering and scroll/click structure is about as simple as the marque gets. Spread over 11 sub-menus, the set-up is thoroughly logical and also offers complete control over a second zone for multi-room installation.

The only crack we can find in the AVR300's otherwise exemplary front end interface is in balancing the speaker levels. There is only a 10dB adjustment range between channels which will cause problems for those using speakers with dramatically different efficiencies. Also, the AVR300's LFE test tone output is simply too low relative to the other channels. This forces you to balance the sub using real-word material – which is probably no bad thing anyway.

SOUND QUALITY

Firstly, let's get a gripe out of the way. Despite, or possibly due to, a fully electronic volume control, the AVR300 has two distinctly audible 'notches' as the volume is raised or lowered. They occur at the transition between 84 and 85dB and again at 90 and 91dB, manifesting as a little hiccup in the sound. For those who pick a volume and stick to it forever or those not likely to seek out such robust levels it might not be a problem. However, if you like your music at a realistic sound pressure those little hiccups are going to bug you every time you turn the volume up or down. It certainly bugged the hell out of us.

That aside, the AVR300 is really something quite special. In the stereo direct mode fed from the analogue outputs of a CD player it presents every bit the polished performance one expects from Arcam. Linn Records' excellent SACD recording of *Mendelssohn's Violin Concerto in E Major* is a crackingly detailed and potent work and the AVR300





never misses a beat or nuance. Right down to the more delicate bowing in the middle of the first movement there is a wonderful clarity and detail, due in no small part to a very low noise floor.

Switch to something more contemporary, like The Streets' A Grand Don't Come For Free, for example, and the Arcam does the audio equivalent of throwing off its dinner jacket and leaping onto the dance floor. This CD's complex and innovative bass lines are delivered drum-skin tight with a pace and timing that is totally infectious. Two beats there is a mild digital malaise over the processing that just holds the AVR300 back from being a true giant killer. The effect is most noticeable with 5.1-channel DTS material, where the sound is a little shut-in and cold. Perversely perhaps, this negative is only worth mention as it is relative to the AVR300's superb performance in other areas. With multichannel music through the 5.1 analogue inputs, DVD-A or SACD recordings sound absolutely inspired.

"The AVR300 manages to reveal detail from CDs better than 95 per cent of the other AV receivers on the market."

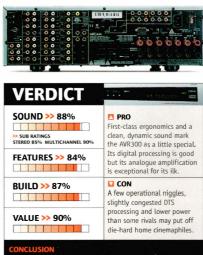
into a rhythmic track like *Blinded By The Lights* and your foot is tapping, head bobbing and heart pounding.

Like The Streets debut album, this latest offering has a heavily congested mix and demands a very competent system to extract its more subtle details. Sure enough, the AVR300 is just the tonic and Mike Skinner's not-quite-dulcet tones are laid bare. The complex multi-layered vocal effects are fully exposed, as are some of the worst production glitches since Jim Morrison recorded The Soft Parade while stoned. It may not be a powerhouse amplifier but the AVR300 reveals detail from CDs better than 95 per cent of the other AV receivers on the market and never ever stops involving you in the music. Considering what else this silver beast can do, that is a serious achievement.

And so to movies. Using the Arcam's on-board surround processing, DVDs come across clean, crisp and expressive – not unlike its balance with music. *Kill Bill Vol 1* shifts from intense dialogue to crashing action in a split second but it never catches the AVR300 out. The opening fight scene is presented every bit as the festival of special sonic affects that Tarantino intended and is followed closely by Uma Thurman's sultry voiceover. Rich, deep and warm, the effect seems to envelop you inside the character's thoughts.

The exceptionally low noise floor again helps craft a detailed and dynamic sound but

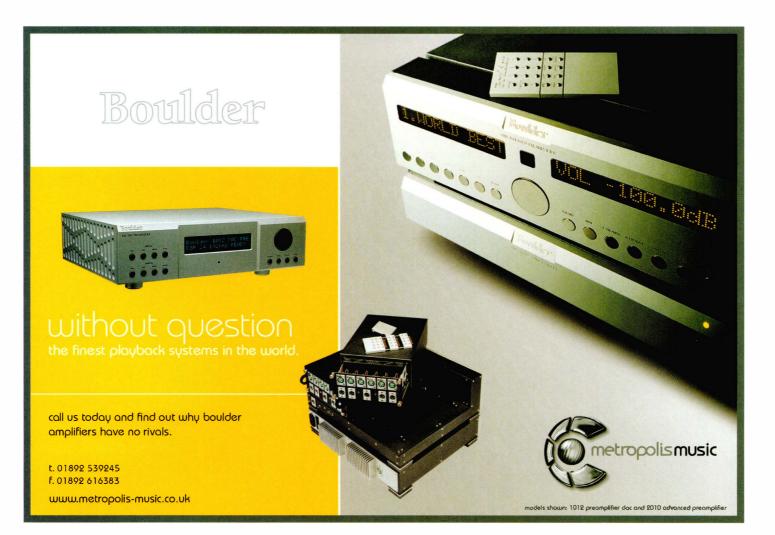
The AVR300 clearly builds on the strengths of Arcam's stereo amps and manages to integrate full-on digital surround sound processing without compromising its core musical qualities. It has its foibles and it's a little short on power but as an all-round, high-fidelity stereo/multichannel music and movie amp it's top drawer at the price. **HFC** *Bichard Stevenson*



Senuine all-round music/movie AV amps are few and far between but Arcam's AVR300 is one. It offers a thoroughbred Arcam hi-fi sound with analogue inputs and a home cinema performance on a par with its single-minded AV peers.







True blue DVD-Audio

Cambridge is renowned for great-sounding, low-cost hi-fi – so how does its first DVD-A player rate?

PRODUCT Cambridge Audio Azur 540D TYPE DVD-Audio/Video player PRICE £230 CONTACT 술 0870 900 1000

@ www.cambridge-audio.co.uk

ambridge Audio, synonymous in this country with the Richer Sounds retail chain, doesn't really correspond to the usual stereotypes of a low-cost brand, except that their products do sell very cheaply. Of course, this is not necessarily the same as good long-term value.

But in this case it certainly is. This is a DVD-Audio/Video player with a respectable range of disc compatibility options, and the ability to play all-region DVD-Video discs straight from the box - no conversion or remote control hacks necessary. It also delivers an NTSC progressive scan video output through the three phono component sockets, and RGB and PAL progressive via Scart. Audio capabilities include an integral Dolby Digital decoder, but not DTS, which gives the player a rudimentary capability to play though a multichannel amp lacking its own decoders (such as are available from Arcam for example), but this is more a half-way house than a really useful option. Video conversion is performed by six 12-bit/54MHz DACs, and audio by Crystal CS4360 24-bit/192kHz DACs.

As important as the toy count is the quality of the package. The player is satisfyingly heavy and solid, and disc tracking is both secure and not easily upset, for example by minor disc blemishes or by tapping the case. The controls are tactile, allowing for a tendency to 'bounce' when accessing the otherwise extensive and attractive menu system. Even the remote control, a solid and slimline unit, is well above average quality.

SOUND QUALITY

The Azur 540D is cheap and well equipped so what's wrong with it? Little it seems. In its headline DVD-Audio guise, the player is clean and organic. Singer Chie Ayado's cover of New York State Of Mind from her Life album (available on SACD and DVD-Audio by the way) sounded smooth and sweet vocally, with stable imagery and a believable piano accompaniment (even if her vibrato wasn't not the player's fault of course). The story was repeated with Mendelssohn chamber and larger scale music from Bach and Beethoven the Seventh Symphony from the admittedly flawed Barenboim/Berliner Staatskapelle cycle on Teldec. This recording sounded grainy and lacking in transparency, but then very few players can fully fulfil the promise of this set.

As a CD player, with a much wider range of high-quality material to hand, the Cambridge is clearly less at ease. The basics are fair enough, but there was an oddly aharmonic quality to many known recordings, especially noticeable through quieter passages, an edge-of-the-seat feel that hints at high-order distortion. The classic and wonderfully recorded *Cötterdämmerung* from the Solti *Ring* cycle was earthbound, failing to lift itself with the flow of the music. But in fairness there are worse sounding single-purpose CD players at this price.

VIDEO PERFORMANCE

Last but not least, the Azur 540D is an unfeasibly good basic DVD-Video player. Very sensibly, it errs on the side of not reproducing too much detail, which pays off in very low levels of video noise and reduced levels of motion artefacts because the internal de-interlacer has less to do. But the progressive circuitry doesn't really add much to things. Played through an Infocus Screenplay 7205, a high-grade DLP projector with excellent internal scaling and processing, best results were obtained with a non-progressive input, but this is often the case even with players costing five times as much, and so doesn't reflect too adversely on the Cambridge. On balance, the progressive output may well enhance some low-cost plasmas, but not better quality projectors, and most TVs can't use a progressive input anyway. **HFC**

Alvin Gold

FORMAT COMPATIBILITY				
DVD-AUDIO	~	DVD+R	×	
DVD-VIDE0	¥	DVD-RAM	*	
SACD	*	MP3 AUDIO	¥	
CD	4	WMA AUDIO	*	
HDCD	*	AAC AUDIO	*	
CD-R/RW	~	VIDEO CD	v	
DVD-R/RW	*	JPEG PICS	*	

VERDICT	Cambridge Audio	
SOUND >> 71%	PRO Good build quality and a very decent feature set (including all-region DVD-V playback), plus reasonable sound and good picture quality, all at an impressively low price.	
FEATURES >> 84%	CON Lacks SACD playback and on-board DTS decoding. CD sound quality won't worry many dedicated CD players.	
VALUE >> 93%		
CONCLUSION		

Well built, with a full if inconsistent feature set and some impressive 'high-end' features (like progressive scan). Don't trade your CD player, but DVD-A sounds respectable, and as an all-round, low-cost DVD playback device it has much to offer.









Subtle sub siblings

REL's highly regarded ST subwoofers get a digital makeover and remote control convenience

PRODUCT REL Stampede and Strata 5 TYPE Subwoofers

PRICE Stampede: £550 (black), £625 (wood veneer) Strata 5: £700 (black), £800 (wood veneer)

KEY FEATURES (Stampede) Size (WxHxD): 28x40x29cm ○ Weight: 13.4kg ○ 100W RMS amp ○ 20cm long-throw driver ○ Lowest in-room 18Hz @ -3dB ○ (Strata 5) Size (WxHxD): 32x46x33cm ○ Weight: 23.2kg ○ 150W RMS amp ○ 25cm long-throw driver ○ Lowest in-room 18Hz @ -3dB CONTACT ② 01656 768777 ↔ www.rel.net

igital electronic controls, blue LED displays and infrared remote controls are not exactly standard equipment for subwoofers. In fact, REL's new additions to its long-established ST range mark something of a revolution for the subwoofer genre as a whole.

Aside from the sheer eye-candy of the ice-blue displays, the entry-level Stampede and step-up Strata 5 are very technical beasts.

They share identical electronics, with roll-off, gain and phase controlled by a microprocessor rather than traditional pots. Primarily this enables set-up and on-going adjustment by a single front-mounted push-turn knob or remote control handset. As lazy as the latter might sound, accurately tuning the system at the listening position – without hot-footing back and forth between sub and sofa – is a pleasant revelation.

On the down side, phase can only be set at zero or 180 degrees rather than being fully variable. This means that room placement of either model will be critical in getting sub and speakers to integrate seamlessly. Conversely, REL's slam/depth feature has evolved from a rather crude two-position switch on some previous models to a fully variable +/-9dB at 80Hz. While this setting is only employed on the LFE input, its medium Q-factor affects a subtle roll-off or boost that extends down to around 40Hz.

Display brightness and display-off timer can be set independently and a child lock protects your finely tuned system being sabotaged by inquisitive fingers. But potentially the hottest feature in all this high-tech electronics is the ability to save complete suites of settings under one of four memory pre-sets. Suddenly you can have one complete setting for music and another for movies, different set-ups for LFE and high-level input or even alternate set-ups for particular genres of music or film. This makes the new ST models among the most flexible subwoofers on the market.

Physical fit and finish of both models is typically REL. The sealed cabinets are made at REL's Sheffield plant from substantial 30mm MDF and are presented to a very high standard. Basic finish is black textured paint,

REL Stampede and Strata 5 subwoofers [Review]

with a silver option for the Stampede, and there is a range of real wood veneers for the deeper purse. The veneered models are 'balanced' meaning the cabinet is also veneered on the inside to increase structural stiffness and, potentially, offer sonic improvement over the basic painted models.

Around the back of both models there is a distinct dearth of activity with only an IEC power socket, LFE phono input and unusual high-level Neutrik Speakon socket visible. Thankfully REL supplies a 10m cable complete with a Neutrik Speakon plug for the latter. It is worthy of note that if both high-level and LFE inputs are connected, the sub produces an amalgam of both inputs. While the literature supplied with these models indicates that this is actually a user benefit, the results were variable. If you need to connect both inputs, we suggest creating dedicated user-memories for each with the gain on the unused input set to zero.

This brings us to the difference between the two models – size. While the Stampede is bijou and has a modestly powered 20cm (8-in) driver, the Strata 5 is bigger and offers a beefier amp for its 25cm (10-in) woofer. However, the external cabinet size is actually deceiving as the Strata 5 is internally partitioned to isolate the amplifier section from the pressured section. Thus the internal volume difference between the two is not so great. The words 'two', 'peas' and 'pod' spring to mind.

SOUND QUALITY

REL recommends corner placement for these modestly sized subwoofers and they are certainly at their happiest with the added boost a corner plot gives them. This makes setting up a little trickier in terms of accurate upper roll-off adjustment, as it is all too easy to excite fundamental room frequencies around 50Hz. Still, as all the tweaking and tuning is achieved from the armchair it has never been easier to match sub to speakers by ear.

And does it work? Oh yes indeed. We were not confident that pairing the little Stampede with Tannoy's whopping great Dimension TD12 speakers would give any extension at all but the effect was sublime. Gently increasing the sub's upper roll-off in steps revealed the best frequency to be 24Hz – exactly the Tannoy's -3dB point in-room. Like turning on an audio heater, the Tannoy's fairly stark balance gained a genuine warmth that infused the mix with a far greater sense of presence.

Eric Clapton's *Unplugged* CD had a more convivial atmosphere and there appeared to be notably more of the audience clapping between tracks. The snare had a much crisper edge and the integration of instruments into a coherent piece of music seemed all the more complete. Clearly company director/designer Richard Lord's long-punted philosophy that a proper sub-bass system can improve the whole audio picture has a lot of merit.



"Like turning on an audio heater, our system gained warmth and presence with the REL."

Subtlety has always been a REL speciality and the mellower the music the better the Stampede and Strata 5 are at weaving their magic. Diana Krall's *The Look Of Love* covers album (SACD stereo) is a prime candidate. With the Stampede, Krall's voice on tracks like *Cry Me a River* had warmth and depth enough to make a man go weak at the knees.

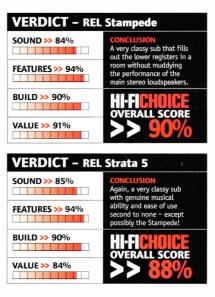
With some seriously uptempo material, such as the title track of Queensryche's *Empire* album (DVD-Audio stereo), neither Stampede nor Strata 5 added much to the crashing mix of guitar power chords. Additional low frequency information was present but it didn't have the pace or sheer grunt to get us strutting around the living room with an air guitar.

The chaps at REL advocate the use of paired stereo subs (well, they would, wouldn't they) for larger rooms and two Stampedes or two Strata 5s would certainly raise the maximum SPL (sound pressure level) considerably. Simply increasing the gain of a solo sub installation livens up the mix but both models quickly run out of puff and hit REL's aggressive Set-Safe bass limiter.

These are compact subs and the same laws of physics kick in when it comes to home cinema low-frequency effects. Unless you have a very small listening room, neither of these subs does hard-edged explosions or trouserflapping effects with the sheer impact of some cinematic rivals. Then again, these subs are as spectacularly good with music as REL's own Q150E is with movies – and vice-versa. You pays your money and takes your choice. The mix of solid engineering and precise digital control has clearly reaped rewards with the Stampede and Strata 5. Few subs extract such a good low-frequency response from a cabinet so compact and fewer still have the quality of filtering required to smoothly integrate with such a wide range of speakers. As long as the volume is kept sane, either model can subtly enrich even quite exotic two-channel (or multichannel) hi-fi systems.

But therein lays the Achilles heel of the more expensive Strata 5, since the Stampede is virtually as good, but more compact and a dozen CD's-worth cheaper. **HFC**

Richard Stevenson





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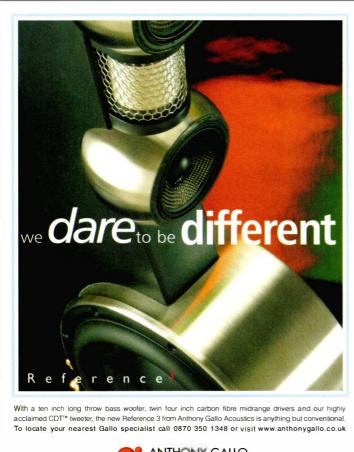
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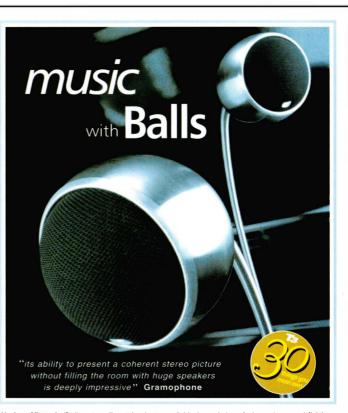


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Perceptions differ

As hard disk jukeboxes become more common, how does PD's second-generation model shape up?

PRODUCT Perception Digital PD-480 TYPE HDD/CD-R audio player/recorder PRICE £300 CONTACT ☎ 020 7940 2200 ⊕ www.perceptiondigital.com

year ago we reviewed the PD-430, the precursor to this model, which stored music on an internal hard disk and catalogued it using a pre-loaded 'Gracenote CDDB' database. The main difference in this device is that the CD drive is now also a writer, capable of recording to CD-R and CD-RW discs in both normal audio and MP3 formats. Not only can the PD-480 form the storage and cataloguing heart of your music collection, it can make custom compilations for use anywhere.

There are three ways of loading music to the hard disk. You can insert a CD and load from it to uncompressed or MP3 format (at 320 or 128kbps), or you can connect to a PC and upload tracks via USB at high speed. If you choose the former route, you have the further option of listening while you load or simply loading at high speed, unattended. Finally, you can record via line inputs at the rear, albeit without any kind of level control. Depending on the storage format you select, the 40GB drive capacity equates to between 60 and 600 hours of music.

Undoubtedly, the database facility is the biggest advantage of this unit over a conventional CD jukebox. The vast majority of commercial CDs are rapidly recognised and are stored on disk along with music and artist details, which you can use later to search for a track. It's possible to update the database later, downloading the information to your PC, burning it to CD-R and loading the disc into the PD-480 (though it's a crying shame that this can't be done via USB).

SOUND QUALITY

Playing direct from CD or from uncompressed audio tracks on the hard disk, sound quality is much as one would expect from a reasonable super-budget CD player – decent enough in the essentials, though somewhat lacklustre and distinctly short on true resolution. MP3 tracks are, well, MP3 – at 128kbps not too bad as long as the music isn't demanding, but a bit coarse and grainy when there's a fair bit happening. 320kbps ought to be much better but it seems to be a very small step up. It does offer slightly more refinement though, and less sense of 'grunge' in the high treble.

The main problems with this machine are incidental, though not without impact on the sound. For a start, there's the level of mechanical noise. The hard disk is not the quietest around and emits a permanent hissy whine, which is loud enough to be disconcerting unless the unit is shut away in a cupboard. Even worse is the noise the CD transport makes. It's a high-speed drive built for computer applications, and even when one simply wishes to play a CD it spins at great speed and makes a filthy noise. Despite that noise, when one selects 'Rapid Archive' to load audio from CD to hard disk the process only proceeds at about 6x speed, taking over ten minutes to store a typical disc. Most current PCs can 'rip' audio several times

faster – the one on which this review is being written can rip an hour of audio, error-free, in 130 seconds. Yes, USB is faster, but then that makes the whole process two-stage, and who wants that bother?

Like the PD-430, the '480 is not well thought-out ergonomically, in fact it's frequently infuriating to use. For instance, you never know for sure whether to press 'OK' or '>' to activate a function, and response is often pretty slow. Incidentally, one of the '430's handiest features, the Smart Media socket, has gone, so you can't use this as the central store for recordings to be loaded to your portable MP3 player. You can buy a PC for little more than this – why not just use that as a jukebox? **HFC**

Richard Black





CROUP TEST & LAB REPORTS: PAUL MESSENGER

Got around a grand to spend on speakers? Here are six of the latest and greatest

oving up a price notch from the *Ultimate Group Test* we conducted last May, which was nominally between £700 and £1,000 per pair, the least expensive speaker here is the £895 Quad 22L, and the bias on this occasion is definitely towards the four figure spectrum.

On this occasion too, all six are floorstanders, though there's quite a variation between the models nonetheless, in physical size, driver size, driver complement and configuration. Three are simple two-ways (and there's absolutely nothing wrong with that if it's done well); two are what are usually called 'two-and-a-half-ways' – two-ways aided and abetted by an extra bass-only driver; the large Triangle, however, makes use of four drive units in a full three-way configuration.

Perhaps reflecting its substantial size and engineering content, the Triangle is also the only model in the group to have vinyl woodprint-covered surfaces rather than real wood veneers. This, together with its bulk and black-painted MDF front panel, make the Celius 202 arguably the least attractive-looking model among those assembled here, though physical beauty and discretion are no indicator of sound quality.

The prettiest is surely the Quad 22L. It's taking advantage of its Chinese ownership to create a stunningly beautiful enclosure, combining a top-class veneer with a deep, high-gloss piano lacquer surface. Tasty.

The most compact is PMC's pretty little GB1, which has a particularly illustrious pedigree, since it's essentially a cross between the standmount DB1 and the larger floorstanding FB1, both of which have received Best Buy ratings in previous *HFC* reviews. PMC is clearly hoping for the best of both worlds.

Like Triangle, BC Acoustique is a French brand seeking to make its mark in overseas markets, with models that are typically individualistic in content and presentation. Horn tweeters are a particular trademark of this company.

Spendor's new 'e'-suffixed evolution models might look very similar to their predecessors, though in fact the whole of this very attractive range has undergone a major underskin makeover. And lastly there's B&W's 704, which has already had the benefit of a very favourable solo review in *HFC* 248, but including this advanced model from the number one loudspeaker brand around helps establish the overall context. **HFC**

EQUIPMENT USED

- Solution State State
- Burmester 001 CD player
- ➢ Linn LP12 turntable
- ➢ Rega RB1000 tonearm
- Linn Akiva and Dynavector XV-1 phono cartridges
- Magnum Dynalab MD102 tuner
- ⊙ Naim NAC552 pre-amp
- ➢ Naim NAP500 power amp
- ♥ Vertex AQ and Naim cables

MUSIC USED

- Tom Waits AliceLambchop Aw C'mon
- Joni Mitchell Mingus
- Mari Boine Eallin
- ♥ Verdi Macbeth Overture



LISTENING TESTS

Loudspeaker listening poses more complex problems than those involved in assessing other components. Speakers vary greatly, and interact strongly and often unpredictably with the room. The difficulty facing sequential unsighted loudspeaker presentations is the tendency to judge each according to how its balance differs from the previous model. Accordingly, extended hands-on listening sessions were adopted for this group, giving scope to adjust to the changes in balance and to experiment with the positioning.

LAB TESTS

The speakers were tested under in-room conditions to best represent real-world conditions. The equipment used included a Neutrik Audiograph analogue signal generator with synchronised pen recorder, which was used to plot the far-field in-room averaged response traces and impedance plots. Pair-matching was also checked at one metre.

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

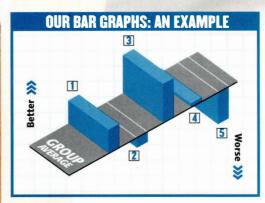
LAB REPORTS: THE BAR GRAPH

Our 3D bar graphs are a simple way of showing how the speakers compare across quantitative and qualitative measures. Individual parameters are assessed and shown as better or worse than the group average.

1] Sensitivity: Sensitivity measures how loud a speaker will go for a given voltage from the amp. It's scaled to 2.83V at 1 m (one watt for an eight-ohm load). This figure can be misleading, as sensitivity varies significantly and as lower-impedance speakers extract more current and hence power from an amp than higher-impedance ones.

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

3] Ease of drive: The lower the impedance, the more current it extracts from a driving amp for a given volume. Lower-impedance designs have higher sensitivities, reducing voltage requirements for given loudness levels.
4] Overall frequency balance: Overall broad frequency response trends do much to define the character of a speaker, although true neutrality is the obvious goal.
5] Response smoothness: The small-scale smoothness of a speaker has much to do with the delicacy of the sound, and its ability to deliver subtle harmonic shading.



£1,195 per pair 2 020 8882 2822 # www.bc-acoustique.com

A prominent horn tweeter is just part of this speaker's charm

t's not hard to guess that BC Acoustique comes from France. The website is rather unhelpful info-wise, but the company is run by Messrs Bruno Roux and Christian Avedissian (the B and the C, presumably), and is primarily a speaker operation, though it also distributes some overseas brands on the French market.

It's not quite a *Hi-Fi Choice* virgin, since we recommended something called an Araxe some four years ago, in *HFC* 204. That model no longer exists, and has probably been replaced by one or other of this brand new ACT series. These include five stereo pairs – one standmount and four floorstanders – and this A1 is the smallest of the floorstanders.

It's a simple two-way, operating in a quite deep rear-ported enclosure, and feels exceptionally solidly built, as its 20kg weight indicates. Real wood veneer covers all faces, and comes in four finishes from a very light maple via the cherry supplied for this review to two darker brown shades called 'amarant' and 'wenge'. In the French tradition, the veneer is very plain with little visible grain.



Simple it may be in outline, but the detail here is unusual, interesting and original, even if some of the technical justification in the catalogue gets rather lost in translation. The standout feature must be the shiny silver horn-loaded tweeter – an uncommon technique these days, but favoured by more than one French brand.

The 165mm main driver has a very open frame plus a 120mm polypropylene cone, and is surrounded by an attractive silver fixing ring. The silver finish theme is echoed in the chunky cast metal feet that ensure fine stability, but make no lock-nut provision for the accompanying cones. The theme continues in the large terminal/network plate on the rear, which incorporates a jumper arrangement to give five tweeter-level options across a 6dB spread, plus a single terminal pair. The crossover has gentle 6dB slopes, for best phase coherence, and uses top quality ingredients internally.

SOUND QUALITY

According to another French manufacturer, one advantage of using a horn tweeter is that it provides a better energy match to the midrange unit through the crossover region. It's a somewhat enigmatic comment, but one that immediately came to mind when the ACT-A1 was connected up to the system.

With this speaker, the ears immediately zoom in on a presence vividness and coherence that is very persuasive and convincing, and which makes regular speakers sound a little limp by comparison. It's a very exciting and involving experience, if also a little edge-of-the-seat, and naturally places something of a premium on the quality and type of equipment with which it's used. The UK importer, The Audiophile Club, also distributes high-quality valve amps, and the latter's delicious midrange would seem to make for an ideal match.

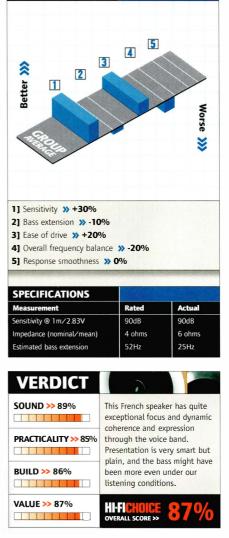
With our regular solid state amplification there was a slight tonal hardening and a touch of 'horniness', but the speaker remained very involving nonetheless. However, if the midband and top end are exceptional, the same cannot be said of the bass, which seemed ill-matched to our listening room in much the way that the Araxe had been. Rather than delivering a smooth, deep extension, the A1 has a very prominent 'thump' which can be rather wearing with some material. **HFC**



LAB REPORT

Sensitivity was measured at a generous 90dB, though to be fair that's partly achieved through an amplifier load that dips close to 4 ohms through the upper bass and lower midband, centred around 250Hz, a portion of the spectrum which one would expect to carry heavy modulation levels. Slight resonances are visible at 200Hz and 400Hz on the impedance plot.

Though not particularly smooth, the in-room far-field averaged response nevertheless looks very well ordered above 200Hz, with a broad, shallow depression through the presence zone (1.5-5kHz). The upper bass and lower midband (70-200Hz) is a little lean, but the port output, tuned here to 40Hz, resulted in a massive excess 30-70Hz, typically 5-8dB above the midband datum under our conditions. This is partly because it's close to a room mode at 55Hz, but also indicates that the port output is probably a little too energetic.



£1,400 per pair ☎ 01903 221500 ⊕ www.bwspeakers.com **B&W 704**

This striking floorstander is a thoroughly ear-pleasing all-rounder

The leading brand in serious hi-fi speakers around the globe, Worthingbased B&W's representative in this six-way group test is the bigger brother to the two-way standmount 705, which received a Best Buy flag in our May group test (*HFC* 253). Indeed, this two-and-a-half-way floorstander was actually reviewed in-depth last December (*HFC* 248), but without the strictures of a group test context.

The 700 Series speakers are the mid-price successors to the CDM-NTs, and have similar top-mounted tube-loaded tweeters to give wide high-frequency distribution and time-align the midrange and tweeter voice coils. The 704 shares the same driver line-up as its CDM-7NT predecessor, but has an altogether smoother, sleeker and more streamlined look, with classy real-wood veneer, and neat front-to-back tapering that avoids parallel sides. A single curved piece forms the front and top faces, conferring excellent structural integrity, and giving better distributed vertical reflections.



Below the 25mm alloy dome tweeter, the 704 has a 165mm cast-frame bass/mid driver with yellow 120mm woven Kevlar cone. The lowest driver is bass-only, with 120mm Kevlarreinforced paper cone, further stiffened by a dome nearly as large as the cone. All feature what B&W calls 'balanced drive' motors.

Each cone driver is loaded by its own sub-enclosure, and separately 'Flowport' reflex-ported too. Foam bungs are supplied for fine tuning the bass. At 21kg, it feels very solid, and sits securely enough on well seated spikes, though without the additional stability of a separate plinth. Twin terminal pairs provide bi-wire/amp options, and our samples came finished in an attractive maple veneer, the available options including American walnut, cherrywood, 'rosenut' and black ash.

SOUND QUALITY

Firm, deep and weighty bass with fine articulation and agility is the first thing one notices with this elegant pair. That's partly because the bass end is particularly good, deftly avoiding midbass 'thump' while delivering ample low-bass weight. But it's also in part because the upper midband and presence zones are decidedly laid back.

Indeed, for some listeners it might arguably be a little too restrained, and it sometimes seemed necessary to turn the system up a little louder than one might expect in order to maintain good voice intelligibility. The up side to this is that it will never sound aggressive, even when reproducing something like a close-miked harmonica.

The treble level is about right, and the quality is impressive too, with an openness and delicacy that ensures superior air and detailing. The external tweeter probably contributes to the airiness, and also to the fine 'out-of-the-box' imaging.

And if the midrange isn't the smoothest, it is nevertheless impressively free from boxy colorations, and delivers good dynamic expression from a very well controlled enclosure. Low-level detail is therefore very well maintained, adding realistic textures to orchestral material in particular.

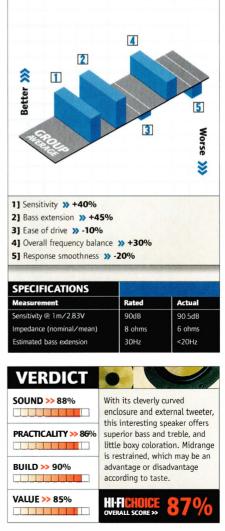
This is an easy speaker to like. It goes about its task without drawing attention to itself, and will never sound unduly intrusive. There will be those who will prefer a little less restraint through the presence region, but this is a fine all-rounder nonetheless, which is unlikely to disappoint. **HFC**



LAB REPORT

The 704 has a generous sensitivity of 90-91dB, though part of the reason can be found in a current-hungry impedance characteristic which falls below 4 ohms at the port tuning frequency of 30Hz, and dips close to 4 ohms again around 200Hz, where high-level program content is likely to be found.

Measured under far-field in-room averaged conditions, the overall balance is very well ordered right across the band, holding within +/-3dB limits from 60Hz right up to 17kHz. The bass extension is very impressive here too, registering -5dB at 20Hz under in-room conditions, thanks to the low port tuning frequency. However, those basic facts don't reveal the whole truth, and the frequency response shows several ups and downs within those limits, with minor dips at 120Hz, 220Hz, 550Hz, 1.2kHz, and then again in the presence/crossover zone, 2.2-4kHz.



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New ultra-compact floorstander proves an articulate performer

MC stands for the Professional Monitoring Company, a title which this relatively young operation well deserves, since it is one of very few to be equally successful in both the domestic hi-fi and professional monitoring sectors.

This GB1 is PMC's latest domestic model. It was conceived to fill an obvious gap between the tiny standmount DB1 (Best Buy in *HFC* 240), and the significantly larger floorstanding FB1 (Best Buy in *HFC* 204), so what you get essentially is the smaller 140mm main driver from the DB1 loaded by the full-size (2.4m) transmission line readily available to a floorstander. It sounds like a simple recipe, though development actually proved protracted and arduous, involving finding a new type of damping foam, and choosing the critical positioning of the line exit some distance from its end – at the front and close to the floor, in point of fact.



The result is a very neat 'mini floorstander', and PMC's dealers reckon its small dimensions and high-class all-over real-wood veneer (cherry, oak and maple as standard) will be hugely popular with customers. It's notably slim, thanks to that small main driver, yet reasonably deep, while a curvaceous MDF plinth enhances stability and gives the chunky spikes real security.

The main driver uses a cast frame and a doped paper cone, while the tweeter is the same 26mm fabric dome device used in the much more costly OB1 model. A high-quality crossover network is fed via twin terminal pairs, permitting bi-wiring or amping options.

SOUND QUALITY

One might expect such a compact speaker to sound a little on the small side, but the GB1 confounds such speculation with a bottom end that is exceptionally agile and informative, yet also has surprising weight and power. There will be those who prefer a sound that packs a little more thump and slam, plus a bit more warmth, but others will find that the GB1's slightly lean but very clear delivery is actually preferable to the fuller balance encountered with larger drivers. The complex interplay between bass and percussion on Robbie Robertson's Somewhere Down The Crazy River showed this to great advantage, ably clarifying the contributions of the various instruments.

Elsewhere the balance seems well judged, with sufficient restraint through the presence region to avoid any aggressive tendencies, yet not so much as to smother the detail. One criticism might be a slight lack of power and vigour – the piano's right hand sounds just a little undernourished in dynamic terms, and voices are just a trifle recessed too – but there's no lack of fine detail, as the treble proper is quite strong and notably sweet.

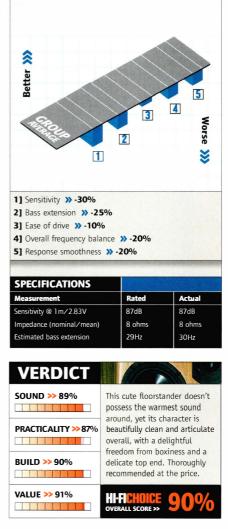
This speaker's best trick, however, is its superb freedom from boxiness, to an extent usually only associated with much more costly 'high-end' designs. The GB1 not only has a modest visual presence, but much more than most it seems to 'disappear' sonically. Shut your eyes, and you'd be hard pressed to identify where the speakers were located. Stereo images are beautifully spread around and between the enclosures, and romantic orchestral material was particularly delicate and engrossing, thanks in no small part to its impressively wide dynamic range. **HFC**



LAB REPORT

The tiny main driver used here inevitably restricts the low frequency output, but the generous transmission line, tuned to 40Hz, is helpful in giving decent in-room output down to 30Hz (-4dB). Sensitivity is rated at a relatively modest 87dB, but that's partly because the load seen by the amplifier never falls below 6 ohms, ensuring that this is basically an easy-to-drive loudspeaker.

The overall balance is not entirely neutral, showing most obviously a slight midband peak at around 800Hz-1kHz. Bass output is generally a little lean below 250Hz, but also reasonably smooth and even, apart from a dip at 180Hz probably due to a line resonance, since it seems to be reflected in a minor perturbation on the impedance trace. The broad presence zone is a little recessed around the 1-5kHz mark, while the treble stages a mild recovery above that point and looks smoother than most can offer.



£895 per pair ☎ 0845 458 0011 ⊕ www.quad-hifi.co.uk **QUAD 22L**

Lovely finish, but this floorstander's beauty is more than skin deep

Whith roots going back to 1936, Quad is one of the grand old names of British hi-fi, though these days it's actually owned by Chinese interests and operates as part of the IAG group. Its reputation was initially built with high-quality amps, but in 1953 it shocked the hi-fi world with the world's first full-range electrostatic speaker.

The ESL53 and its ESL63, ESL988 and ESL989 successors – the latter two models in current production – have always set a unique performance benchmark (at a high price), so much so that Quad long resisted the temptation to produce cheaper box speakers.

While the electrostatics remain key prestige brand totems, the Quad name has recently been applied to a number of more conventional moving coil loudspeakers, which combine exceptionally attractive piano lacquered veneers with some very competitive prices. The L-series consists of four stereo pairs all-told, and this 22L has twin 165mm main



drivers and operates in a two-and-a-half-way configuration, whereby the upper main driver and tweeter operate as a regular two-way, while the lower main driver (and the port) are merely used to augment the bass output.

IAG hired the supervisor of its cabinet shop from a piano manufacturer. The enclosures are built from 18mm MDF, and veneered in black, rosewood, maple or birds-eye maple 'bookmatched' veneers. Six coats of lacquer are applied and polished over a seven day period to give the deep piano lacquer finish.

All drivers are designed and manufactured in-house. The main drivers have woven 120mm Kevlar cones, 165mm cast alloy chassis and high-gauss magnets. The lower bass unit has a four-layer voice coil and extra mass loading, and the tweeter a 25mm fabric dome. The crossover circuit is extremely simple, with tightly toleranced audiophile components, including air-cored chokes and polypropylene capacitors. Less happily, an undersized plinth actually reduces the stability footprint.

SOUND QUALITY

The 22L has a rather different presentation from the norm. Rather than the slightly restrained and laid-back presence zone that most designs favour, the Quad has a decidedly forward balance that tends to push the sound forward towards the listeners.

It's an interesting alternative, and certainly makes it easy to follow the lyrics of songs, or listen to speech radio even when the volume is turned low. This can be a bonus, especially for late-night listening. But there's also the down side that this can become rather less comfortable when the volume is turned up high. Not only does this tend to emphasise any deficiencies in the sources, or indeed the program material, it also reveals a mild degree of boxy coloration in the upper midband. It's not sufficient to spoil the brew, but it is audible nonetheless, and remains part of the character of the speaker.

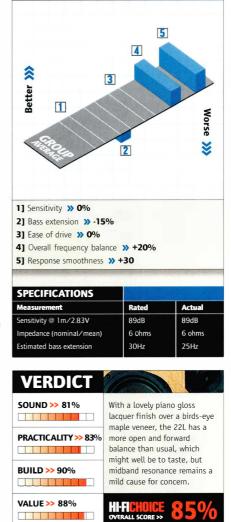
Another consequence of that slight forwardness is a slightly cool overall character through the upper bass and lower midband. Dynamic expression sounds a little muted here too, though the bass end proper is both agile and nicely judged. Many will no doubt be initially attracted by this speaker's classy surface finish, but its beauty is certainly more than skin deep, and its tonal balance is refreshingly different from the norm. **HFC**



LAB REPORT

Sensitivity is a very decent 89dB, helped in no small part by an impedance which dips to around 4.5 ohms in the low and mid bass, and again in the treble. Bass extension is very respectable too, peaking up a little around 40-60Hz under our in-room, far-field conditions, and consequently providing decent ultimate extension down to 25Hz at -6dB.

The overall in-room balance is remarkably smooth and flat from 60Hz all the way up to (and beyond) 15kHz, albeit with one very obvious suckout which dips some 5dB centred on 550Hz and covers nearly an octave in width. Its significance is difficult to assess, though it might be related to a minor perturbation in the impedance plot around 700Hz, and may represent an unwanted resonance in the bass/mid driver. The whole top half of the spectrum above 900Hz is rather stronger than average here.



£1,495 per pair ☎ 01323 843474 ⊕ www.spendoraudio.com

Spendor's new 'e' suffixed models have many underskin changes

S pendor's roots lie firmly in the broadcast monitoring tradition, though from the earliest days the legendary BC1 speaker also attracted considerable respect from domestic hi-fi enthusiasts. While the brand kept a very low UK profile in the 1990s, that situation has since been reversed following Philip Swift's takeover early this century.

The company's traditional pro-oriented and Classic ranges continue, but most of the hi-fi attention is now focused on the more fashion-focussed S-series models, which this year has seen extensive underskin revisions. The new models look very similar to the old, but now carry an 'e' suffix. The cast-frame main driver uses a new transparent ep38 polymer for the 120mm diameter cone, plus a new surround material and a new type of 27mm fabric dome tweeter. The linearity of the magnetic motor has improved, and a shaped phase plug enhances top end smoothness.

The S6e is a simple two-way based around a 165mm bass/mid driver; stylish and elegant,



it's also very compact. The grille is meant to be left in place from both acoustic and styling points of view, and this enhances the very slim appearance. It's clothed all round in good quality cherry or maple real wood veneers, and the drivers are neatly flush-mounted into the front panel.

It also comes with a proper plinth, with lateral extensions at the rear to enhance the overall stability, and this provides secure accommodation for the chunky 8mm spikes. Incidentally, the spikes come with both thumbwheel and hex nuts, a clever arrangement that ensures they can be properly locked in place without damaging the socket. Other manufacturers please copy!

A clever port arrangement, in the form of a tapering ducted slot, exits close to the floor at the rear. Twin terminal pairs, now mounted on a damped stainless steel plate, provide a bi-amping/bi-wiring option. Auto-transformers rather than resistors are used to attenuate the tweeter, and each loudspeaker pair is matched to within 1dB.

SOUND QUALITY

Whereas the original S-series speakers tended to err on the cautious side in the way voices were reproduced, giving a slightly recessed and 'shut-in' effect, this new e-designated model is significantly more neutral through the voice band. Compared to Spendor's classic BC1, long regarded as a very superior voice monitor, the similar openness of this new model was extremely impressive, even though it does possess a little more nasal coloration than its ancestor.

It's not all good news however, as dynamic expression seemed a bit weak, and the midband could have had a little more punch and tension. Though basically neutral, voices could have been more dramatic and expressive, pianos lacked a little percussive power, and brass might have had more bite.

A major strength of this speaker is bass that's unusually powerful and deep for such a compact, simple speaker. It's essentially clean, so when there's no deep bass in the program material, there's none from the speaker; but when real bass comes along, the S6e provides it with great solidity and dexterity.

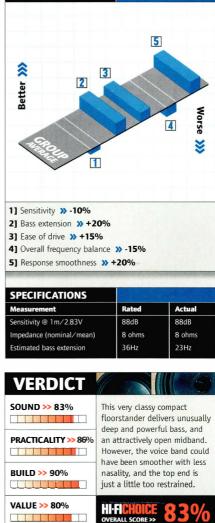
However, there is perhaps a little too much restraint at the opposite end of the spectrum, where there's a slight lack of sparkle. While some might appreciate its restraint, others will no doubt find this a problem. **HFC**



LAB REPORT

Sensitivity registers a respectable enough 88dB, all the more so because the impedance stays comfortably above 6 ohms throughout the band, and the bass extension under in-room, far-field averaged conditions registers -6dB at a low 22Hz, the latter assisted by a low port tuning frequency of around 38Hz.

Bass output is notably strong from 28-60Hz, then a little lean at 60-250Hz. A mild dip centred on 500Hz is reflected in a corresponding perturbation in the impedance plot, perhaps indicating a resonance problem in the main driver. Output peaks up slightly at 1-1.2kHz, and then shows a rather uneven presence zone at 1.2-3kHz. Although the whole response holds within good overall limits right across the audio spectrum, there's no avoiding some lack of smoothness. The treble proper is notably flat at 3-7kHz but rolls off quite steadily above a low 8kHz under far-field conditions.



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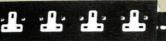
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Can this bigger brother repeat the Antal 202's Best Buy trick?

France's Triangle follows its own agenda, in both engineering and aesthetics, creating speakers that are distinctively different from the norm. Several models have done rather well in our reviews, most recently the Antal 202 registering a Best Buy rating in *HFC* 253, though there's no denying that the styling and presentation might look a trifle strange to British eyes.

Both members of the 'budget' Espace range, this Celius 202 sits one rung up the ladder from that Antal 202 – so much so that it will have to work hard to justify a £1,225 price tag. The differences amount to just an extra 50cm on the height and 2kg on the weight, while this Celius has a larger midrange driver that operates an octave lower than the Antal's. Frankly, it's hard to see why it costs £300 more than its slightly smaller brother.



It's a full three-way design, combining a pair of port-loaded 16.5cm (6.5-in) bass drivers with another (rather different) 6.5-incher for the midrange, while the dome tweeter has a pronounced horn and 'bullet' phase compensator. All the drivers are designed and made in-house, using cast alloy chassis and paper cone diaphragms throughout. The two bass drivers have regular synthetic rubber surrounds, to allow for the greater excursion needed for reproducing low frequencies. Unusually, the midrange driver has a pleated, damped cloth surround – an old-fashioned technique favoured here because it has lower hysteresis (energy storage) than rubber.

The four drive units are all mounted on a black-stained, slightly convex MDF front panel, decorated by gilt grille mounting lugs. The other five faces of the enclosure have a rather nondescript vinyl woodprint finish, though a real-wood 'ebene' option is available at ten per cent extra. Underneath, four little brass domes are threaded for 6mm spikes; there are no lock-nuts, and no plinth either, so stability isn't great. The rear panel carries twin terminal pairs, and a front port reflex-loads the bass enclosure.

SOUND QUALITY

Given the success of the Antal 202 and its similarity to this Celius, it wasn't surprising that the latter would deliver a similarly high standard of sound quality. Indeed, it has a slight advantage in overall smoothness, though the essential character is very similar.

The midband is the heart of the action here, and this speaker's unusual midrange driver does a fine job of delivering it with superb time coherence, plus vivid dynamics and expressiveness. It could be smoother and sweeter to advantage perhaps, but there are few aggressive tendencies. The top end might be a shade strong for some tastes and systems, it should be pointed out, but it integrates very well with the midband, and is clean enough to provide impressive enhancement of detail and textures.

The bass end is rather less interesting – although agile enough, it's also a little weak in authority, with slight upper bass thickening to add a touch of chestiness to male voices too. Because the Celius is significantly taller than the other speakers assembled here, its midrange and tweeter are slightly above seated ear height, and this undoubtedly enhances the overall impression of scale. **HFC**

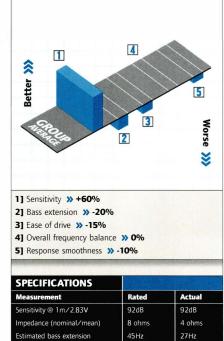


LAB REPORT

Sensitivity registers a very generous 92dB here, which ought to make life easy for the driving amplifier, though in fact this very positive figure is offset by a very current-demanding impedance characteristic that drops below 3 ohms between 700Hz and 1.3kHz, where quite high levels are often needed. Some valve amps might experience difficulties here.

The bass region is dry in balance but with decent ultimate extension (-10dB at 20Hz in room), thanks to 35Hz port tuning, and some wall reinforcement might be helpful. The mid-bass is a little too strong at 90-100Hz, however, and while the overall room-averaged frequency response is held within respectable limits, it's not particularly smooth. The lower midband is lean and the upper mid stightly forward, with suckouts at 1.3kHz and 3kHz. The treble too shows a significant dip at 15kHz followed by a peak at 18kHz.

HOW IT COMPARES



VERDICT	
SOUND >> 88%	Presentation is rather bland, but this tall, high-sensitivity speaker has a notably classy
PRACTICALITY >> 77%	and dynamically vigorous midband. Though a little
BUILD >> 79%	smoother and more even than the quite similar Antal 202, it's also considerably more costly.
VALUE >> 84%	HI-FICHOICE 84%

CONCLUSIONS

These floorstanders represent the best at around £1,000 - and there's a speaker here for everyone

rying to pick the bones out of this group, one is left with a bit of a dilemma. The discipline of the group test is that the group as a whole defines a series of standards against which the performance of any individual model may be judged. The trouble comes when trying to make an overall value judgement when, for example, one model has the better bass while another has the superior midband.

None of these speakers was poor, but there were substantial

differences between them, so it's really down to the potential customer to consider his/her own priorities and look for the best fit. Let's summarise these differences by climbing up the price ladder.

Least expensive and arguably the best looking is the £895 Quad 22L, which features a lovely deep piano gloss lacquer over a birds-eye maple veneer. It has a more open and forward balance than the others, which might well be to taste, but a midband resonance is slight concern. However, given its price and appearance, it offers strong value for money.

PMC's ultra-compact £995 GB1 is rather more laid back, and could arguably do with a touch more warmth, but it's beautifully clean and articulate with a delightful freedom from boxiness. The £1,195 ACT-A1 from BC Acoustique has exceptional focus and dynamic coherence through the voice band, though the bass might have been more even under our conditions. In terms of size and drive unit

count, if not finish, Triangle's

Celius 202 is a lot of speaker for £1,225, its dynamically vigorous midband providing great entertainment. But whether it's worth the extra cost over the Antal 202 must be debatable.

B&W's £1,400 704 has very superior bass and treble, though its midband might have been smoother and a little less laid back. Finally, the £1,495 Spendor S6e is a classy two-way with unusually deep bass, plus an attractively open midband, though the top end here is a little too restrained. **HFC**

HINTS AND TIPS

 Floor-coupling spikes should have tight lock-nuts, but don't overtighten or you'll strip the threads
 Finding the right place to put the loudspeakers acoustically is very important. Do take time and trouble to experiment with position. Moving a speaker from a free space location until it's close to a wall will substantially boost the mid-bass output.

Expect all speakers to improve steadily over the first 100 hours or so of listening.

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LOUDSPEAKERS AT A GLANCE

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MAKE MODEL	BC Acoustique ACT-A1	B&W 704	PMC GB1	Quad 22L	Spendor S6e	Triangle Celius 202
PRICE	£1,195	£1,400	£995	£895	£1,495	£1,225
SOUND						
PRACTICALITY						
BUILD						
VALUE						
OVERALL						
CONCLUSION	Quite exceptional focus and dynamic coherence though the bass might have been more even in our room.	Superior bass and treble, though the restrained midband may be a positive or a negative according to taste.	Very compact floorstander sounds clean and articulate, with a delightful freedom from boxiness.	Lovely piano gloss finish and an unusually open and forward balance – good value but try before you buy.	Classy compact two-way with unusually deep and full bass, though the top end is a little too restrained.	Dynamically vigorous midband and good image height, but perhaps not the prettiest of speakers.
KEY FEATURES						an a
SIZE (WxHxD)	21x90x33cm	22x96x32cm	16x90x23.5cm	21x85x28cm	19x88x30cm	22x113x30cm
DRIVER CONFIG	2-way	2.5-way	2-way	2.5-way	2-way	3-way
MAIN DRIVER SIZE(S)	1x165mm	2x165mm	1x130mm	2x165mm	1x165mm	3x165mm
STAND/ FLOOR	Floor	Floor	Floor	Floor	Floor	Floor
CABINET FINISH	Real wood	Real wood	Real wood	lacquered real wood	Real wood	Vinyl woodprint
BI-WIRE	No	Yes	Yes	Yes	Yes	Yes
LAB CONCLUSIONS	E = EXCELLENT • G = GOOD	• A = AVERAGE • P = POOR				
SENSITIVITY	90dB <mark>G</mark>	90.5 dB G	87dB A	89dB 🔺	88dB A	92dB <mark>E</mark>
EST. BASS EXTENSION	25Hz G	<20Hz E	30Hz A	25Hz G	23Hz G	27Hz A
IMPEDANCE (MIN/ AVE)	4/6 ohms A	3.3/6 ohms P	6/8 ohms E	4.5/6 ohms A	6/8 ohms E	2.5/4 ohms P
OVERALL FREQ. BALANCE	-20% A	+30% G	-20% A	+20% <mark>G</mark>	-15% <mark>A</mark>	0% A
RESPONSE SMOOTHNESS	0% A	-20% A	-20% A	+30% G	+20% G	-10% A



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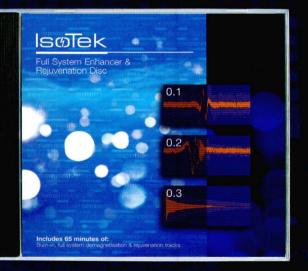
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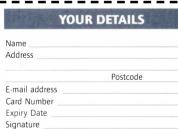


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Our test results are the most reliable in the business. We employ the most experienced reviewers and use the most thorough techniques to ensure our ratings are the ones you can trust. All the equipment we rate most highly is contained within these 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 80 per cent overall are automatically featured in the *Hi-Fi Choice Buyer's Bible*. Any Best Buy or Editor's Choice Badges awarded are also displayed.

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BUYER'S BIBLE CD PLAYERS

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 socalled 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.

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.

Q&A

WHAT'S A DAC?

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

WHY HAVE SEPARATE TRANSPORTS & DACS?

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

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

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

DO I NEED DIGITAL CABLES FOR A CD PLAYER?

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

WHAT IS OVERSAMPLING/UPSAMPLING?

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

CAN I PLAY SACDS ON A NORMAL CD PLAYER?

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

CAN I PLAY DVDS ON A CD PLAYER?

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

TOP BUYS



Marantz CD7300 £350

The latest in a long line of highly successful sub-£500 CD players from Marantz is an absolute beauty. Engaging and sonically refined, there's little to touch it at the price.



Arcam DiVA CD93T £950 Few CD players under a grand can match the accomplishment of Arcam's latest beauty. Its sound is neutral but always musical – delicate or vigorous, whatever the disc requires.

CD PLAYERS BUYER'S BIBLE

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2

Our favourite I BEST BUY TE EDITOR'S CHOICE **CD PLAYERS**

Aud	io-only CD and SA	CD pl		SACD COMPATIBLE	ELEC DIG OUTPUT	OPT DIG OUTPUT	CD-RW COMPATIBLE	8	AL ANALOGUE OUT	ADPHONE SOCKET	VARIABLE OUTPUT	ISSUE NUMBER
	PRODUCT	£	COMMENTS	NBLE	IPUT	IPUT	TIBLE	CD TEXT	TUO	CKET	IPUT	NBER
	£1,000			TUO?								
BB	Arcam DiVA CD73T	400	Refined and articulate, smooth and dynamic - a finely judged balance for budget to mid-price systems		•	0	0	•				247
88	Arcam DiVA CD93T	950	The CD33 may technically be Arcam's ultimate CD player, but it's the little brother that really won our hearts	_	•	0	0	0				252
88	Cambridge Audio Azur 6400		This elegant little player can hold its own in very elevated company – a budget system will barely do it justice		0	•	•					249
88	Cyrus CD8	1,000	A truly cracking player, particularly when partnered with the optional PSX-R off-board power supply (£350)		0	•	•					252
	Exposure 2010	600	A smooth and substantial-sounding player, a little lacking in refinement but musical all the same		•	0	0	•				231
	Heart CD6000 OSE LE	750	Valved-up Marantz makes an entertaining and colourful player that will inspire you to listen longer		0	•	0	0		0	0	245
68	Inca Design Katana	600	Stylish design combined with stunning build make this something of a bargain. It sounds good too		•	•	۲		0			256
	Marantz CD5400 OSE	200	Nicely thought out player with useful features and good sound, though some mechanical noise		0	0	0	•		•		256
3 8	Marantz CD7300	350	Astonishingly capable sub-£500 player with effortless bass, detailed mid and treble and vast soundstages		۲	0	0	۲		0		250
36	Musical Fidelity X-Ray ^{V3}	900	Think of this as an A3.2 CD player in a smaller, cheaper box. Great, earthy CD sound for the money		۲	0						255
8	Naim CD5i	825	Taut and rhythmic, Naim's starter CD player will win many fans. A particularly fine partner for the Nait 5i amp									252
	Rotel RCD-02	375	Against some strong competition in the same price area, this Rotel generally holds up well		0		۲					23
8	Sony SCD-XA3000ES	800	A revised and refined version of the SCD-XA333ES that provIdes an almost holographic sound	0	0	۲		۲	۲			248
BOV	£1,000											
C	Audionet ART V2	2,300	Built to last forever, this CD has a dark natural sound with excellent bass and would be cheap at twice the price!		٠		۲					23
С	Ayre CX-7 CD player	2,950	Superbly built and natural sounding player that will win you over with its range of capabilities and transparency		٠		۲		۰			25
С	BAT VK-D5SE CD Player	5,495	Superb valve CD player that is smooth and refined but with real guts that doesn't conform to valve stereotypes		۲	۲	۲		۲			25
С	Copland CDA 822	1,598	Well built and carefully thought out, if you go for the more sophisticated musical forms it is superb value		۲		٠		•			24
	Exposure 3010	1,195	What this player lacks in immediacy and punch is offset by its sparkling sense of occasion and musical tension		0	۲	۲	٠				246
	Exposure XXII	1,395	Natural sounding player, great with voices and acoustic instruments and makes for engaging listening		۰	۲	0					238
	Hegel CDP2A	1,500	A technically proficient and masterly-sounding player built by people who clearly know what they are doing		•		۲		٠			252
EC	Krell SACD Standard	4,244	A landmark SCD player and an excellent CD player at what by Krell standards is a relatively affordable price	•	•	۲	۲		٠			25
8	Meridian 507	1,195	Unusually precise and considered performer that sounds as different as the discs you stick in the drawer		0	•	0					238
C	Musical Fidelity Tri-Vista	4,000	Limited edition stereo-only SACD/CD player that is simply the best player MF has ever made		0		0	٠				23
C	Naim CDX2	2,650	Fine quality one-box CD player, but its best feature is upgradeability via outboard XPS supply				۲					238
8	Orelle CD100evo	1,500	Very superior timing, a wide dynamic range, natural sweetness and fine transparency				•					248
B	Primare D30.2	1,499	Superb high-resolution player gives a strong taste of musical structure and physicality		٠				•			226
8	Resolution Audio Opus 21	2,850	Dynamic, well timed 0and 3D performance with an analogue volume control and digital input for a second source				۲		•		0	244
	Roksan Caspian M Series	1,100	An enjoyably dynamic-sounding player featuring a positively unique choice of digital components				•					252
C	Sony SCD-XA9000ES		State-of-the-art CD and SACD player with full SACD bass management and i.Link-encrypted digital output	0			•					253
C	Wadia 302		A dynamic and gripping player, with bass to die for and resolution to change your listening habits		0		•		•		0	253
	Wadia 861se		Stunning player with a full digital preamp and an all-revealing sound that'll keep you up all night				0		•		0	256

SPECS KEY SACD COMPATIBLE Plays high-resolution SACD discs in multichannel and/or two-channel mode. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a DAC or digital recorder. OPT DIGITAL OUTPUT Optical Toslink output for digital connection to a DAC or digital recorder. CD-RW COMPATIBLE Will play CD-RW (rewritable) discs, most CD players can cope with CD-Rs.

CD TEXT Will display album and track titles from inserted disc. BAL ANALOGUE OUT Balanced XLR output connections for similarly equipped amplifiers HEADPHONE SOCKET Quarter inch (6.3mm) headphone jack fitted to the CD player. VARIABLE OUTPUT Player features both fixed level and variable, volume adjustable outputs.



Cyrus CD8/PSX-R £1,350

Taken on its own, Cyrus's CD8 is a highly articulate £1,000 CD player. Add a PSX-R power supply and it really takes off - detailed and dynamic, with musical poise and panache.



Naim CDX2 £2,650 A superb player that mixes rhythm and timing with precision and poise. Add the £2,300 XPS power supply (pictured) to make one of the best CD players in the world.

BUYER'S BIBLE DVD PLAYERS

DVD PLAYERS Disc players for audio and video

DVD has proved a phenomenal success in commercial terms and has virtually extinguished the market for budget CD players - you can't really beat a multiformat player when it comes to features. Early DVD players were not particularly good CD spinners because of the enormous amount of RF interference produced by video circuits, but as this problem has been identified manufacturers have begun to tackle it. Nowadays, most DVD players are competent CD players and a few are very good – often as not they are the ones that play DVD-Audio discs as well.

The great advantage of DVD is that it offers sufficient capacity to hold a feature length movie or music concert and discrete multichannel sound on a disc the size of a CD. In the case of plain DVD-Video discs, the audio is encoded in either the Dolby Digital or DTS format, both of which use 'lossy' compression to fit the audio onto the disc alongside the video data. You can



use a DVD player with your stereo system by connecting the stereo outputs, though this won't give the surround sound benefits that the format specialises in.

you having to decide which format to go for, a

few brands are bringing out universal players

DVD-AUDIO

DVD-Audio is a high-resolution format that offers multichannel, stereo and Dolby Digital



tracks on dedicated DVD-A discs. The discs can be played on any DVD player, but the CD-beating high-fidelity sound can only be appreciated with a DVD-A player. While offering similar benefits to SACD, it has the advantage of on-screen display for information - lyrics, images and so on. To save

to cover SACD and DVD-A, alongside CD and DVD-Video - a neat and relatively future proof route into high-resolution multichannel music. Higher-end models featuring high-bandwidth compatible digital audio links are now also appearing, enhancing DVD-A/SACD sound when used with similarly equipped amps.

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 OUALITY?**

The best connection is component video closely followed by RGB Scart, which is 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.

DO I NEED PROGRESSIVE SCAN VIDEO?

It's worthwhile for the very best picture quality, but make sure your DVD player and display device support PAL progressive.



SPECIFICATIONS

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Our favourite III BEST BUY III EDITOR'S CHOICE **NVN PI AYFRS**

luc				VD-A COMPATIBLE	SACD COMPATIBLE	ELEC DIG	OPT DIG	ADPHONE SOCKET	ISSUE NUMBER
						OUTPUT	OUTPUT	SOCKE	UMBER
	D £1,000	2	COMMENTO	m	111			-	
88	Arcam DiVA DV78	700	Imagine almost all of the DV88 Plus at a knock-down price. Top picture and sound performance for the money				•		254
	Cyrus DVD 7+	1,000	Typical Cyrus style - open, vivid and bouncy sound, with decent picture quality to match			•	•		237
В	Denon DVD-1400	400	Denon's entry point to universal disc playback and a remarkably good one too. Excellent CD replay for a universal player		0		•		249
В	Denon DVD-2900	850	A beautifully built universal player that delivers a strong performance across all formats, all at a remarkable price	۲	۲	0	•		248
	Marantz DV6400	500	Good starter universal player with decent CD replay quality, but slightly disappointing SACD performance	0	۲	0	۲		254
]	Pioneer DV-565A	250	Do-it-all 'universal' player is a decent performer with all disc types, and superb value for money considering its range	0	•	•	•		248
]	Pioneer DV-668AV	600	HDMI-equipped universal player without i.Link audio output, but still absurdly well equipped and highly capable for the price	۲	0	•	•		252
]	Pioneer DV-868AVi	1,000	State of the art universal player with next-gen digital outputs - HDMI for video and i.Link for high-resolution audio	0	•	•	•		252
	Primare V25	1,000	Bold pictures on screen are matched to easy, likeable sound quality and a huge range of outputs			•	٠		237
OVE	£1,000								
	Arcam DiVA DV89	1,300	No SACD playback, but CD sounds strong, DVD-Audio is highly engaging and video performance is excellent too	•		•	•		248
	Arcam FMJ DV27A	1,900	Very accomplished, clean sounding player with CD, DVD and DVD-Audio alike. Picture quality is equally top-notch	•		•	•		246
	Cyrus DVD8	1,200	An impressive step up from the DVD7+, which includes component video outputs			•	•		238
	Denon DVD-A11	1,700	Refinement and clarity are hallmarks of this player, which is also as close to being future-proof as they come	•	۲	•	•		250
	Denon DVD-A1	2,500	A convincing case for the DVD-A format, battleship construction combined with sonic and visual finesse	•		•	۲		230
	Marantz DV-12S2	2,000	A universal player for audiophiles, with top-notch video playback too. Sonically refined and enjoyably understated	•	۲	•	•		255
	Meridian 800	10,805	The ultimate in DVD replay, modular construction, buffered ROM drive, upsampling and high-res digital outputs	•		•		۲	230
	Primare DVD30	2,000	A universal player for audiophiles - no wideband digital outputs but masterful with music and a good picture too	۲	0	•	•		253

SPECS 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.



Pioneer DV-565A £250



A universal player with respectable performance across all formats, at a remarkable price.







Pioneer's HDMI/i.Link-equipped universal flagship packs an amazing hi-tech punch.



Denon DVD-A11 £1,700 A superb universal player, made even better with i.Link/Denon Link/DVI digital outputs.





Five Stars for Value

Does the best price always mean the best deal? Ask our top twenty UK specialist hi-fi dealers.

"I thought I had this buying hi-fi business sorted out. I bought all the hi-fi magazines and read them thoroughly, because I reckoned their experts knew exactly what they were talking about - at least a lot more than I did! It was reassuring to see the same product names cropping up regularly and I figured the writers' experience and guidance would steer me straight to the system of my dreams. The trouble is I've ended up more confused than when I started".

ne reviewer said a product I fancied was absolutely brilliant but another said it was nothing special at all. How can that be? Surely one CD player is pretty much the same as another? And how can a loudspeaker that's one magazine's top recommendation not get so much as a mention in any of the others? I don't mind admitting it, I'm completely lost."

Plan B - I'm going for a deal

"So, I've decided to adopt plan B. I'm sure there can't be any really dramatic differences between all this gear and it's all bound to work together properly, so I'm going to check the price lists and the adverts and shop around for the best deal. I know getting the right hi-fi is important hey, I'm as mad about music as anyone but if I can get close to the mark and save a few guid, I'm sure I'll end up with a good system and be happy. I know there are specialist shops out there that do demonstrations and reckon they've got all the solutions but, to be honest, I'm a bit scared of going to one. I'd really welcome some advice and guidance but I don't know all the technical jargon and I'd feel daft sitting there trying to 'hear the differences' if I couldn't. Anyway, a friend told me that these shops only sell the really expensive gear and that they're not interested if you don't have loads of money to spend."

And so another hi-fi buyer starts his journey down the road to dissatisfaction, endless upgrades and a permanent overdraft.

There is only one way to buy a hi-fi system that will prove satisfying, reliable and deliver true value for money, and that's through a specialist hi-fi dealer. Let's face it, you wouldn't think about buying a car if you couldn't take it for a test drive. You wouldn't buy a house solely on the strength of seeing the estate agent's details and a photograph. Even if you're spending far less, say buying a jacket or a pair of shoes, you want to try them on to make sure they fit you.

Buying a hi-fi system is no different. It doesn't matter what the specifications say or what the 'experts' think: if it doesn't measure up to what you want from a system, then it's not the right choice. Knowing that you've bought a room full of five-star favourites or best-buys is no consolation when you can't bear to listen to them for more than five minutes. Even that ten per cent discount on the price won't make them sound any better.

Buying or being sold to?

Mind you, most of us are easily suckered when it comes to buying hi-fi. Given the choice of venturing into the unknown territory of a specialist dealer's shop and exerting some influence over what we buy, or taking what looks like the easy route having adverts and magazine reviews push us along a path sweetened with discounts and special offers - we opt for the latter. We don't buy a system, we allow ourselves to be sold one. We side-line our own ideas about quality and personal satisfaction and buy someone else's opinion of what's good for us and good value for our money.

Take control!

Now there's a group of long-established, independent specialist dealers who are



66 You wouldn't think about buying a car if you couldn't take it for a test drive. You wouldn't buy a house solely on the strength of seeing the estate agent's details. **79**

totally committed to putting the customer back in the driving seat. They're encouraging the buyer to take control with a little help and guidance provided where required. They know how difficult it can be to establish the true quality and worth of hifi and home cinema systems. They know that without experiencing the performance of the systems they offer, you can't possibly assess the value of them. That's why their idea of 'selling' is to 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. With the dealer's help and advice you will 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 problems you might encounter.

The story doesn't end there. These shops won't abandon you once you've put your hand into 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 that you're entirely happy with the way it works.

Why bother?

There is, of course, one question that hasn't been answered: why should you and these dealers go to all this trouble? Well, from your point of view maybe it's because a good deal is about a great deal more than just price. unless you've got money to burn, you'll be living with your new system

STAR QUALITIES

VALUE FOR MONEY	*	*	★	*	*
SERVICE	★	*	*	*	*
FACILITIES	★	*	★	*	*
VERDICT	*	*	*	*	*

for years - years during which most of hose five star products will probably stop shining quite so brightly. 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 all have lots of stars. You'll find them on the shop floor: they're the people waiting to guide customers towards hi-fi that will give them years of musical enjoyment and total satisfaction.

OUR TOP 20 UK SPECIALIST HI-FI DEALERS

LONDON

N1 GRAHAMS HI-FI 190a New North Road 020 7226 5500 SW11 ORANGES & LEMONS 61/63 Webbs Road, Battersea 020 7924 2043

SOUTH

7-9 Park Place

01403 252255

Ashford, Kent SOUNDCRAFT HI-FI 40 High St. 01233 624441 Cheimsford RAYLEIGH HI-FI 216 Moulsham Street 01245 265245 East Grinstead AUDIO DESIGNS 26 High St. 01342 314569 Horsham AUDIO DESIGNS INFIDELITY 9 High Street Hampton Wick 020 8943 3530 Rayleigh, Essex **RAYLEIGH HI-FI** 44a High St. 01268 779762 **Ringwood, Hampshire** PHONOGRAPHY Star Lane 01425 461230 Southend-on-Sea **RAYLEIGH HI-FI** 132/4 London Road 01702 435255 Southampton PHASE 3 HI-FI 37 Bedford Place 023 8022 8434 Worthing PHASE 3 HI-FI 213-217 Tarring Road 01903 708810

Kingston-upon-Thames

MIDLANDS Banbury OVERTURE 3 Church Lane 01295 272158 Birmingham SOUND ACADEMY 152a High Street, Bloxwich 01922 493499 **Coventry Frank Harvey** 163 Spon Street 024 7652 5200 Leicester CYMBIOSIS 6 Hotel St. 0116 262 3754 Northampton LISTEN INN 32 Gold St. 01604 637871 Shrewsbury CREATIVE AUDIO 9 Dogpole 01743 241924

NORTH

Cheadle THE AUDIO WORKS 14 Stockport Road 0161 428 7887 Oldham AUDIO COUNSEL 12/14 Shaw Road 0161 633 2602 Sheffield MOORGATE ACOUSTICS 184 Fitzwilliam St 0114 275 6048 York SOUND ORGANISATION 2 Gillygate 01904 627108

SCOTLAND Edinburgh RUSS ANDREWS HI-FI 34 Northumberland Street 0131 557 1672 Glasgow STEREO STEREO 260 St. Vincent Street 0141 248 4079

N. IRELAND Belfast LYRIC HI-FI 429-431 Lisburn Road 028 90 381296

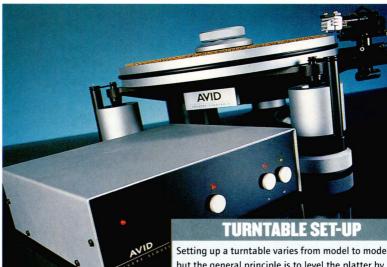
BUYER'S BIBLE VINYL

VINYL Turntables, cartridges and phono stages

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

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

A fourth element is an amp dedicated to the delicate job of amplifying and equalising the cartridge's insubstantial output. This is called a phono stage and can be found in some integrated amplifiers and preamps, but is increasingly purchased separately for use with line-only amps.



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

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

(1)



1 Xpression £210 The latest model from Czech turntable specialist Pro-Ject is remarkable value for money – an Ortofon OM10 cartridge and carbon fibre arm are included in the price.



Roksan Radius 5 £850 A beautiful mid-price turntable with an impressively well-sorted sound from low bass to high treble. Price includes matching Nima tonearm.



Avid Diva £1,100 Superbly well engineered for the money, Avid's entry-level deck spins a highly involving musical message – solid, powerful and detailed.



Michell Orbe SE £1,825 A fine example of the turntable art, the stripped down SE version of Michell's flagship now features a DC motor. Does justice to the best arms and cartridges.

SPECIFICATIONS

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SPECIFICATIONS

Our favourite BEST BUY E EDITOR'S CHOICE TURNTABLES

Rec	ord players			SPEEDS	SUSP SUBCHASSIS	SWITCHABLE SPEED CHANGE	SUPPLIED WITH ARM	UPPLIED WITH CARI	ISSUE NUMBER
BADGE?		3	COMMENTS					-	
88	Audio Note TT1/ARM1	594	Simple and unpretentious, it delivers a real taste of true high-end performance at an affordable price	33/45	•	۲	•		203
86	Avid Diva	1,100	A solid and powerful sounding deck with fine build, requires a smooth, relaxed cartridge for best results	33/45	•				247
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	۲	•			229
EC	Avid Acutus	5,000	Extremely capable design with no apparent shortcomings. Don't sell your vinyl 'til you've heard it on this!	33/45	٠	.0			194
	Clearaudio Emotion	655	An engaging turntable offering plenty of audiophile credibility for the money (price includes arm and cartridge)	33/45			٠	•	251
	Clearaudio Champion Level 2	1,955	Neutral balance, great looks, but only so-so detail. Benefits greatly from isolation	33/45			•	•	223
EC	Clearaudio Master Reference	12,610	Revealing and exciting turntable that revels in the fine details (reviewed with Master TQ-I arm/Accurate cartridge)	33/45		•	•		256
88	Goldring GR1	140	The best value 'Rega' yet and a new benchmark for budget turntables. Vinyl nirvana on a shoestring	33/45				•	252
88	Michell Gyro SE	1,058	New DC motor-equipped Gyro offers great looks and even better sound. Price includes RB300 arm	33/45	۲		•		239
EC	Michell Orbe SE	1,825	A superb turntable, able to mix it with the best at virtually any price. Now features new DC motor	33/45	0				235
88	Nottingham Analogue Horizon	529	A fluid midrange and nimble but rich bass are two of the many attributes of this bargain deck (price inc RB250 arm)	33/45			۲		253
88	Pro-Ject 1 Xpression	210	Well designed and executed budget deck with an entertaining and revealing sound	33/45			۲	•	248
88	Pro-Ject RPM 6	500	Basic, very neutral turntable and arm combination that can take a very expensive cartridge. A high-end bargain	33/45			۲		236
88	Rega P2	198	Updated Planar 2: just as much fun as ever and now even better value as the competition falls away	33/45			۲		214
	Rega P3	298	Updated Planar 3, building on the strengths of the P2 with added subtlety and detail	33/45			0		214
EC	Rega P9	2,248	Exceptionally elegant hi-tech player with complex outboard supply, ceramic platter and wonderful RB1000 tonearm	33/45		•	•		228
88	Roksan Radius 5	850	Sophisticated design with accomplished sound quality, excellent imagery and good isolation	33/45	0		•		248
EC	Roksan TMS2	7,500	Typical Roksan sound, but better: pitch-accurate, lean, detailed and controlled, without the 'bloat' of lesser designs	33/45	•	•			246
EC	SME Model 10A	3,411	Elegant and extremely capable design with Series V/309 hybrid arm, superbly built	33/45		•	•		195
EC	SME Model 20.2A	5,274	Beautifully built, extremely neutral damped and suspended deck with superb sound. Inc V arm	33/45/78	۲	۲			186

Our favourite BEST BUY E EDITOR'S CHOICE PHONO CARTRIDGES

						ACEABLE	ISSUE
MM	and MC cartridges			2	_	E STYLUS	NUMBER
BADGE?	PRODUCT	£	COMMENTS	MM	MC	S	- H
	Clearaudio Sigma	580	A nimble and revealing cartridge that is more at home in lower mass arms		0		235
	Goldring Elite	250	A remarkably subtle and persuasive design that should tempt anyone		٠		235
	Grado Prestige Black	40	Offers admirable detail and treble extension, with good bass and ambience too	•		•	214
BB	Grado Prestige Gold	110	Produces rich, open and expansive music with the minimum of fuss	•		۲	235
EC	Linn Akiva	1,800	With fine dynamic expression and a wide bandwidth, what you hear sounds very close to master tape		۲	۲	242
EC	Lyra Helikon	1,095	Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality	۲			215
	Reson Etile	485	Plenty of life and detail, and refined with it		۲		223
90	Sumiko Blue Point Special	250	A no-nonsense performer with engaging musical properties – one of the best around for less than $\pounds300$		•		192
38	Van den Hul MC One Special	699	A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light		۲		235
EC	van den Hul Colibri XGP	2,699	Phenomenal resolution, custom building to suit hard and software, but needs 500 ohm loading and is vulnerable to damage		۲		244
EC	Wilson Benesch Naked Analog	1,450	With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money		•		253

Our favourite BEST BUY E EDITORS CHOICE PHONO STAGES

		U	INGLU	A PHONO	C PHONO		ADJ. IM	ISSUE
Pho	Phono stages				O INPUTS	ADJ. GA	IMPEDANCE	NUMBER
BADGE?	PRODUCT	£	COMMENTS	INPUTS	IS	AN	R	æ
	Musical Fidelity X-LPSv3	249	Simple, well turned out valve-driven phono stage lacks adjustability, but sounds sweet, open and well-behaved	0	•			248
88	NAD PP2 phono stage	50	A fine buy for turntable users on a tight budget - open tonality and clarity is distinctly impressive for the money		•			245
88	Tom Evans Microgroove	400	For dynamics and real bass extension with good tonal colour this is the one to beat. The Plus version (£700) is even better!		•			234
EC	Tom Evans The Groove	1,800	Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for maximum information retrieval off any LP		۲			201
88	Trichord Dino/Dino+	498	Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility	•	•	۲		234

TURNYALLESPECS KEY SPEEDS Speeds offered in rpm. SUSP SUBCHASSIS Turntables with a sprung or suspended support for the platter and arm. SWITCHABLE SPEED CHANGE Some decks require manual lifting of the belt from one pulley to another to change speed, but not these ones. SUPPLIED WITH ARM Deck is supplied complete with tonearm – some require a separate purchase in this department, but the dealer will fit it for you. SUPPLIED WITH CARTRIDGE Some decks are supplied with a starter cartridge and this is included in the price shown

CARTRIDGESPECS 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.

SPECIFICATIO

M

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Transparent Cables are created through a unique process combining the best of laboratory technology and critical listening tests by music lovers. Hand-assembled by Maine craftspeople with years of specialized training, Transparent Cables are the only in the world to have their networks optimized for each length of cable. With every increase in performance level, the selection, physical placement and electrical matching of the cable components becomes more critical. It is these touches and attention to detail that make Transparent Cables rise above the competition, producing a sound unrivalled by others.

Transparent Audio, providing performance and complete audio and AV solutions since 1979, from entry level prices, to money-no-object ultimate high-end.

Absolute Sounds, leader of high-end audio imports, have built up knowledge and respect for the cables they distribute. As with all their imports, extraordinary quality and design are prerequisites of Transparent Cables. Absolute Sounds invite you to contact them for your nearest Transparent Cable centre.

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TUNERS BUYER'S BIBLE

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 said to be available to 80 per cent of the population and the long-term plan is to switch public broadcasting over to digital, 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 TU260L II £130 The benchmark for all other budget AM/FM tuners, with great sound and features.



Cambridge DAB500 £150 A low-cost DAB radio that gets very close to much more expensive digital models.



Rega Radio 3 £374 An excellent sound-first FM/MW tuner – low on features but big on sound.



Magnum Dynalab MD102 £2,200 If you're serious about radio this superb FM tuner is about as good as it gets.

-	ir favourit e				SPE	CIFIC	CATIO	NS		
	UNER	S		\$			REMOTE CONTROL	SIG. STRENGTH METER	ROT. TU	ISSUE
FM	& DAB HI-FI SEPAF	ATES		WAVEBANDS	PRESETS		E CONT	GTH ME	TUNING KNOB	JE NUMBER
BADGE	PRODUCT	3	COMMENTS	NDS	SETS	RDS	ROL	TER	NOB	IBER
FM TI	INERS									
	Cambridge Audio T500	180	Very capable tuner suited to good and less good reception conditions	FM,M,L	64			0	0	193
88	Creek T50	499	Very fine results indeed with precision, polish and insight added to excellent basics	FM,ML	128	0	۲	۲	0	251
88	Denon TU-260L II	130	The return of the all-time favourite, now enhanced with RDS and sounding as fine as ever	FM,M,L	40	0			0	193
EC	Magnum Dynalab MD102	2,200	Unique remote control analogue FM tuner delivers a superbly transparent sound that makes radio fun	FM	5		•	•	•	241
68	Marantz ST6000	180	Another budget killer from Marantz, with sound well above its class and useful features	FM, M, L	90	•		۲		211
88	NAD C422	180	Admirably free of roughness or other obvious nasties, with just a slight lack of clarity	FM,M	30			۲		250
BB	NAD \$400	600	One of the best around - bass and treble are both well extended and detail is excellent	FM	30	0	0	۲		230
BB	Primare T21	600	Identical to NAD S400 and likewise a very fine tuner	FM	30			۲		230
88	Rega Radio 3	374	Unpretentious unit which does what it claims, very well. Unusually fine FM sound in all areas	FM,M	20		۲			242
	Rotel RT-02	279	A highly competent tuner which always sounds appealing and fuss-free	FM,M	30	•	۲	۲		242
DAB T	UNERS									
	Arcam DT-81	650	A very smart and polished DAB performer	DAB	16		۲	0	•	221
88	Cambridge Audio DAB500	150	Very good sound, plus optional response tweaks, and slickest operation yet	DAB	10		۲	۲	۲	248
	Pure Digital DRX-701ES	250	An excellent introduction to DAB, fine value, simple to use and feature loaded	DAB	99		۲	۲	۲	234
	Pure Digital DRX-702ES	330	Very flexible DAB (inc L-band) and FM tuner. DAB is good, FM a touch disappointing	DAB,FM,M	99	۲	0	0	0	242
	TAG McLaren T32R+DAB	2.290	Classy hi-fi at its best: top sounds on FM and DAB, and a joy to own and use	DAB,FM,M,L	99					230

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

DIGITAL AUDIO RECORDERS

CD, MiniDisc and hard drive recorders

MiniDisc

MD's strength is versatility. You can record and then re-record many times over. Editing facilities are second to none – you can erase mistakes, name tracks and re-order a disc's contents with a few simple button pushes, making it ideal for building compilations. They're pretty robust too.

Sound quality is below that of CD-R/ CD-RW. The format uses a Sony-developed compression technology called ATRAC, which discards part of the data in order to squeeze it on the disc. If you're copying from CD to MD, the result tends to sound a little cold in comparison, lacking a degree of detail and ambience. But to most people it still sounds light years ahead of cassette – clean and hiss-free.

Recordable CD

With recordable CD you have a choice of two disc types: CD-R discs are the cheapest, but you can only record once; and CD-RW discs are a little more costly, but you can rerecord on them *ad infinitum*.

Though the latest machines incorporate some useful editing facilities, CD-R/RW is not as flexible as MD. However, sound

quality is higher – if you're recording from a CD, the best models will give you a copy that is very close to the original. In terms of compatibility, most CD players will play back a CD-R disc, but older models might have trouble with CD-RW (though you can, of course, play the disc back on your own recorder). If you want to play a CD-R/RW on a DVD player, check for compatibility.

Hard drive

The latest contender on the digital recording scene is also the most flexible. Some HDD (hard disk drive) recorders can store whole music collections if you use a compression format such as MP3. HDD recorders are taking over from multidisc CD changers as sound servers in multiroom installations, where their ability to play more than one piece of music at a time is a great boon. HDD also offers impressive editing facilities on a par with MD, and they can also record from CD (or to CD-R/RW) at high speed.

At present, sound quality isn't the driving force behind the format – flexibility and storage capacity being bigger issues – and a plain CD-R/RW machine will outperform an HDD recorder in fidelity terms.



Impressively flexible hard disk music server for multi-room applications.

ELEC IN/OL

Our favourite BEST BUY E EDITOR'S CHUCE DIGITAL RECORDERS

CD-R/RW, MD and HDD recorders

CD-F	K/KW, WD and HD	D reco	braers	DECKS	JITY (GB)	UTPUTS	UTPUTS	NUMBER
BADGE?	PRODUCT	£	COMMENTS	CKS	GB)	SIC	SIL	ĒR
CD-R/R	W RECORDERS							
	Denon CDR-1000	400	A respectable player and recorder, though some midband congestion was noted when recording	1		۲	•	21
88	Marantz DR6000	400	No frills, but in its fundamentals this is one of the finest CD recorders on the market	1		۲	0	23
	NAD C660	500	Audiophile twin deck offering high-speed copying, HDCD replay and notably fine recording from analogue	2		0		24
38	Philips CDR802	300	Tacky looks and build notwithstanding, this is a well-equipped and technically sound 3-to-1 autochanger/recorder at a good price	2		0	۲	23
88	Philips CDR951	380	An improvement on previous models, it delivers the musical goods in some style	1		0	۰	20
88	Pioneer PDR-609	270	Classic CD recorder with outstandingly good sound for the money on both record and replay	1		۰	0	24
	Pioneer PDR-W839	350	Good-quality twin CD burner makes recordings that can be hard to distinguish from the original. Good value too	1		•	•	21
MD REC	ORDERS							
	Pioneer MJ-D508	200	Well equipped, but musically sleep-inducing player that receives its Recommendation owing to the price	1		0		20
	Sony MDS-JE480	130	Straightforward and effective, but the three real killer features are price, price and price	1		0		23
HDD RE	CORDERS	1 20 20						
	Imerge S2000	1,599	Intended as the centrepiece of a multi-room installation, this three-output server combines flexibility with good sound	2	80	•	0	24
	Yamaha CDR-HD1300	600	Superb combination of high-speed CD-RW drive and hard disk, adding editing flexibility to CD recording	2	80	0		24

SPECS KEY DECKS Amount of drive mechanisms on board – twin-deck recorders use one to play while the other records. HD CAPACITY Amount of gigabytes of storage capacity, for HD only. OPTICAL IN/OUTPUTS Optical Toslink in and outputs for digital connection to a CD player or DAC. ELEC IN/OUTPUTS Electrical coaxial in and outputs for digital connection to a CD player or DAC.

Sevenoaks SOUND & VISION



Sevenoaks Sound & Vision stocks

a wide range of Hi-Fi separates, DVD players, amplifiers, speakers, plasma screens, LCD televisions and projection systems from all the leading manufacturers.

From starter systems to custom designed multi-room and home cinema installations, our friendly staff are available in all stores to advise, demonstrate and guide you through the home entertainment jungle. If you're interested in home entertainment and want to avoid the confusion, contact your local Sevenoaks Sound & Vision store and experience more.

0% interest free option^ is available on most products.

[^]Written details on request. Licensed credit brokers. Minimum balance £400. Subject to status.



CUSTOM INSTALLATION

Are you looking to neatly and seamlessly integrate a Home Cinema or Hi-Fi System into your home? Our Custom Installation experts are fully trained in all areas and provide a prompt, reliable and professional service. Whether you're looking for lighting control systems, a dedicated home cinema installation with a retractable screen and built-in speakers or an integrated control system, Sevenoaks Sound & Vision has the solution.



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ARCAM EXTENDS DIVA RANGE

Arcam has added two exciting new products to its highly successful DiVA range.

The British designed and manufactured DV79 is an affordable enthusiast level DVD-Audio Player that delivers one of the best pictures in the world along with Arcam's legendary sound quality. It is equipped with an HDMI digital video output for the latest plasmas and projectors plus interlaced and progressive analogue audio. Whether playing movies or listening to music, the DV79 will not disappoint.

The 7.1 channel AVR300 home cinema and music receiver will impress even the most discerning listener. This audio performance is matched by a feature set that meets the requirements of today's most demanding A/V enthusiasts

CYRUS DAC-X



Cyrus' new DAC-X is one of the world's

finest Digital to Analogue Converters, allowing any CD player to be upgraded to the very latest 192Khz DAC technology. In true Cyrus tradition this new decoder can also be supplied - or upgraded - with dual mono, fully balanced, pre-amplifier cards built-in. This Pre-



amplifier version will be known as the DAC-XP

DENON AVR3805 7.1 A/V RECEIVER

The AVR3805 is the replacement for the highly acclaimed '3803. This is a major model change every element has been examined and upgraded. The '3805 is supplied with a radical new handset - the RC970. This advanced remote control is fully backlit and features full learning capability and is preprogrammed for most major brands.

FREE GRADO SR60 HEADPHONES WORTH £90 WITH THE DENON AVR3805 DURING JULY*

www.sevenoakssoundandvision.co.uk

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PLEASE SEE PAGE 7 FOR ADDRESS AND TELEPHONE NUMBER DETAILS

Sevenoaks







"The Gyrodec SE sounds great, combining the best sonic characteristics of rivals... Quite simply, the Michell Gyrodec SE is terrific. Nothing compares at this price point - it's well deserving another Best Buy."

CLAIM £50 TOWARDS THE GOLDRING CARTRIDGE OF YOUR CHOICE*



FREE GRADO SR60 HEADPHONES WORTH £90 WHEN YOU PURCHASE AN AMP AND CD TOGETHER FROM ONE OF THE FOLLOWING MANUFACTURERS - ARCAM, CYRUS & ROKSAN*



Pro-ject 1 Xpression Turntable (Black) £209.95

"Compared with a £200 CD player this deck sounds remarkable: dig out your vinyl and give the Xpression a spin."

Pro-ject 1 Debut II Turntable (Black) £119.95



THE PROJECT RANGE

STARTS AT ONLY **£119.95**

experience more **Öerience more**



Speakers £399.95

KEF O4

Cyrus Pre X Pre Amplifier £999.95 Mono X Power Amplifier (Each) £1199.95

"This Cyrus pairing isn't cheap but listen to a well-run-in sample and its array of talents is hard to beat. Load your favourite CD into a capable player, turn up the Pre X and the sonic magic will be worth every penny."



Mission 780 SE Speakers £349.95

"The revamped Mission 780s are hugely enjoyable: anyone with up to £400 to spend should consider these standmounters. Mission's clever move



MJ Acoustics Reference 100 Subwoofer (Black) £349.95

"You get a high level of detail and the kind of impact most sub-£1000 floorstanders would struggle to match The verdict's simple:buy with confidence. Best Buy



Series. At the heart of this floorstander lies the Uni-Q driver array - a 130mm die-cast chassis housing a long throw cone and coincident mounted 19mm aluminium dome HF unit. This driver arrangement makes the speaker much easier to place in the room and alleviates the 'sweet spot' found on 'ordinary' speakers. This has been combined with a dedicated 130mm LF unit for extended bass output which belies the size of its diminutive cabinet. SPEAKER CABLE FREE

NEW

The Q4 is one of the latest additions to KEF's acclaimed Q

WORTH

WITH ALL HI-FI SPEAKER PAIRS OVER £299*

0

£60

OED

E60 WITH SPEAKERS OVER E299 E80 WITH SPEAKERS OVER E499 £120 WITH SPEAKERS OVER £999



"These solidly made standmounters perform well across the whole range of musical styles ... Add these speakers to your hi-fi system and you're guaranteed magnificent integration between the drivers and an even tonal balance.

Roksan Kandy KD1/III CD Player £594.95 KA1/III Amplifier £594.95

WORTH E60

"Timing and rhythm are excellent. DJ Shadow is delivered with clarity and a tight bass, while at the other extreme the treble is sweet and detailed, getting the most from Wagner's Ride of the Valkyries. The result is a breathtaking Best Buy amplifier that betters its competition With ease," KANDY KA1/III AMPLIFIER - AWARDS 2003



"The Kandy KD1/III CD player offers a great array of talents - team it with its amp stablemate and you have something close to the ideal visual and sonic combination."

HAT HI-FI? *****

Best Buy

FREE

GRADO SR60 HEADPHONES WORTH £90 WHEN YOU PURCHASE AN AMP AND CD TOGETHER FROM ONE OF THE FOLLOWING MANUFACTURERS - ARCAM, CYRUS & ROKSAN* NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION



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We always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.



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Sevenoaks





Musical Fidelity has unveiled two integrated amplifiers and a CD player as part of its revamped X-series. The 40 wpc, X-80 (£599.95) and the 80wpc X-150

(£799.95) amplifiers feature a dual-gang analogue volume control and high-output transistors for each

channel. The X-150 also includes a high quality phono stage.

The X-Ray⁴⁹ CD player (**£899.95**), is the replacement for the legendary X-Ray and uses the same DAC and upsampling



principles as the acclaimed Tri-Vista SACD player. From a technical standpoint, the X-Ray^{xa} is equal of some of the most expensive players on the market.

B&W 704 Speakers £1399.95

The 704 speakers are part of B&W's new 700 series. These floorstanding, two-and-a-halfway, vented box speakers and are available in a variety of attractive finishes. In a recent What Hi-Fi? Sound and Vision group test the 704 offered "Remarkable openness and clarity that is unrivalled at this price."

WHATHI-FI? Mar sound and vision 04





MUSIC ALL AROUND THE HOME



You've heard of hi-fi - now welcome to the world of wi-fi! Wi-fi devices allow you to network a range of devices together – from your music system to your PC – without the wires. For example, a multiroom server like Yamaha's MusicCAST can wirelessly send music to up to five 'client' playback systems dotted around your home. That music could be stored on the MusicCAST server device or other sources - existing hi-fi kit, maybe, or an internet radio station or MP3 files from your PC: plug-in adapters make it easy to wi-fi-enable products.





Linn Classik Music System (Ex Speakers) £799.95 When purchased with speakers over £299* When purchased on its own £849.95

"The Classik sounds simply marvellous. Boasting fine impact and drive, it retains its grip even as it thumps out rock and dance tracks. Ask it to play quiet acoustic music and its smooth, liquid presentation impresses still further. The Classik offers the performance you'd expect from high quality separates in one lovely package - this is a very superior product."



UD-M31 CD Receiver

£189.95 When purchased with speakers over £99* When purchased on its own £199.95

"The D-M30 was exemplary, as its three What Hi-Fi? Sound and Vision Awards clearly show. The D-M31 is even better, making it phenomenal value for money."

OPTIONAL RECORDERS:

DMD-M31 MINIDISC RECORDER • DRR-M31 CASSETTE DECK NB - PRICE EXCLUDES SPEAKERS

PLEASE NOTE: SOME PRODUCTS MAY NOT BE AVAILABLE AT ALL STORES. PLEASE CALL BEFORE TRAVELLING.

*ADDED VALUE OFFERS - FROM RANGE AVAILABLE IN-STORE. NOT IN CONJUNCTION WITH ANY OTHER OFFER. ADVERTISEMENT VALID UNTIL AT LEAST 28/07/04, E&OE.

experience more experience more experience more





SEPARATE HI-FI SYSTEMS

Rotel RCD-02 CD Player RA-02 Amplifier

Monitor Audio Bronze B2 Speakers

For this recommended Hi-Fi System we have combined Rotel's highly rated RCD-02 CD player and RA-02 amplifier with Monitor Audio's beautifully balanced Bronze B2 speakers. This package gives a powerful, fresh and vibrant sound. The compact 'B2 speakers, available in a variety of finishes, were awarded 'Best Buy' by What Hi-Fi? Sound and Vision, with the sound being described as "Superb... Speakers don't get much better than the B2's".



The RA-02 amplifier features remote control and a phono input. The RCD-02 (***** - What Hi-Fi? Sound and Vision - August 2003) is HDCD compatible and includes a digital output for connecting to a digital recorder.



HI-FI SYSTEM 1 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION





Arcam CD73T CD Player A65 Plus Amplifier

<mark>KEF</mark> Q4 Speakers

Arcam and KEF both have an enviable reputation for producing great sounding kit without breaking the bank. This system shows why with a well balanced sound that's both musically involving and enjoyable.

At the front of this package is Arcam's upgradeable CD73T CD player - a What Hi-Fi? Sound and Vision 'Product of the Year 2003'. We've coupled this with Arcam's complementary A65 Plus integrated amplifier and KEF's new Q4 floostanding speakers featuring KEF's unique Uni-Q technology for easier room placement.



HI-FI SYSTEM 2 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION



Roksan Kandy KD1/III CD Player KA1/III Amplifier Monitor Audio Silver S6 Speakers



HI-F



The combination of Roksan's Kandy MK3 CD and amplifier is, according to What Hi-Fi? Sound and Vision, "Something close to the ideal visual and sonic combination" (December 2003). We have partnered these with the Silver S6 floorstanding speakers from British speaker specialists, Monitor Audio. The combination of Roksan's excellent rhythm and timing, with its tight bass and sweet detailed treble coupled with the 'S6's ability to stay unruffled even when the music is at its most complex, makes this a remarkable system.





HI-FI SYSTEM 3 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION

Sevenoaks SOUND & VISION



PRODUCT RANGE

An outstanding selection of products are on display and available for demonstration at all Sevenoaks Sound & Vision stores.

However, some products may not be available at all stores. Please call to check availability before travelling.

TURNTABLES

Goldring GR1	£139.95
Michell Gyro SE/RB300 £50 GOLDRING CARTRIDGE*	£1049.95
Michell TecnoDec (Ex Arm)	£599.95
Project Debut Phono SB	£169.95
Project Debut II (Black)	£119.95
Project Debut II (Colours)	£134.95
Project 1 Xpression	£209.95

TUNERS

Arcam DiVA T61	£199.95
Сугиз FM X	£499.95
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Pure DRX-701ES DAB	£199.95
Pure DRX-702ES Analogue/DAB	£279.95

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	us dac-x									
	on DCD485									
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	Ikemi									
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Mu	sical Fidelity X-R	ay '	ß			÷				£899.95
Mu	sical Fidelity A3.	2		 					 	£999.95
Mu	sical Fidelity A30	89							£	1999.95
Qua	d 99 CD-P						 			£999.9
Rok	san Kandy KD1 M	KIII							 	£594.9
	san Caspian M .									
	el RCD02									
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Pioneer PDR609 CD-RW		,				£169.95
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AMPLIFIERS

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Arcam DiVA A80	£599.9	95
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Arcam FMJ A32	£1149.9	95
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Marantz	PM7	7200) .											£249.95
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Musical	Fide	elity	χ-	150)							 		£799.95
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Musical	Fide	elity	AЗ	.2	Pr	е								
Musical	Fide	elity	A3	.2	Pc	οw	/er							
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Quad 99	Pow	er .										 		£549.95
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Roksan	Casc	ian I	N							 	2			
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Rotel RSP1066/RMB1075 AV Pre/Power	
Rotel RSP1098 AV Processor	
Yamaha DSP-AX750SE A/V Amplifier	
Yamaha DSP-AX640SE A/V Amplifier	
Yamaha DSP-Z9 A/V Amplifier	
Yamaha RX-V440RDS AVV Receiver	
Yamaha RX-V550 A/V Receiver	
Yamaha RX-V640RDS AVV Receiver	
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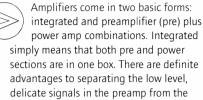


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BUYER'S BIBLE STEREO AMPS

STEREO AMPLIFIERS

Integrated and pre/power amps



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.

HOME CINE IA STEREO

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



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.

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.

0&A

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

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

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

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

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

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

nd riv



A true budget belter from Marantz - power and finesse in equal measure, plus the ability to switch between Class A and Class AB operation. Giant killing amps are back!



Caspian M Series £1,000 The latest version of Roksan's longrunning mid-market amp is a truly expressive performer, good enough to pick up a gong in our 2003 Awards.



99 Pre/909 £1,650 This neat pre/power combo is much more engaging than stereotypical Quads of old, vet retains their purposeful, no-nonsence appeal. A great value two-box option.



STEREO AMPS BUYER'S BIBLE

Our favourite BEST BY CELETION'S CHOICE STEREO AMPLIFIERS

Inte	grated amplifiers			LINE INPUTS	PHONO INPUT	REMOTE CONTROL	ADPHONE SOCKET	OWER OUTPUT (M)	ISSUE NUMBER
	PRODUCT	£	COMMENTS	UTS	PUT	ROL	茵	(M)	BER
	£1,000								
	Arcam DiVA A65 Plus	370	Highly articulate and fluent, offers unusual insight for its price	5	•	•	•	40	232
<u>36</u>)	Arcam DiVA A75 Plus	470	Quick, lively and well-presented amplifier, bass is sharper and more tuneful than its predecessor	5	•	•	•	50	224
	Arcam DiVA A80	600	Arcam's most successful mid-range amp to date – sophisticated control system and crisp, detailed sound	6	•	۲	•	90	251
BB	Arcam DiVA A90	850	Enhanced replacement for A85, convertible to 7.1 sound with the addition of an add-on module and extra P90 power amps	6	opt	0	0	90	250
38	Audio Analogue Primo	475	Small, stylish amp with a smooth and beguiling sound. Makes a fine partner for AA's equally compact Primo CD player	5	opt	•		70	255
BB	Cambridge Audio Azur 540A	200	A well built and fully featured amplifier that costs this little should not sound this revealing	6	opt	0	٥	50	255
	Cambridge Audio Azur 640A	250	Cambridge has a powerful weapon in the battle for budget amp supremacy, it's a lot of musical entertainment for the money	5	opt	۲		65	250
	Cyrus 8	800	Impressive at low to medium volumes, and a clear improvement on its predecessor, but deteriorates at high power levels	7		0	0	70	239
86	Exposure 3010 Integrated	1,000	A mix of old and new, combining greater power with Exposure's traditionally sweet and enthralling sound	6	0	0	۰	120	244
	Icon Audio Stereo 40i	900	Stylish and very sharply priced valve amp is a good all-rounder	4				37	254
8ê	Marantz PM4400 OSE	250	Highly competent and well specified - a lively performer that makes great music	5	•		•	50	256
60	Marantz PM7200	330	High power, plenty of features, and remarkably clear and informative sound with lots of impact	6	۲		۲	105	248
88	Marantz PM7200KI	500	Even more refined version of basic amp, with notably improved bass purity	6	•		۲	95	254
88	Musical Fidelity X-80	600	The entry-level to Musical Fidelity's amplifier range sounds both powerful and refined	4		•		55	255
88	NAD C352	350	Dynamic and musical sounding update on what was already a star product	7		0		80	253
88	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		0		50	252
85	Primare I20	750	An amplifier with attitude: punchy fast and secure sounding, with excellent build quality for the money	4		۲		70	239
265	Roksan Caspian M Series	1,000	Improved mid-range model from Roksan is a fine, expressive amplifier - right at the top of its class	6		0		85	248
88	Rotel RA-02	349	Agile and capable slimline design with an engaging sound that draws you into the music	4	0	0		40	232
88	Rotel RA-1062	595	A great value amp with a detailed and engaging sound, and the ability to drive almost any speaker in its path	5	0	•		95	251
BB	Sugden A21a	899	This single-ended, Class A transistor amp has exquisite resolving ability and presence - an authentic classic	5				25	224
88	Thule IA60B SE	895	An amp that's so faithful to the spirit and detail of the source material and costs less than £1,000 is hard to fault	5		•		75	253
	E £1,000								
88	Arcam FMJ A32	1,150	Remarkably flexible and well-featured, with excellent sound quality for the price	7	•	0	0	100	228
88	Audio Note Oto Line SE	1,599	Single-ended valve amp lacks power but sounds remarkably delicate and coherent	5	opt			10	254
88	Audio Research VSi55	2,895	Superb all-rounder provides the delights of valve amplification without sacrificing convenience	5		۲		50	254
C	AVI Laboratory Series	1,399	Terrific power, control and resolution - effortlessly musical and fine value	6	opt	۲		200	241
C	Burmester 032	9,100	Bulky, powerful amp sounds delightfully delicate with a lovely natural warmth and superb imaging	5		0		170	252
88	Copland CSA29	1,900	A hybrid valve/solid state amplifier that gets close to offering the best of both worlds	6	opt	•		85	255
	Hegel H1	1,500	A rich and responsive amp that revels in great music with a warmth that encourages non-stop listening	6		•		120	254
EC	Karan KA-i180	3,900	Lean, sharp and articulate, this impressively constructed heavyweight is almost up there with the audiophile pre/power elite	4		•		180	236
EC	Krell KAV-400xi	2,698	The best integrated Krell yet is quick, agile, solid and finely detailed	5		•		200	247
88	Primare A30.1	1,500	Smooth, detailed singing quality, elegant appearance and a healthy power yield	6		•		100	214

Our favourite BEST BUY CE EDITOR'S CHOICE STEREO AMPLIFIERS

	power amplifiers			PREAMPLIFIER	POWER AMPLIFIER	LINE INF	PHONO IN	REMOTE CONTROL	OWER OUTPUT	ISSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	FIER	FIER	INPUTS	INPUT	ROL	3	IBER
UP TO	£2,000			1.30						
88	Arcam FMJ A32/P35	1,980	One of the few correctly matched integrated/power combinations, the sound has real gravitas and sophistication	۰	•	7	•		100	227
<u>98</u>	Croft Vitali/Series 5C	2,000	Oddball retro style and ergonomics, but truly magical voice coherence and projection, great transparency	•	•	3	0		30	216
	Densen Beat 200/300	1,985	Classy jet black cast boxes pack plenty of punch with good total musical coherence (remote $\pounds300$ extra)	۲	•	6	opt	opt	100	216
88	Exposure 3010 Integrated/Power	1,800	Simple units with various connection options which give very satisfying sound in all areas	•	•	6	opt		116	256
88	Quad 99 Pre/909	1,650	Well thought out and well executed, with good strong sound and just a little veiling	0	۲	5	0	0	136	256
ABOVE	£2,000	2010		1	1				18.33	
EC	Border Patrol P20	6,750	Muscular 300B P-P design with fluidity and dynamics to match the best	•	0				20	231
	Bryston BP25/4BSST	4,000	Extremely transparent, high-power combo, you'll listen louder and longer because you can		•	8	opt	۲	300	241
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

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

SPECIFICATIONS

B B

Our favourite BEST BUY CHOICE STEREO AMPLIFIERS continued

	power amplifiers	£	COMMENTS	PREAMPLIFIER	VER AMPLIFIER	LINE INPUTS	PHONO INPUT	OTE CONTROL	R OUTPUT (M)	SSUE NUMBER
DADUL!	EAR 864/534	4,156	Valve combo delivers fine measured and subjective performance and inspires great confidence	•	•	6	0	F	50	254
EC	ECS EA-1	6,000	Understated monoblocks with real transparency to the fine detail, passion and energy in your record collection		0				180	253
BB	Exposure XXIII/XXVIII	2,790	Highly natural and dynamic amplifier that offers the fluidity and energy of valves via transistors	0		6	opt	0	70	241
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	Halcro dm10/dm68	75,900	Extravagant, extreme and massive amp combo will probably polarise opinions, but delivers stunning midrange clarity	۲	0	5	0	0	225	243
EC	Hovland HP-100/RADIA	12,745	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers	٠	•	9	opt		125	250
EC	Krell FPB 700cx	14,998	Reference class amplifier may represent overkill in many systems, but when no compromise is called for, this is it		•				700	234
EC	Linn Klimax Kontrol	6,000	Beautifully executed example of Scots audio art, sounds as clean as it looks and is a lot more transparent than most	۲		4				238
	Naim NAC202/NAP200	2,720	More sophisticated than its forebears with a fleet-footed sound that draws you into the music	۲	•	8		•	70	241
EC	Naim NAP500	10,995	Wonderful neutrality, bandwidth and dynamic range, plus Naim's traditional leading-edge definition		0				140	208
EC	Naim NAC552	11,750	Extremely expensive preamp, but still solid value. Magnificent sound with fine flexibility and convenience	٠		6		•		233
BB	Primare PRE30/A30.2	2,400	Smart kit that lives up to the visual promise with gorgeous sound - a really musical performer	٠		7		•	128	256
EC	Quad QC-24/II-40	4,007	Big, muscular valve sound that's smooth and easy on the ears, plus solid engineering with good power delivery	0		7			40	254
	Roksan Caspian M Series pre/pwr	2,050	Confident and highly enjoyable sound with lively music, perhaps a little less sure with subtler, complex scores	۲	0	6		٠	78	256
EC	Sugden Masterclass AA	5,600	Yorkshire's finest class A kit. Dynamic and tonally rich, this gives even valve amps a run for their money	•	•	7		۲	35	246
EC	Unison Research Unico Pre/DM	2,590	Hybrid designs with a rich powerful performance that makes a fine balance between valve and solid state sound	•	0	3		0	150	242

AV AMPLIFIERS Surround sound amps for music and movies

The multichannel, surround sound or AV amplifier is a popular option, thanks to the success of the DVD player and home cinema. Now you can buy five channels or more of amplification for the price of two. Now that multichannel music is also on the agenda, there's a lot to be said for a good AV amp or receiver (an amp with a radio tuner built in).

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

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

Processing in AV amps is needed because the surround formats on DVD-Vs are compressed, limiting their high-fidelity



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

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

0&A

POWE

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 systems are 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 amplification on board 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 high-quality 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-guality 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



Sony STR-DB790 £300 It used to be the rule that you had to spend close to a grand to get an AV amp that shines with music. Not any more.

Our favourite BEST BUY CEDITOR'S CHOICE



AVR-3805 £1,000 Combines admirable sound across all music and movie formats with features like full auto set-up, i.Link and the latest surround formats - a class act at £1,000.



AVC-A1SR £3,000 Despite hot competition from Pioneer and Sony, this amp (now upgraded to the AVC-A1SR 'A') remains our favourite top-end integrated multichannel amp solution.

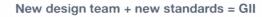


AV8/P7 £5,498 A fantastic achievement from this respected UK brand - a top-ranking AV processor and seven-channel power amp.

					SPECIFICATIONS						
	tichannel amplifiers		IFIERS	RECEIVER	LINE INPUTS	7.1 COMPATIBLE	5-CHANNEL POWER (M)	ISSUE NUMBER			
	PRODUCT	£	COMMENTS	ĒR	JTS	BLE	3	BER			
MULI	ICHANNEL INTEGRATED AMPS Arcam AVR200	800	Upgraded AVR100 with Dolby Pro-Logic II and some bass management. Great for stereo, a bit bass-light for multichannel	0	6		70	2			
	Denon AVR-2803	650			9		130				
3			Merely 'average' sound but it's impossible to argue against the flexibility and value of its engineering	0	9			-			
_	Denon AVR-3805	1,000	Upgraded sound, new processing algorithms and a great remote control make this a superb mid-market multichannel buy			•	120	-			
2	Denon AVC-A1SR	3,000	An AV amp with genuine high-res hi-fi credentials. Includes a ground-breaking 'wide bandwidth' digital audio link		8		170	-			
3	Harman Kardon AVR 5550	900	The upgrade to the AVR 5500 comes with features that are actually of some use to the audiophile and a meaty sound to boot	•	9	0	85	2			
	Marantz SR9300	2,000	Not a high flyer, just a thoroughly enjoyable, warm and attractive sounding receiver with music and film soundtracks alike	0	8	0	105				
	Marantz SR-12S1	3,000	A multichannel amp that can be taken seriously in stereo too. Resources are in the engineering rather than the gimmickry	•	3	0	160	2			
	Pioneer VSA-AX5i	1,200	Standard setter in its price category, with i.Link digital interface and MCACC auto set-up	6	11		100	2			
	Pioneer VSA-AX10i	2,700	Seven channel tour de force with automatic speaker set up and eq, excellent with music, movies and DVD-A/SACD		11	۲	150	2			
3	Sony STR-DB790	300	No six channel amplifier has any right to be able to sound this good at such a ridiculously affordable price	0	7	۲	112	2			
	Sony TA-DA9000ES	2,600	Arguably the first convincing fully digital amplifier, an excellent match for players with i.Link encrypted outputs		10	•	200	2			
	Yamaha RX-V1400	800	Equipped for every occasion, this is a capable receiver with stereo music and better yet with DVD-A/SACD and movie sources	•	9	0	175	2			
ULT	ICHANNEL PREAMPS/PROCESSORS	AND POWI	ER AMPS								
	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	2			
	Arcam AV8/P7	5,498	State-of-the-art processor (£2,999) and seven-channel power amp (£2,499). An excellent fusion of stereo and surround sound		7		180	2			
	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	2			
	Cyrus AV8/3x Smartpower	2,900	Classic Cyrus sound translated to a multichannel arena, limited features and power, but civilised sound		3		105	2			
	EAD TheaterMaster 8000 Pro	5,200	Arguably the most 'musical' sounding AV prcoessor to date - tested with the PowerMaster 8300 multichannel power amp		9			2			
]	Marantz PS-17/2x SM-17	3,400	Classy and capable system, great steering, warm solid sound and high detail resolution, and some great gadgets		10	•	60	2			
	Meridian 861	9,833	Powerful surround processor with flexible modular construction, marvellous versatility to drive any speaker configuration		6			2			
	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	•	50	2			
	Parasound Halo C1/A51	8,500	Powerful and flexible processor/power amp combo with impressive sound. Excellent value – processor includes onboard screen		11		250	2			
	Primare SP31.7/A30.5	4.200	Great all-round system which brings the gualities of good stereo high fidelity to a multichannel world		5		120				

SPECS KEY RECEIVER Integrated multichannel amp with built-in radio tuner. LINE INPUTS input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. 7.1 CHANNEL COMPATIBLE The amp either has seven-channel in and outputs or in some instances is equipped with seven channels of amplification 5-CHANNEL POWER (W) Power output in watts per channel of all channels driven by the amp.

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"I have owned a Mark 1 Mini Sub as part of one of my systems since I reviewed it because I felt it made a significant improvement to the sound of a Hi-Fi when compared to that of direct mains. I feel that the GII brings even greater improvements. Tony Bolton, Hi-Fi News, June 2004



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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.

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



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.

POWER

your amp needs to avoid a mismatch. An above-average (A+) speaker will work with amps rated at 25W plus, while an average (A) speaker will need 50W or more, and a below average (A-) speaker could require 100W plus to sound its best. These are guidelines rather than rules.

Q&A

IF SPEAKERS ARE RATED AT 75 WATTS, DOES THAT MEAN 1 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.

STEREO SPEAKERS BUYER'S BIBLE



Sensys DC1 £449 A new dual-concentric main driver plus super-tweeter in a solid standmount box results in a neutral yet expressive speaker at a very tempting price.

Our favourite I BEST BUY COTOR'S CHOICE .



703 £2,000 around £1,000, combining a lively and dynamic character with an unusually smooth and neutral balance.



B&W A hi-tech, three-way floorstander sporting a 'surroundless' midrange driver. Delivers a thoroughly engaging sound with great bass and an expressive midrange.



Rega R9 £2,498 An attractive and innovative loudspeaker, which includes a side-firing bass unit and two tweeters. Its sound is articulate and subtle, with a wide dynamic range.

	TEREO SPEAKERS			SPECIFICATIONS							
Stereo speakers		£	COMMENTS		FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER	
UP TO	£1,000										
88	Acoustic Energy Aegis Evo 1	180	An unusually classy and sophisticated performer for the price; laid-back sound and good looks too	19,36,24		А	30	•		226	
BB	ATC SCM12	999	Magnificent main driver confers great authority, grip and smoothness, though upper bass a little lean	22,39,26		A-	55		0	253	
	Avance Dana 670 AV	760	Very pretty slim floorstander is impressively neutral and well balanced, if less than dynamic	15,95,27		А	30	•		253	
88	B&W DM303	180	Chunky looking and lively sounding, with deep bass, a fine midband and a restrained top end	20,33,23		А	23		0	226	
66	B&W DM602 S3	300	Old-fashioned size/shape, but this timeless design has a rare combination of grip, authority and headroom	24,49,29		А	25	0		234	
	B&W DM309	330	Much of the grace and punch of the smaller DM303 - a suberb floorstander for the money	20,91,30	۲	А	60			235	
B8	B&W DM603 S3	600	Excellent all-rounder, smooth for its price with fine bass and mid, though top might be more refined	20,91,29	۲	A-	25	•		231	
88	B&W 705	900	Deft, delicate and delightful, if a little bass light, with clever enclosure and driver engineering	22,42,29		А	35			253	
	Castle Durham 3	399	A very attractive near-miniature wallmount with a lively and communicative disposition - lots of fun	19,37,22	۲	А	45			227	
88	Castle Conway 3	930	Lovely real wood finish and a beautifully balanced sound, fine dynamics and transients, but might have more 'air'	22,91,27	•	A+	30	•		237	
88	Castle Harlech S2	1,000	Improved Harlech is slightly aggressive, but lots of fun, and very good-looking too	20,96,33	۲	Α	50	0		219	
88	Dynaudio Audience 42	400	An aristocrat of the vinyl-covered miniature breed. A terrific small speaker for the price	17,29,24		А	40	•		215	
	Dynaudio Audience 52	557	Brilliant neutrality, though a little understated dynamically (wood veneered version, as tested – $\pounds647$)	20,33,26		A-	30	0		250	
	Dynaudio Audience 62	729	Pricey but cute vinyl floorstander that is a class act sonically - lightweight, but clean and dextrous	20,86,26	۲	Α	30	۲		231	
88	Epos ELS3	200	Few affordable speakers sound as clean and convincing while taking up so little real estate	18,27,19		A-	60	0		241	
88	Focal-JMlab Chorus 707 S	350	The size and shape might be unfashionable, but this is an outstanding all-round performer at a very sharp price	24,49.30		Α	25			251	
88	Focal-JMlab Chorus 716 S	550	Not the smoothest around, but combines coherent voicing with fine dynamic expression and real authority	22,95,30	۲	Α	20	•		250	
	Focal-JMlab Chorus 726 S	780	Big generous sound with good dynamic freedom, hampered by some voice-band congestion	22,100,32	۲	A+	55			253	
88	Focal-JMlab Cobalt 816 S	999	Great all-rounder - lively and dynamic, smooth and neutral, marred only by a slight treble 'sting'	22,98,31	•	A-	25	•		242	
	KEF Q1	250	Stylish if slightly small-sounding stand-mount with fine midband coherence; works well close to a wall	22,35,30		А	30		0	234	
	KEF Q4	400	Beautiful, bijou three-way floorstander lacks some bass weight but has a lovely midband with low coloration	18,82,25	•	Α	38		0	255	
	Leema Xen	1,000	A true micro-mini-monitor with remarkable powers of analysis and great musical insight, if a touch forward	14,22,23		A-	50		•	245	
	Mission m35	400	Very good material value - a big speaker with ample bass and a notably open yet also rather bright top end	26,103,37		Α	23	•		255	
	Monitor Audio Bronze B2	200	A lively and entertaining speaker with tight controlled bass and pronounced midband	19,35,25		Α	42		ø	238	
BB	Monitor Audio Bronze B4	350	A beautifully balanced loudspeaker with fine overall dynamic range and good imaging	19,85,26	•	А	23			255	
	Monitor Audio Silver S1	300	Super-quick sonics thanks to the C-CAM metalised drivers. Resolution and speed – a great value box	18,30,24		Α	45		0	236	
	Monitor Audio Silver S8	800	A thoroughly impressive all-rounder, notable for its wide dynamic range, excellent imaging and fine neutrality	19,90,27	•	A	20	•		237	
	Monitor Audio Silver S10	1,000	Timing might be less than the best, but the full balance and fine dynamic range deliver plenty of detail	20,100,27	•	A+	20	•		242	
88	Mordaunt-Short Avant 906	350	Capable and engaging, this neat design will complement the majority of sub-£500-per-component systems	18,85,27	•	А	45	0		254	
	Neat Petite III	845	The treble is peaky, but this is still one of the most coherent and communicative miniatures around	20,31,20		Α	30		•	211	
88	PMC DB1	555	Lacks a little weight and authority, but beautifully balanced, free from boxiness, and loads of fun for a tiny	16,29,24		A	50		•	240	
88	PMC TB2	700	A worthy successor to the TB1, which sets a high standard in its size/type for neutrality and transparency	20,41,31		Α	30	0		211	

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

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Our favourite Est BUY E EDITOR'S CHOICE STEREO SPEAKERS continued

Ste	reo speakers	£	COMMENTS	SIZE W,H,D (CM)	OORSTANDER	ASE OF DRIVE	ASS FROM (HZ)	FREE SPACE	OSE TO WALL	SSUE NUMBER
BB	Rega Ela	749	Might have more grunt, but few can match its impressive agility, delicacy, and superior musical communication	23,89,30	0	A	28		0	250
	Spendor SR5	1,000	This wall-mount very cleverly avoids the usual colorations, delivering a very dynamic if rather dry sound	31,31,18		A+	50			240
BB	Tannoy Fusion 4	350	This big d'Appolito twin two-way has fine coherence and dynamics. A neutral and even all-rounder	21,97,29		A	20			255
96	Tannoy Sensys DC1	449	Modest sensitivity but beautifully balanced with fine authority at a very realistic price	21,41,29		A	40			245
	Tannoy Eyris 1	600	Pricey but very cute standmount miniature; oddball, but has marvellous midband subtlety and delicacy	17, 35, 26		A+				227
	Tannoy Sensys DC2	649	Has impressive scale and weight with fine stereo imaging, but is also rather laid back, lacking easy agility	21,97,29		A	20	•		250
	Tannoy Eyris 2	999	This super-slim and cutely different-looking floorstander is very communicative, despite weak treble	17.91.26	0	А	20	0		231
28	Triangle Antal 202	925	Ugly duckling with the voice of a lark, thanks to its magical midband with plenty of dynamic brio	22,108,30	0	A+	30	0		253
	E £1,000	020	egi deening war no roles of a lang alame to la magical massare war point of synamic one			No.			2.00	
EC	Acoustic Energy AE1 MkIII	1,690	Luxury miniature has a laid-back but bouncy sound, a marvellous dynamic range and very superior imaging	19,31,25		A-	30	0		251
	Acoustic Energy AE3 Mkll	4,490	A beautifully neutral speaker with very wide dynamic range and superior imaging, plus lovely Art Deco styling	19,99,29	0	A	20	0		251
	ATC Active 10	1,269	Stylish, active powerhouses with plenty of subtlety when required (balanced connection only)	23,39,31		act	45	0		221
BB	ATC SCM35	1,999	If you want to hear the uncoloured truth about your record collection in all its glory, this is a speaker to treasure	23,88,30		A-	48	0		250
EC	ATC Active 20	2,538	30k + 300W equals resolution and bass that most amp/speaker combinations dream about – a bargain	56,28,36		act	45	0		240
EC	ATC SCM50 ASL	7,255	350W of power combine with superb drive units and a 48kg cabinet to provide alarming resolution	35,72,48		act	38	0		218
88	Audio Note AN-E/LX	2,650	Though not very pretty, this is a thoroughly entertaining speaker with great dynamic subtlety and integrity	36,79,27		A+	22		0	256
EC	B&O Beolab 5	10,000	Radical, environmentally independent active speaker has exceptional bass, neutrality, and imaging	49,97,49		act	<20	0	•	244
	B&W Nautilus 805	1,400	A small-sounding loudspeaker dynamically, but very stylish, clean and 'unboxy', delivering loads of detail	24,42,31		A	28	•		199
88	B&W 704	1,400	Sleek and stylish two-and-a-half-way with deep, lively bass, sweet treble, and rather laid-back presence	22,96,32	0	A-	20	0		248
BB	B&W 703	2,000	Elegant floorstander with excellent bass drive and mid dynamic range, but slightly strong and obvious top end	23,101,36	•	A-	20	0		247
EC	B&W Signature 805	2,500	Gorgeous standmount sounds delicately transparent and laid back with very superior resolution and imaging	24,42,34		А	30			247
EC	B&W Nautilus 802	6,000	Outstanding example of the high-tech speaker builder's art. Needs real power, but gives real sound	39,111,55		A-	34	0		183
EC	B&W Nautilus 801	8,500	The 801 is a magnificent loudspeaker in nearly every respect, but it is one that likes to play loud	52,111,69		A-	34	0		186
EC	B&W Nautilus 800	11,000	Unequivocal challenge for world domination. One of the most revealing speakers around	45,120,65	۲	A-	<20	•		231
	Beauhorn B2.2 Revelation	3,984	Magnificent midband and fine overall balance but limited bass is best with small-scale material	34,130,75	0	A+	80		0	244
	Castle Howard S3	1,350	A solid all-rounder with uniquely spacious imaging, bit pricey compared to some though	21,99,32	•	A+	38	0		229
	Dynaudio Contour 1.3 Mkll	1,198	Outstanding performer among compact standmounts; neutral, with fine punch and dynamic range	20,38,29		A-	45	0		219
88	Dynaudio Audience 82	1,460	Bulky, with vinyl finish, but offers exceptional neutrality, bass extension, power handling and loudness potential	22,106,36		А	30	0		229
	Eclipse TD Lulét 307/316	1,250	Extraordinary satellite plus sub solution sounds a cut above other sub/sats. Can be expanded to multichannel	12,16,16		act	40	۲		247
EC	Ferguson Hill FH001	6,853	Looks and sounds wonderful, with realistic dynamic expression, but needs careful amp matching and sub(s)	90,166,80		A+	180		۲	242
EC	Focal-JMlab Micro Utopia Be	3,500	New 'Be' version is clearly an exceptional standmount, capable of revealing the innate quality of the music	25,42.5,38		А	50	٠		245
EC	Focal-JMlab Diva Utopia Be	7,599	Lovely slimline speaker combines remarkable transparency with fine dynamics and gorgeous bass	25,110,53		A+	30	0		255
EC	Focal-JMlab Alto Utopia Be	11,000	Attractive and beautifully balanced, with fine bass alignment and focus, low coloration and very clean top end	37,121,53	•	A-	20			248
	Graves Audio Koronglay	1,999	Fast and very time-coherent, but rather bass-light and aggressive higher up - valve amps preferred	25,109,36	0	A+	45		•	247
	Harbeth Super HL5	1,699	Looks old-fashioned, but classic monitor combines authority and transparency with good neutrality	33,64,31		А	30	•		233
	KEF Reference Model 205	4,000	Great looking speaker with a smooth, neutral and slightly 'cool' sound that could be tauter and more exciting	29,116,43	0	A-	20	•		245
	Living Voice Auditorium	1,700	Gloriously coherent and dynamic midband, though the top end is restrained and bass was uneven in our room	22,86,28	۲	A-	30	۰		247
EC	Living Voice Avatar	2,700	Dynamic and highly resolved, yet physically discreet design with a relaxed balance	22,104,27	۲	A+	40	0		218
EC	LivingVoice Avatar OBX-R2	4,000	Has Dynamics, tonal colour, detail, space and time resolution in spades. External crossovers require extra cabling	22,100,27	•	A+	35	0		244

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Arcam CD62T* CD Player (2Yr G/tee)	£229.00	Loewe 24" High Definition 16:9 TV (1Yr G/tee)(999.00)	£499.00
Arcam CD82T CD Player - New (2Yr G/tee)(599.00)	£499.00	Loewe Aconda 32" Flat widescreen TV (1Yr G/tee)(1800.00)	£899.00
Arcam CD93 CD Player - New (2Yr G/tee)(979.00)	£699.00	Naim CD5 Player (2Yr G/tee)(1230.00)	£945.00
Arcam DV88 Plus DVD Player - New (2Yr G/tee)(999.00)	£499.00	Nain CDS2/XPS Player & Power Sup (2Yr G/tee)(6265.00)	£3495.00
Arcam DV89 DVD-A Player - New (2Yr G/tee)(1299.00)	£739.00	Naim Nait 5 Amplifier (1Yr G/tee)	£659.00
Arcam A65+ Amplifier (2Yr G/tee)(369.00)	£249.00	Naim NAC 112 Preamp (2Yr G/tee)	£525.00
Arcam A85* Amplifier Silver - New (2Yr G/tee)(799.00)	£549.00	Naim NAP 150 Power Amp (2Yr G/tee)(785.00)	£615.00
Arcam A85* Amp inc Phono- Blk (2Yr G/tee)(909.00)	£599.00	Naim NAP 180 Power Amp S/H - (1Yr G/tee)(1225.00)	£795.00
AVI Pro 9 Plus Speakers - Cherry (2Yr G/tee)(799.00)	£569.00	Naim NBL Speakers - Beech (2Yr G/tee) (7700.00)	£4995.00
Linn KoleKtor Preamplifier (2Yr G/tee)(575.00)	£375.00	Pioneer DVD656S Multiplayer (1Yr G/tee)(349.00)	£249.00
Linn Kairn Pro Line Preamp S/H (1Yr G/tee)(1400.00)	£599.00	PMC TB2 Speakers - Black (2Yr G/tee)(740.00)	£539.00
Linn Numerik Dac S/H (1Yr G/tee)(1100.00)	£349.00	PMC DB1 Speakers - Cherry (2Yr G/tee)(555.00)	£399.00
Linn Trikan Centre Spkr - maple (2Yr G/tee)	£349.00	Yamaha DVD 530* DVD Player (1Yr G/tee)(199.00)	£79.00
Linn LP12/Ekos/Arkive Boron (2Yr G/tee)(5350.00)	£2675.00	Yamaha RXV 630 RDS A.V. Amp (1Yr G/tee)(459.00)	£299.00
Linn Keilidh Speakers R/nut inc stands S/H (995.00)	£395.00	Vibe Zeta SubWoofer (2Yr G/tee)	£475.00

LOUDSPEAKERS

SPECIFICATION

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Our favourite set by the EDITOR'S CHOICE STEREO SPEAKERS continue

Ster	eo speakers			SIZE W,H,D (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	(CM)	IDER	RIVE	(HZ)	PACE	VALL	IBER
88	MartinLogan Clarity	2,498	Relatively affordable and easy to live with electrostatic hybrid with class-leading resolving power	26,135,31		A-	46	0		245
	Mirage OM7	2,000	Warm, full and laid back Omni has weak stereo focus but brings the musicians into your room	30,115,16-39	0	A-	25	۲		247
	Naim Allae	1,990	Chunky little floorstander has a 'cold' overall balance, but remarkable powers of musical analysis	24,94,28	•	А	40	۲		229
EC	Naim SL-2	4,995	Delivers magnificent musical analysis and communication skills in a notably discrete physical package	28,103,33	۰	A-	20		۲	232
EC	Naim NBL	6,925	Elegant, large floorstander is exceptionally informative, with an awesome dynamic range and dry, forward balance	29,116,47	۰	A-	20	0		200
EC	Neat Ultimatum MFS	2,995	Wonderful five-driver standmount sounds bigger than it looks. Very spacious and informative, if a little bright	22,38,37		A+	25	•		241
EC	Neat Ultimatum MF9	8,500	Superb musical communicator with splendidly deep and agile bass and fine open neutrality	22,150,40	۲	A-	20	۲		226
	PMC LB1	1,150	Still fully competitive eight years after our original review, this genuine compact monitor is now a modern classic	18,53,26		A-	40	۲		199
82	PMC FB1	1,410	Has the lively coherence of a simple two-way, alongside impressive bass weight and extension	20,105,31	۲	А	20	0		204
	PMC 0B1	2,450	Genuinely deep bass and lovely overall neutrality, though mid could have more tension and bass more punch	20,103,33		А	20	0		243
EC	PMC IB2	6,150	Stunning in an understated way, this speaker creeps up on you and hooks you with its transparency and power	33,74,47		A-	25	•		237
EC	ProAc Response D25	2,995	The traditional ProAc high-end detail mixed with greater efficiency and more pace - a splendid speaker	22,107,25	0	A+	20			254
BB	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	۲	А	20	•		256
	Russ Andrews Quave LS1	2,550	A radical approach to reproducing music that does timing and resolution superbly but is a little unusual tonally	41,93,28	۰	A+	60		0	254
EC	Sonus Faber Cremona A	2,149	Standmount 'Auditor' version of the Cremona makes a soundstage bigger and better than its size suggests	19,35,32		А	48	۲		246
	Spendor S9e	2,895	An improvement on the original S9 - very entertaining at high levels with a fabulously open and weighty bass	24,101,38	•	A+	40	•		256
EC	Tannoy Dimension TD8	4,000	This stylish speaker is a splendid all-rounder, with fine dynamics, precise imaging and minimal coloration	31,86,30	۲	A-	25			240
EC	Tannoy Dimension TD10	5,000	Extremely competent and rhythmic speaker, a futureproof supertweeter and detail to die for	35,101,37	0	A-	38	۲		215
EC	Tannoy Dimension TD12	6,500	Art Deco-inspired style, plus magnificent headroom and genuine monitoring neutrality - a tour de force	42,126,41		A-	23			225
EC	Tannoy Yorkminster	9,000	Deliciously delicate and expressive at low listening levels, it still has massive headroom when your in the mood	62x102x45	0	A+	20	۲		255
88.	Totem Forest	2,390	Low sensitivity but wonderfully open neutrality, at heart a beautifully communicative and musical loudspeaker	20,90,27	٠	А	25	۲		247
	Triangle Zays 222	1,295	Wonderful freedom from time-smear gives invigorating and realistic dynamics, but colorations are also obvious	26,116,32	0	А	22	0		242
	Triangle Naia	1,900	Exciting, vivid and communicative, but also a bit untidy and uneven, the Naia is a whole lot of fun	23,119,32	۰	A-	25	۲		247
	Vandersteen 2Ce Sig	1,990	Very superior midband neutrality, impressive freedom from boxiness and splendid stereophony. A classic	41,109,26	•	A-	30			229
EC	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	۲		254
EC	Wilson benesch Discovery	5,500	Innovative three-way with built-in stand, combines great subtlety with weight and headroom	23,47,38	•	A-	45	0		212
EC	Wilson Benesch ACT	8,400	Superb enclosure gives uncanny freedom from 'boxiness'. Well balanced, but top end might be sweeter	23,108,37	0	А	20			252
EC	Wilson Benesch Chimera	15,000	Elegant with lovely sonic delicacy and plenty of weight too. Works best at low levels, but a difficult load to drive	24,145,55	0	A-	20	0		234

AV SPEAKERS Speaker solutions for multichannel surround sound



Multichannel speaker systems have a front left/right (L/R) stereo pair, a centre or dialogue channel, two (5.1) or four (7.1) surround speakers and often a subwoofer. For best results, each of these speakers bar the sub should be identical. The problem is that few surround systems are dedicated to music and perform a home cinematic role as well, meaning the centre speaker has to sit above or below a video monitor. Centre channels are usually wide and short for this reason.

This should not be a barrier to great surround for music and movies however, as many brands make centre channels with a very close sound to their L/R designs.

Music vs movies

High-resolution SACD and DVD-A music recordings tend to be mastered with

SET-UP

Ideally you should set up surround speakers with as much care as you would stereo systems, but practical issues tend to have a significant bearing on surround and centre speaker placement. Surround channels can be floorstanding or wallmounted, and centres usually have to perch on the TV or underneath it. Given these limitations, adjust your L/ R front speakers to give the best tonal match with the centre. If there's more than just you listening, 'toe in' the speakers so that their axis crosses in front of the listening position – this gives a wider stereo image. And if there's a subwoofer it should be placed near the front speakers. Use a sound pressure metre (available from Tandy among others) to accurately set levels. surround speakers in the ITU standard position which is as far behind the listener as the front channels are in front. 5.1 movie soundtracks tend to place surround channels not so far behind and to the side of listeners. Usually, practical limitations will dictate a limited range of placement options, but if you are a dedicated music fan, check out the ITU set-up regulations in the booklet supplied with SACD discs.

SPECIFICATIONS

SUBWOOFERS

Subs start working where stereo speakers run out of steam at low frequencies. The idea is to create deeper, better-controlled bass rather than more of it. They usually have onboard amplification (active) and connect to either the LFE (Low Frequency Effects) channel in a home cinema set-up or the speaker terminals in a stereo set-up.

AV SPEAKERS BUYER'S BIBLE



B&W 600 S3 package £900 Incorporates 602s, 601s and an LCR 600 centre speaker. Great in both stereo and multichannel surround modes.



KEF Q AV7 £1,300 With the latest Uni-Q refinements, this system is astonishingly accomplished and amazing value.



ATC Concept 3 £4,877 It might not look as flashy as some, but the quality of engineering in this ATC package ensures superb all-round performance.



Akurate package £13,750 Linn has worked wonders with its new multichannel speaker system - it's not cheap, but its performance is breathtaking.

NUMBER OF SPI

SPECIFICATIONS

BASS

ISSI

SIZE V

Our favourite BEST BUY E EDITOR'S CHOICE **V SPEAKER PACKAGES**

Multichannel energy or

Mul	tichannel speakers		LII FAUNAULU	EASE OF DF	MBER OF SPEAKERS	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	DRIVE	ERS	HZ	Ř	ALL	BER
88	ATC Concept 3	4,877	Extremely engaging, revealing and musical multichannel system providing 360 degrees of full-on entertainment	A-	6	12	0	opt	255
	B&W 300 package	900	An excellent compromise between the requirements of music and those of home cinema (inc. subwoofer)	А	6	27			241
88	B&W 600 S3 (602/601/LCR 600)	900	Unquestionably delivers the sonic goods. High-quality drivers in standmount enclosures	А	5	22	•		224
	Castle CAV Sterling	1,250	Lovely real wood veneers. Sound has fine dynamic drive and expression, but can sound a little hard	А	5	28		0	224
	Dynaudio Audience 42 package	1,142	Multichannel package for hi-fi purists with real authority and imaging, but needs subwoofer for full-bore movie sound	A-	5	53	0		241
	Final Sound Electrostatic system	4,875	Slim, attractive, electrostatic panels have clever connections, limited loudness but a breathtaking transparency	A-	6	20	۵		251
	Focal-JMlab Electra package	3,017	Bold, solid system, tremendous consistency and easy to expand with an added subwoofer	А	5	50	•		232
88	KEF Q AV7	1,300	With latest Uni-Q refinements, this system is astonishingly accomplished and amazing value	A+	5	35	0		232
EC	Linn Akurate (242/212/225/221)	13,750	An extremely capable system that offers new insights into the potential for multichannel audio	A-	6	18	۲		253
	Mirage Omni 2	2,650	Dark tonality, but superb imagery makes this an excellent all-round choice	А	5	30	٠		232
88	Mission m5 package	1,450	Main m52 is a clean, attractive full-range stereo speaker, while the m5as sub does big bass for movie fans	А	6	28	۲		241
	Mordaunt-Short Declaration 500	1,600	Good value vinyl THX Select package with Power Towers. Good authority, but must be 5.1-connected	А	5	25		•	210
	PMC FB1/TB2	2,485	Classy, if bulky and pricey, package has good transparency, coherence and weight	А	5	20		۲	210
	Rega Jura/Ara/Senta	938	Classy real wood package does a good all-round job, but sounds bright and might have more surround weight	А	5	25		•	210

SPECS KEY EASE OF DRIVE How much power the amplifier needs (approximately) to drive the loudspeaker effectively: A+ 25 watts plus A 50 watts plus A- 100 watts plus. NUMBER OF SPEAKERS The amount of individual loudspeakers in the package. BASS FROM How low the speaker goes, the smaller the number the deeper the bass. FREE SPACE The speakers work best away from wall(s). CLOSE TO WALL The speakers will work best when up against a wall (but avoid corners).

SUBWOOFERS

Bass	s speakers			(,H,D	OWEF	ROM	NUMBER
BADGE?	PRODUCT	£	COMMENTS	(CM)	N N	(HZ)	IBER
	Acoustic Energy Aesprit 308	650	Tuneful and dynamic sound with music or movies from this compact sub, which comes with a handy remote	41,37,30	200	35	225
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	1000	18	246
	Monitor Audio ASW100	300	For the price, this compact subwoofer performed well	32,32,34	120	27	225
BB	REL Q150E	500	Great value compact 'cube' sub adds genuine weight and drive thanks to superior filtering	29,32,33	150	20	239
	REL Strata III	700	A little more bottom octave might have been preferable, but in terms of agility and coherence, this is a fine hi-fi subwoofer	42, 52, 33	100	20	210
	REL Storm III	900	Excellent sub with powerful, detailed and deep bass. Comprehensive facilities, including flexible filter adjustment	42,62,33	150	18	225
EC	REL Stadium III	1,500	It's a bulky piece of furniture, but offers superior filtering as well as an ability to delve deep into the bass nether regions	59, 56, 39	200	16	217
BB	Ruark CL300	2,000	Shows what a good subwoofer can do: controlled, detailed and dynamic. A delight with music and movies alike	60,52.5,40	300	30	225
	Titan Saturn	800	Very bulky sub has curious styling, but decent filtering gives good weight and headroom	72,48,72	200	20	239

SIZE 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.

BUYER'S BIBLE CABLES

CABLES

Wires to hook your system together

Hi-fi cables come in two varieties: interconnects and speaker cables. Interconnects come in preset lengths, generally with RCA phono plugs attached, though some equipment uses XLR connectors for balanced connection. Speaker cable is sold by the metre and can be used without plugs or can be fitted with screw or solder-on types.

Choosing the best cables is not quite as

Our favourite EEST BUY CEDITOR'S CHOICE

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, but if you are after a smoother sound the light carriers have the advantage, as they do if long lengths are needed (10m+). Optical outputs tend to have Toslink connectors (around 99 per cent), but some electrical digital outputs are of the superior BNC type, which uses a bayonet-type socket. Check which type your digital component has before buying a digital interconnect.

PECIFICATIONS

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Inte	ABLES rconnects and spea	aker		STRANDED	SOLID CORE	COPPER	SILVER	DIGITAL CABLE TYPE	ISSUE NUMBER
	PRODUCT	3	COMMENTS			~	~		
EC	Avid Black Reference SCT	700	Rich, slightly dark sound that is beguiling and highly informative						256
	Black Rhodium Illusion	77	An upfront, lively, exciting cable which still manages subtlety when needed. Slight coloration though			0			248
	Chord Company Signature	499	Silver plated, triple screened. Some granularity but great resolving ability, a good match for Chord Signature loudspeaker cable		.0				255
88	Ecosse The Composer	30	A high degree of realism and delicacy, and a fantastic price (0.8m)						211
	Ecosse Reference Diva	100	Very good performance in all areas, with particularly fine, tuneful, bass (0.8m)						224
	Kimber Silver Streak	242	Not the cheapest around, but more than justifies itself with terrific poise and balance of virtues						241
BB	Kimber Timbre	72	Typical Kimber construction with ditto sound - clean, extended and detailed	0					248
86	Monster Interlink 400 Mk2	70	Really lively and enjoyable sound						224
	PM Dragon Tails	600	Targeted at valve equipment, but its virtues, including superb imaging, apply to solid-state duties too				۲		249
	QED Qunex 1	20	Well balanced and easily rivals more expensive cables	0					211
BB	Townshend DCT100	100	Unusual construction with copper strip conductors, giving very detailed sound, but just an occasional hint of hardness			0			241
EC	Townshend Isolda DCT	300	Unusual construction and cryogenically treated too: whatever the reason, a remarkably capable wire						234
88	van den Hul The Bay C5	45	Terrific detail, nice balance – a great cable			۰			224
88	van den Hul The Well	65	Hybrid cable with carbon-fibre conductors added. Very slight bass coloration does little to detract from fine performance	0		•			241
8	van den Hul D102 Mk III	79	Hybrid conductors (carbon and copper) and intelligent construction give strong bass and excellent detail	۹		0			234
DIGITA	L INTERCONNECTS	19.13							
88	QED Qunex P75	25	A superbly capable interconnect that's highly detailed and well balanced					Е	207
88	QED Qunex SR75	50	Lots of bass and good clear midrange and treble at a sensible price	0		۲		E	234
8	Supra Trico	40	Very well made digital/video cable which noticeably improves the sound of a cheap DAC	۲		۲		Е	241
88	van den Hul Optocoupler II	49	Noticeably has the edge over other optical leads, but still second best to electrical types					0	234
PEAK	ER CABLES PRICE PER METRE							-	
	Black Rhodium S300	18	Tight, precise and extended bass makes this a great cable for rock 'n' roll	٠		0			241
	Chord Company Signature	117	Dynamic, solid sounding cable, but it's bulky and not very tractable	۰		۲			255
	Ecosse Reference MS2.3	23	Favours excitement over refinement: can be slightly bass-shy, but plenty of life	۰		۰			227
C	Electrofluidics 20/20	45	Excellent bass extension and very fine performance elsewhere - one of the best all-round cables available		۲	٠			241
88	Kimber 4PR	5	Considering the price, this cable's very slight dryness is forgivable when everything else is so right			•			192
38	Kimber 8VS	18	Beautifully full, open and transparent sound right across the board. Price for 1m terminated pair	•		0			227
	Kimber 8PR	21	Bass very full, just occasionally a touch flabby, but detailed and sweet upper frequencies make this a good value cable	0		•			241
8	Kimber 8TC	39	Very capable in all areas, particularly good at imaging and with firm bass. Price for 5m terminated pair	٠		۰			203
8	QED Silver Anniversary	5	A few minor flaws, but overall performance is very assured for this price			۲			192
38	QED X-Tube XT300	10	A natural and well controlled sounding cable that's cost effective for mid-priced systems			۲			234
	QED X-Tube XT400	20	A practical cable with a liking for lively music, but slightly less assured with subtle classical grooves			۲			248
	Supra Ply 3.4/S	9	Good in all areas, with rich bass and just a touch of treble roughness			۰			203
EC	Townshend Isolda DCT	50	Cryogenically treated 'impedance matched' cable with stabilising components added: great sound all-round		۲	۲			241
BB	Wireworld Solstice 5	20	Unfriendly to handle, but makes up for it with very assured sound - heaps of bass and great insight						248

SPECS KEY STRANDED Cable has a number of (usually) twisted strands to conduct the signal. SOLID CORE Cable has one or more individually insulated strands to conduct the signal

COPPER Material used to form the conducting element of the cable. SILVER Alternative material used to form the conducting element of the cable. DIGITAL CABLE TYPE E – electrical, O – optical Cables are one metre length unless otherwise stated.

HEADPHONES BUYER'S BIBLE

press on the ear and intra-aurals sit in the ear and are particularly popular with personal stereo users.

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.

Getting the best from your cans

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

Our favourite BEST BUY CE EDITOR'S CHOICE HEADPHONES

_	eo headphones			ELECTROSTATIC	SUPRA-AURAI	CIRCUMAURAL	OPEN BACK	CLOSED BACK	WEIGHT (g)	JACK ADAPTOR	ISSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	C	AL.	₽	R	R	9	OR	æ
88	AKG K44	20	Lively, enjoyable and remarkably detailed: a bargain			•		•	190	٠	219
BB	AKG K270 Studio	129	Pro oriented design which is very transparent and great with acoustic material			۲			270		230
EC	AKG K1000	550	Neutral, analytical and completely out of the head sound, suitable for connection to speaker outputs only				•		270		244
	Audio Technica ATH-D40fs	105	Detailed and involving sound with a professional 'studio' quality appeal					۰	250		194
88	Beyerdynamic DT990	160	Impeccable balance, very extended bass and treble, and bags of detail place this model ahead of the pack			٠	•		250	•	245
88	Grado SR60	90	For sheer musical enjoyment these are hard to beat. Retro styling may not be to everyone's taste		٠		•		200	•	194
88	Grado SR80	110	Not perhaps as neutral as some but they communicate well and that's the point of the exercise		۲		•		200	•	230
	Philips HP890	70	A remarkably sophisticated and very comfortable headphone			۲	0		330	•	219
88	Sennheiser HD590	160	Assured and confident headphone with very low coloration and great comfort			۰	۲		270		205
EC	Sennheiser HD650	299	Astonishing resolution and hardly less impressive tonal balance make this a true hi-fi experience			۲			260	•	252
	Sony MDR-CD480	40	Generally neutral and nicely detailed - comfortable too				۰		250		219
EC	Stax System li	400	Luxury option at its price, but the sound delivery is five-star quality all the way				0		295	0	205

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



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BUYER'S BIBLE STANDS AND SUPPORTS

STANDS AND SUPPORTS

Equipment racks and speaker stands

In hi-fi there are two types of stand. One is a rack that holds turntables, amps, CD players and so on and is described as an equipment support, and the other is a speaker stand. The latter comes in three basic varieties, two for standmount speakers: lightweight, multilegged types; and heavy designs with fewer legs and the ability to be mass-loaded for extra solidity. The lighter variety is said to have a quicker sound, while heavyweights give deeper bass and a calmer sound. The third speaker stand type is a platform that sits under floorstanding speakers or speaker/stand combinations, the pneumatic Townshend Seismic Sink being an example.

There are two speaker-to-stand interfacing options: spikes or Blu Tak in each corner of the top plate. Try both and take your pick.

NUMBER

SPECIFICATION

ISSUE NUMBER OF

TOP PLATE

SIZ

ISSI

Our favourite EST BUY CEDITOR'S CHOICE EQUIPMENT SUPPORTS

Equ	ipment supports			HEIGHT	E SIZE (CM)	WELDED	OF SHELVES	SHELF TYPE	IE NUMBER
BADGE?	PRODUCT	£	COMMENTS	÷.	S	8	ŝ	m	50
	Aavik Furniture A4	350	Good sound and stylish Scandinavian looks at an affordable price	80.5	47		4	MDF	193
	Alphason A5-G	399	Nice looking, very solid and practical with a pretty well balanced sound, but lacks a little detail	80	66,46		5	Glass	247
	Atacama Equinox	280	Stable, modular design with style. Excellent bass transients and a fresh design concept	81	50,50		4	Glass	217
80	Audiophile Furniture Base	615	Price is justified by its earth-shattering sonic abilities - a worthy upgrade	82	43		4	MDF	193
	Avid Isoschelf	1,100	An enthusiast's equipment support stand free from coloration, if a little fiddly to set up	87.5	48		5	MDF	193
88	Clearlight Audio RDC Aspekt	550	Stunning neutrality and detail from a well-damped design. Its performance makes the price tag good value	75	53.5,45		4	MDF	217
	Custom Design Aspect 650	270	Smart looks and practical thanks to adjustable shelves. Sound is fair with some loss of detail	66	46	۰	4	Glass	206
88	Custom Design Concept 400	700	Slightly drab appearance, but good sound and efficient use of space	74	48,40		4	Metal	247
	Isoblue 'The Stand'	460	Attractive modular design that's as easy on the ear as on the eye	47	48,40		4	MDF	247
EC	Naim Fraim	1,825	Pricey but very classy looking and sounding, with modular flexibility	96	45,34		5	Glass	232
	Quadraspire Q4 Reference	480	Excellent performance from the school of wobbly racks. Natural sounding and plenty of detail	51.5	49,39.5		4	MDF	217
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49		4	Torlyte	240
88	Sound Organisation Z560	195	Excellent value rack, five shelves too! Well balanced and under 200 quid!	92	50,40		5	Glass	217
BB	Standesign Design 4	190	An all-in-one support at a budget price, with good sonic performance	88.5	50.8		4	Glass	193
EC	Townshend Seismic Stand II	1,140	multi-shelf air-suspension support which isolates like few others. Recommended	92	58, 45		5	MDF	240

Our favourite BEST BUY CE EDITOR'S CHOICE

Speaker stands

She			EIGH	(CM)	ABL	DED	LEGS	MBER	
BADGE?	PRODUCT		£ COMMENTS	4	5	'n	8	55	30
88	Atacama Nexus 6	60	An excellent all-round performer and a genuine hi-fi bargain	60,50	14.5,18	۰		3	202
	Custom Design R/S300 Mkll	100	A solid stand improving on the original, with better focus and detail	61,56,51	16.5,18	۲		2	202
	hne Cableway	399	Looks great, sounds great, so start saving! Clean and sweet, and neutrality is exceptional with orchestral material	63	17,20	0		1	220
BB	Kudos S50	115	Formidable bass with real authority, and a wide dynamic range across a broad bandwidth	61	15, 20	۲		1	220
	Partington ANSA 60	90	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15	۰		4	232
80	Partington Dreadnought	100	Fully welded high-class engineering gives a very clean, open sound at a sharp price	61	17,15		۲	5	220
	Sound Organisation Z522	95	Very hefty build for the price helps to deliver a solid sound with good authority and drive	60	16	۰		4	220
	Townshend Seismic Sink	499	Unique inflatable plinth that works wonders with decent floorstanders, as well as standmounted speakers	4	38,48			0	202

EQUIPMENT SUPPORTS SPECES 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 STANDS 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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TECHNICAL & DESCRIPTIVE TERMS BUYER'S BIBLE

GLOSSARY

TECHNICAL TERMS

S.1-CHANNEL AUDIO Six discrete channels, typically front left and right, centre, surround left and right, and LFE (Low Frequency Effects) for a subwoofer.
 BALANCE Most loudspeakers have a characteristic frequency balance resulting from emphasising parts of the audio range and/or de-emphasising others
 BASS The lowest three octaves of the audio band – hence 'low bass' refers to the bottom octave (20-40H2); 'mid-bass' the middle octave (40-80H2); and 'upper bass' the 80-160Hz octave.
 BI-AMP (sometimes tri-amp)

Loudspeakers equipped with separate access terminals to each drive unit can be driven by separate (matching) power amplifiers for each driver.

BI-WIRE (sometimes tri-wire) Loudspeakers with separate access terminals to each driver can be driven by separate cable runs between the amp and each driver.

CD-R Recordable CD that cannot be erased, though discs that have not been completely filled can have tracks added until the disc is finalised.

CD-RW Re-writable or re-recordable CD, incompatible with older CD players. **CLASS A** The operation of an

amplifying stage or device in which current always flows, as opposed to Class B, where some of the devices are effectively turned off some of the time. Class A tends to have the advantage of offering lower distortion while Class B tends to generate less heat.

CLASS AB Most practical amps operate in Class A for the first fraction of a watt and Class B thereafter.

CLIPPING An amplifier's output waveform is 'clipped' if the volume is advanced too far and no more 'volts' are available to sustain ever-increasing power levels. Distortion increases dramatically at this point.

CLOCK Any electronic oscillator that is used to generate a timing reference signal. Used to synchronise the data being taken from a disc.

CROSSOVER A simple electrical network which divides the full bandwidth signal received from the power amplifier, apportioning appropriate parts of the spectrum to the various drive units.

DAB (digital audio broadcasting). Digital radio using frequencies in the band 217.5 - 230MHz. Broadcasters use varying degrees of compression and offer a broad range of programming. DAC or Digital-to-Analogue Converter. The stage in any digital component at which incoming digital data is used to reconstruct a recognisable analogue (music) waveform.

DOLBY DIGITAL

A compressed digital audio format that typically contains five or more entirely discrete channels, eg 7.1 EX where side and rear channels are used. DOLBY PRO-LOGIC, DPL Forerunner to DD that 'steers' information to the front L/R, centre and mono surround channels via an analogue matrix. DRIVE UNIT/DRIVER A transducer

which converts electrical energy into acoustic energy, eg bass driver, tweete: **DSD** (direct stream digital) The coding format used for SACD offers a frequency response of over 100kHz and a dynamic range over 120dB, it has over four times the data capacity of CD.

DSP or Digital Signal Processor. Integrated circuit that handles the decoding of digital addio streams. In 5.1 processors it separates the left from right and front from rear while managing the various bass options

DTS or Digital Theatre Sound Competitor to Dolby Digital with a reduced 41 compression ratio that, ostensibly, promises higher quality. DVD-AUDIO High-resolution variant on DVD offering up to 192kHz bandwidth and 24-bit dynamic range. Discs are compatible with standard DVD players. ELECTRICAL DIGITAL Any digital

connection that uses an electrical cable rather than optical. Includes the balanced ('AES/EBU') interface.

FILTERS Filters are intrinsic to digital audio, both analogue and digital. These are often very sophisticated in design, and in total they probably have rather more to do with the 'personality' of CD player sound than most other factors. FREQUENCY RESPONSE The range

of frequencies, from low to high, which a loudspeaker will reproduce.

IMPEDANCE With speakers, the complex electrical load that a loudspeaker presents to the amplifier which is driving it.

JITTER An insidious distortion specific to digital audio caused by the clock, used to regulate the conversion of data into analogue audio, being imprecise. **KBPS** (Kilobits per second) Digital data rate measurement system used primarily with highly compressed formats such as MP3, DAB etc. The higher the amount, the better the quality.

LINE LEVEL Practically every modern source component (except phono cartridges) gives an output in the region of 1-2V, referred to as 'line level'. It follows that all inputs labelled 'CD', 'tuner', 'aux' or 'tape' are designed for this input level and are thus interchangeable

LOSSLESS COMPRESSION A

method of reducing the number of data bits (density) without corrupting the original description of the musical signal. **LOSSY COMPRESSION** Reduction in data density by recourse to a psychoacoustical model that predicts what is, and what is not, 'audible' within a sequence of music.

MIDRANGE The middle three or so octaves of the audio band, where the

ear is most sensitive, covering the approximate frequency span from 160Hz up to 3kHz.

MP3 (MPEG layer 3) Lossy compression format for digital audio that drastically reduces data content in order to squeeze music through internet connections or allow hundreds of CDs to be stored on a hard disc.

OUTPUT IMPEDANCE A measure of resistance to alternating current, a source with low output impedance (below 100 ohms) helps ensure compatibility with most amplifiers, even with long interconnect cables.

PCM (pulse code modulation) The digital coding system for analogue wave forms used for CD and DVD. Quality is limited by the oversample and bit rates used – CD is 44.1k4/16-bit while DVD-A is capable of 192kHz/24-bit. PRESENCE BAND Critical section of the audio band at the point where

midrange and treble meet. QUANTISATION NOISE A form of distortion or noise resulting from errors in the description of the musical signal by the digital code.

SACD (Super Audio CD) was launched in 1999 and is a Sony/Philips format based on DSD coding that offers high resolution stereo and multichannel sound from hybrid discs that can also be played on ordinary CD drives.

SAMPLE RATE The rate at which the musical waveform is sliced up into discrete chunks. For CD this is 44.1kHz or once every 0.023 msec. DVD will also support 48kHz and 96kHz.

SENSITIVITY The relative loudness that a speaker generates for a specific voltage input. Expressed in decibels per watt (dB/W).

THX Standards system for home cinema set-ups which includes amplifier power and speaker dispersion characteristics. THX Ultra is more stringent than THX Select.

TOSLINK The proprietary name given by Toshiba to the optical fibre signal transmission system it invented for consumer applications.

TRANSISTOR/MOSFET The two main types of power semiconductor used in solid state amplifier output stages

TREBLE High frequencies, the top end of the audio band, ie above 3kHz. **TWEETER** Treble driver.

TWO/THREE-WAY Loudspeaker crossovers split the signal into two or three frequency bands, a two-away speaker can have more than two drive units.

WATTS (per channel) The watt is the unit of electrical power and the WPC rating is the maximum average undistorted power that an amp can deliver to a typical speaker. However, speaker sensitivity variations can make more difference than amplifier output.

DESCRIPTIVE TERMS

AGGRESSIVE Forward and bright sonic character.

AMBIENCE The impression of an acoustical space, such as the performing hall in which a recording was made.

ANALYTICAL Highly detailed. ARTICULATE Intelligibility of voice(s) and instruments and the interactions between them.

ATTACK The leading edge of a note and the ability of a system to reproduce the attack transients in music.

BALANCE Essentially tonal balance, the degree to which one aspect of the sonic spectrum is emphasised above the rest. Also channel balance, the relative level of the left and right steren channels.

BODY Fullness of sound, with particular emphasis on upper bass. Opposite of thin.

BOXY The sound of a loudspeaker with audible cabinet resonances.

BRIGHT A sound that emphasises the upper midrange/lower treble.

DARK A tonal balance that tilts downwards with increasing frequency.

Opposite of bright. DECAY The fadeout of a note, it

follows the attack. **DEFINITION** (or resolution) The

ability of a component to reveal the subtle information that is fundamental to high fidelity sound.

DEPTH (of image) The perception of music being reproduced behind the loudspeakers and inhabiting a reproduction of the acoustic space of

the original recording. **DETAIL** The most delicate elements of the original sound and those which are the first to disappear with lesser

equipment. **DRY** A sound that is devoid of 'juice', which usually comes across as finegrained and lean. Also a loss of reverberation as produced by a dameet environment.

DYNAMIC The suggestion of energy

and wide dynamic range. Related to perceived speed as well as contrasts in volume both large and small. **EUPHONIC** An appealing form of

distortion that generally enhances perceived fidelity, often ascribed to the harmonic elaborations of some value amps

FAST Good reproduction of rapid transients which increase the sense of

realism and 'snap'. FOCUS A strong, precise sense of

image projection. FORWARD(NESS) Similar to an aggressive sound, a sense of the image being projected in front of the speakers and of music being forced upon the listener.

GRAINY A slightly raw, exposed

sound which lacks finesse. **GRIP** A sense of control and sturdiness in the bass.

GRUNT See grip.

HARD Uncomfortable, forward, aggressive sound with a metallic

tinge. HARSH Grating, abrasive.

IMAGING (stereo) The sense that a voice or instrument is in a particular place in the room.

JUICY Sound that has joie de vivre, energy and life.

LOW-LEVEL DETAIL The quietest sounds in a recording.

MUSICAL or musicality. A sense of cohesion and subjective 'rightness' in the sound.

NATURALNESS Realism. OPAQUE Unclear, lacking transparency.

OPEN Sound which has height and 'air', relates to clean upper midrange and treble

PACE Often associated with rhythm,

a strong sense of timing and beat. **PRESENCE** A sense of an instrument or voice occupying a place in the

listening room. **PRESENCE RANGE** The upper midrange.

SEISMIC Very low bass that you feel rather than hear.

SIBILANCE An emphasis of the 'S' sound, often heard on radio.

SNAP A system with good speed and transient response can deliver the immediacy or 'snap' of live instruments.

SPEED A fast system with good pace gives the impression of being right on the money in its timing.

STURDY Solid, powerful, robust sound.

THICK A lack of articulation and clarity in the bass.

THIN Bass light. TIMBRE The tonal character of an instrument.

TIMING A sense of precision in tempo. See speed and pace.

TRANSIENT The leading edge of a percussive sound. Good transient response makes the sound as a whole more live and realistic.

TRANSPARENCY, transparent. A hear-through quality that is akin to clarity and reveals all aspects of detail. TWEAK To tune a system or

component in an attempt to get the best performance from it.

TWEAKER Someone who enjoys this process.

VEILED Loss of detail due to limited transparency.

WARM A fullness in the lower midrange/upper bass.

WEIGHT A sense of substance and underpinning produced by deep, controlled bass.



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Choice Bits is the easy way to buy the best audio accessories available today. Simply pick up the phone, order online, drop us an email or fill out the order form below and pop it in the post. It couldn't be simpler!

Last issue we featured the marvellous L'Art du Son, almost certainly one of the best LP cleaners on the market, and without a doubt the most environmentally friendly vinyl cleaning solution around.

This issue we have the digital equivalent, the highly regarded Optrix CD Cleaner & Clarifier. Optrix can be used on any disc – CDs, DVDs, DVD-Audio discs and SACDs. For our full selection of quality audio accessories please visit our dedicated website, www.choicebits.co.uk

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Optrix can be used on CDs, DVDs, SACDs, in fact just about any audio or video disc. Regular use of this 'magic' fluid will dramatically improve sound and picture on virtually all systems. It helps prevent CDs skipping and improves the optics of all CD and DVDs simply by removing accumulated dust and grease. It's easy to use – simply spray on and wipe off. One bottle should bring 100 CDs or DVDs to life. **AUDIO ACCESSORIES**

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Sound Improvement Disc (Model 14/15)	£17.95	
Ultra Burn-In CD3000	£24.95	
XLO Reference Test & Burn-In CD	£24.95	

CARE/ CLEANING PRODUCTS

Allsop Carbon Edge Laser Lens Cleaner	£14.95	
Allsop CD & DVD Fast Wipes	£4.95	
Allsop CD Scratch Repair Kit	£12.95	
Allsop Radial CD Cleaner	£10.95	
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Clearaudio Carbon Fibre Record Brush	£13.95	
DeoxIT Contact Cleaner (200ml)	£13.95	
Goldring Exstatic Deluxe Record Brush	£14 95	
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Nagaoka Antistatic Record Inner Sleeves (Qty 50)	£14 95	
Optrix CD Cleaner & Clarifier	£16.95	
Onzow Zerodust Stylus Cleaner	£29.95	
ProGold Contact Enhancer (ProGold 20ml)	£13.95	
Unbranded Inner Sleeves (Qty 100)	£24.95	

ISOLATION RACKS - CONES

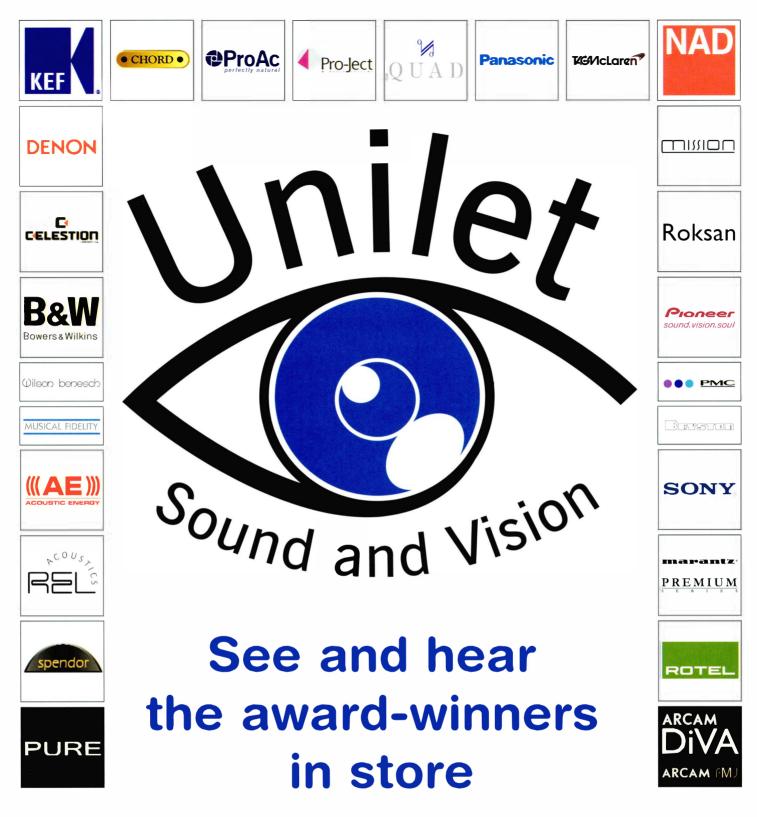
Clearlight Audio RDC Aspekt Rack Black 4 Shelf	£549.95	
Clearlight Audio RDC 1 Cones (Qty 4)	£39.95	
Clearlight Audio RDC 2 Cones (Qty 4)	£29.95	
Clearlight Audio RDC Cone Cups (Qty 4)	£17.95	
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Clearlight Audio RDC 5 Cones (Qty 4)	£17.95	
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IXOS Sorbothane Feet (Qty 4)	£19.95	
Nordost Pulsar Points (Aluminium) (Qty 4)	£54.95	
Spectral Foculpods Support Systems (Qty 4)	£14.95	
Spectral Polipods Support Systems (Qty 8)	£14 95	
Townshend 3D Seismic Isolation Platform	£234.95	
Voodoo AIRTEK (430x360mm / 20kg)	£234.95	

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ARCAM A85/ P85 excellent cond, black, (£1,350) £850. Can demo, 0117 9498117 (Bristol), AVONDALE AUDIO amps. Pre (brown), power supply, 50W monoblocks (black), £200. 01905 770810 or andrew.chandler @dsl.pipex.com (Worcester).

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640C CD player. As new, one year guarantee, £150. Van den Hul D102 MkllI phono leads, 1.2m pair, £50. 02380 274494 (Southants)

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Signature, 12 months old, as new,

(£1,480) £950 ono. 0161 827 9500 (Manchester).

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boxed (£150) £85. Mr Smith 01903 247779 (Sussex) **NAD S100** preamp, two C370 power amps, S400 tuner, Tannoy S10 speakers. One year old, mint, boxes and instructions, £1,700. May split. Mick 01707 377090 (Welwyn Garden City).

NAIM NAC102 preamp £400. Rega Planet CD player £250. Rega h'phone amp, £50. Grado SR60 headphones, £40. All perf cond. 01604 414216 (N'ampton). NAKAMICHI DR-1 cassette deck. Semi-Pro, three head, azimuth tuning control. Perfect working cond. Never used, £300. Steve 07973 334623 (W Mids).

PATHOS LOGOS valve amp, latest version with pre/outs. Five months old, £1,799. Sony SCD1 SACD/CD player, 11 months old Sony guarantee, £2,099. Both items pristine and boxed. 07979 903989 (Bristol).

PIONEER 505 Precision CD player with Tom Evans upgrade. Acoustic Precision mains conder, mint cond, £440 ono. 01633 680525 or richard.james@ mailbox.tv (Newport).

QUAD 44 preamp, grey, phono, mint £250. Quad 405-2 vgc £200. Mike 01758 613790 (N Wales). REVOLVER R33 speakers, brand new, unwanted prize, (£499) £300. 01905 610628 (Worcs). ROKSAN CASPIAN integrated amp, £275. Power amp, £150. CD Player, £275. Monitor Audio studio 20 SE speakers, £650. Ernest 020 8303 4699 (London). RUARK EQUINOX speakers with dedicated stands. Rare chance to buy these lovely speakers. Mint

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KEF REFERENCE Model Four-Two loudspeakers any finish except albina burr. Cash waiting, Martyn. 01494 445005 (Bucks).

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SONY SCD1 SACD/CD player. Sony's ultimate statement. Digital filters, pristine cond, 11-month Sony guarantee, £2,099. 07979 903989 (Bristol).

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classic equipment, really wonderful sound, black, with remote control. £40 no offers. 01268 415017 (Essex).

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!

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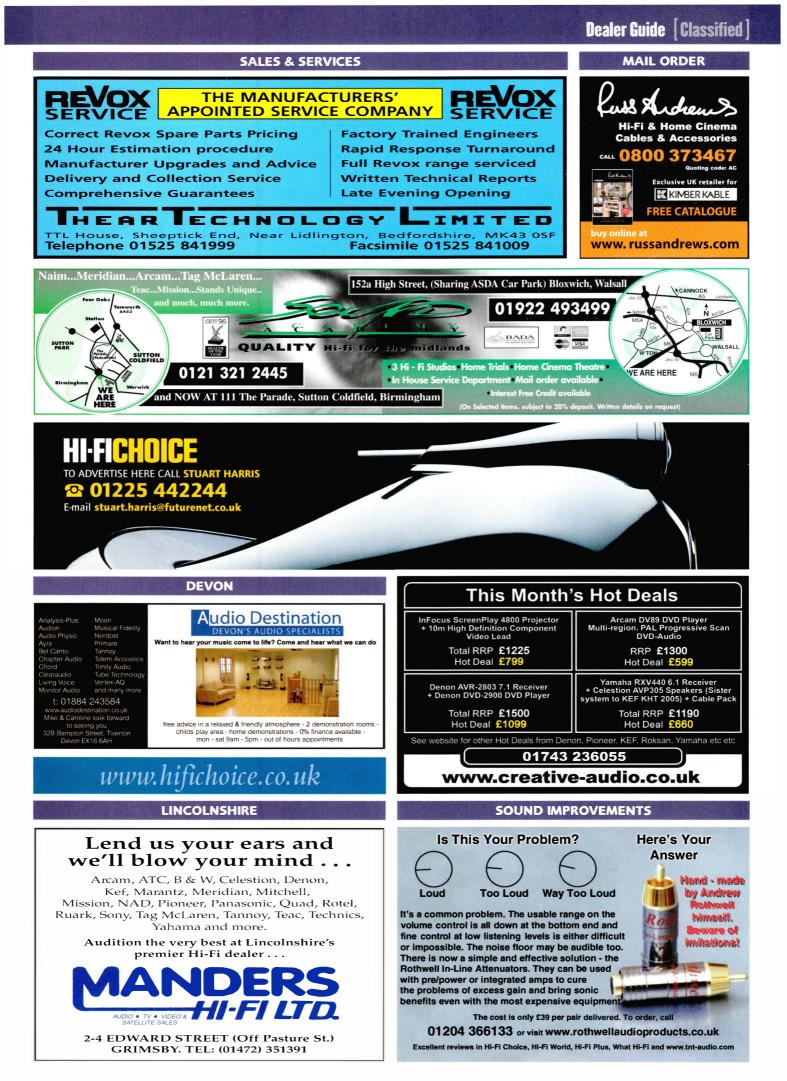


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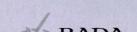
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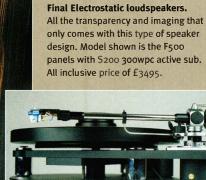
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