

# HI-FI CHOICE

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THE FINEST HI-FI MAGAZINE IN THE WORLD JANUARY 2002

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## DIGITAL RECORDING: THE COMPLETE GUIDE

18 reviews of the best CD-Recorders, the best MiniDiscs and the best MP3 recorders you can buy



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Marantz and Sony compete for the multichannel crown



### VINYL RULES

Hot new turntables, phono stages and cartridges on test



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## CONTRIBUTORS



**Tim Bown** runs both stereo and multichannel systems with kit including Arcam, PMC, Bryston and TAG McLaren.



**Dan George** likes rock music and plays it on a 'supermickey' system consisting of Naim, Bryston and B&W components.



**Richard Black** plays piano professionally and uses EAR electronics and ATC speakers for classical and world music.



**Paul Messenger** likes dance, folk, rock and classical music on vinyl and uses Linn, Naim and Rehdeko kit with gusto.



**Paul Miller** is the king of the technical world when it comes to hi-fi. He is in the process of getting fully multichanneled.



**Alvin Gold** has eclectic music tastes although he prefers stuff that is miserable and downbeat.

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## HOW WE TEST THE PRODUCTS

Our reviewing process is the most rigorous in the business. We focus on transparency and resolution, mixing traditional hi-fi values with the latest technological developments via a blend of subjective views and scientific analysis.

■ **BENCH TESTS** Our main group test each month concentrates on a key area, with products from across the separates market. The testing consists of three stages: 'blind' listening, hands-on subjective testing and scientific measuring. The latter phase is conducted by our Technical Editor using the QC Suite Functional Testing Station.

■ **GROUP TESTS** Each issue features a number of additional tests aimed at narrowing the field in a specific product area. Here the testing involves just the reviewer concerned with no lab or panel testing, but plenty of comparisons.

■ **SOLO REVIEWS** As well as group tests we also review single components. In our First Impressions section, you'll find brand-new products that warrant early exposure, while High Performance concentrates on the latest aspirational, high-tech components.

## AWARD TAGS



**BEST BUYS** are considered to offer an excellent standard of performance at an attractive price.



**RECOMMENDED** products are first-class components, losing out to Best Buys only because of a higher price or less competitive sound quality.



A third award, **EDITOR'S CHOICE**, is reserved for those products reviewed solo and is awarded where the Editor is convinced that a product offers exceptional quality for the price.

**"IN SHORT, YOU SHOULD HEAR THE MUSIC FIRST AND THE SYSTEM AS LITTLE AS POSSIBLE."**



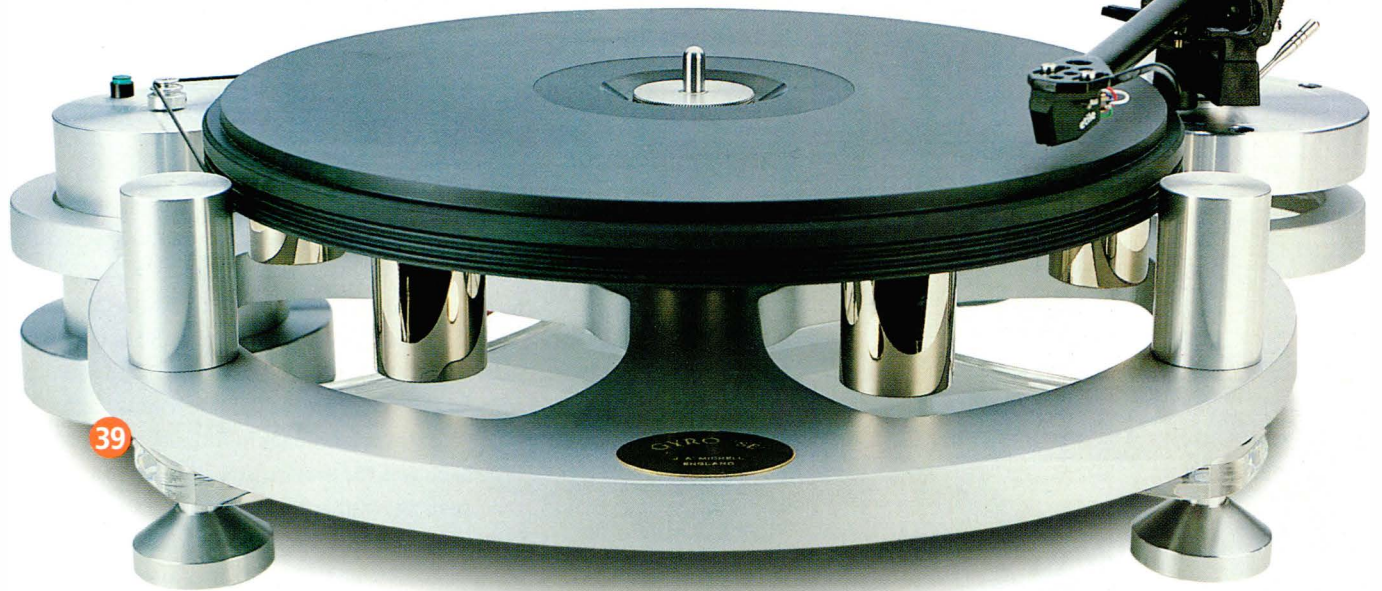
The hi-fi highlight of my month was an extremely fine experience involving some powerful but rather unspectacular loudspeakers in a large room full of tiered seating, specifically the Queen Elizabeth Hall in London's South Bank arts complex. The reason for the quality of the performance was of course the live nature of the source in this crud (by hi-fi standards) system. The band was the Esbjörn Svensson Trio, a Norwegian jazz group playing piano, double bass and drums. EST, as they like to be called, played a number of Thelonius Monk tunes as well as their own mix of introspective and energetic grooves, and though the sound could have been sweeter, the overall experience was tremendous.

"What's this got to do with hi-fi?", you may ask. I guess it's a point of reference, even though the room is totally different and there is some monster amplification going on, it offers clues about how to get your hi-fi to sound more convincing. There's a tendency for we hi-fi enthusiasts to go astray in the quest for an absolute sound when no such thing exists. What we should be doing is trying to create musical alchemy in our living rooms, building a conduit for the message that the musicians are trying to communicate. You need to keep your ears on the big picture, so that while you hone the system, hunting for that last nuance of detail, you make sure the end result is not missing the point. In short, you should hear the music first and the system as little as possible.

Hardware is important of course, and this first issue of 2002 contains our first Buyer's Bible, a round-up of all the key products in a particular sector and an overview of the technologies involved. This time around we have concentrated on digital recording, an area that has been diversifying at a dizzying rate for the last few years and is ripe for explanation. So if you are wondering what sort of recorder to buy or are just interested in the way technology is progressing, have a read of this broad yet concise piece.

Those who are interested in analogue recording haven't been forgotten either, our Technical Editor has been measuring and listening to three CD recorders in an attempt to find out which is best for dubbing vinyl, radio or even tape. As ever, getting the best machine is important but the way you use it is just as critical.

Jason Kennedy, Editor



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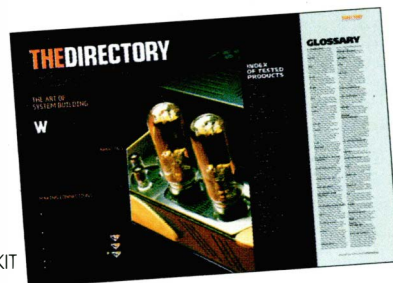
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# FIRST IMPRESSIONS

DAN GEORGE, JASON KENNEDY, ALVIN GOLD AND ALAN SIRCOM TAN THE LATEST HI-FI HIDES.



## SAMSUNG DVD-M405 DVD PLAYER

★★★★★ £250.00

**I**t's hard to find a new, mid-price CD player these days and the Samsung DVD-M405 is a typical DVD 'replacement'. This slim little number is a standard player with the usual roll-call of video sockets, both flavours of digital audio output, a Dolby Digital/dts decoder with 5.1 channel outputs, and two pairs of 'mixed' outputs for stereo-only play. It also has a dual laser transport so that DVD and CD do not have to share the same diode.

In DVD performance, the M405 is typical of the breed. It gives good surround sound and has a picture quality that works with almost anything except very dark scenes. As a CD player, the M405 has a good tonal balance that will ably replay all kinds of musical style and genre without highlighting one over the other; we played Led Zeppelin, Al Green, Charles Mingus, Mahler, The Propellerheads and Scarlatti back to back and it coped with everything with equal aplomb. And it's detailed, too. You can hear almost every musician and chorister in Mahler's *Symphony No 8* and the silence of the Ashmolean Museum around the Kirckman harpsichord in the Scarlatti sonatas.

But this hides a paradox. The sound produced, though detailed, is extremely two-dimensional. There is almost no depth to the image produced, which highlights the early 1960s recording style of the Mingus tracks and decimates the raw and live *BBC Sessions* of Led Zeppelin. It makes it seem as if Robert Plant is standing on John Bonham's drum kit throughout. Perhaps this adds to the feeling that the M405 could do with a bit more character to enliven its bland, soulless manner.

Ultimately, CD playing took a wrong turn with DVD, but new models are redressing the balance. The lack of passion and imagery still makes for bland CD listening, but the Samsung is better than most DVD players. CD replay on DVD has improved considerably since the launch of the format, but, if the Samsung DVD-M405 is anything to go by, it still has some way to go to catch up with a decent CD player. **AS**

### DATASTREAM

**DVD/CD PLAYER**, DVD-Video, Video CD, CD-R, CD-RW, CD-Audio and MP3 playback, multi-region, PAL/NTSC, composite, S-Video, RGB (via Scart) picture replay, built-in Dolby Digital/dts decoders, Toslink optical and coaxial digital outputs, dual laser pickup  
**SAMSUNG** ☎ 0870 2420303





# B&W DM 601 S3 LOUDSPEAKERS

★★★★★ £249.95

**B**&W has revamped its entry-level 600 series for the autumn season, launching it with considerable enthusiasm, not to mention an ice-sculpted Nautilus, on the eve of the Hammersmith show in September. The first example to come our way is the baby in the range, the 601, which is as ever a compact two-way with front port and bi-wired terminals. The differences over series 2 include a tweak to the tweeter that allows its bandwidth to extend up to 42kHz for SACD/DVD-A, a new chassis design for mid and bass drivers that reduces air resistance behind the cone, new capacitors and the ability to accept spade connectors. But the most obvious change is the option of having a light grey baffle and matching rubber surrounds. Our sample came in black but check the ads for the more contemporary look.

Perching these boxes atop Kudos stands and driving them with more power than is strictly necessary elicited an open and energetic sound that calmed down a little with a bit of rear wall enforcement. This is clearly a very competent design, perhaps a little less charming than its DM303 sibling but more ambitious in terms of resolution. You can hear a lot through them. Comparing CD and SACD versions I was shocked by the extra detail they revealed – then I read about the tweeter – it clearly works. Bass is inevitably limited in scope but adds the requisite weight when required. The only area where it might be bettered is in soundstage depth, but whether anything else at the price does this better is debatable.

This is an extremely capable design for the money and should certainly be added to the shortlist of anyone who's after a great starter system. JK

## DATASTREAM

SIZE 36.5x20.4x22.8cm  
(HxWxD), sensitivity  
88dB/8ohm, 25mm metal  
dome tweeter, 165mm chassis  
Kevlar mid/bass, weight 6.1kg  
**B&W LOUDSPEAKERS**

**“COMPARING CD AND SACD  
VERSIONS I WAS SHOCKED BY THE  
EXTRA DETAIL THEY REVEALED.”**



The HK 670 offers a lot of amp for a little money.



# HARMAN/KARDON HK 670 STEREO INTEGRATED AMPLIFIER

★★★★★ £299.00

**F**or anyone looking to build their first genuine hi-fi system or wanting to upgrade a bargain basement amp, this chunky Harman/Kardon amp offers a good degree of flexibility, power and style. Harman/Kardon is the French wing of US firm Harman International, and now with well-rooted distribution in the UK again, you can expect to see a lot more from the company that started out back in 1954. Harman products historically have enjoyed a particular style and the HK 670, is certainly distinctive. When you power up the front panel is illuminated with all the input source and record source options, and you select these using the two large gold buttons on the fascia. Elsewhere at the front, you'll find tone and balance controls, a headphone socket, and buttons for two sets of loudspeakers. Build quality is very impressive, and although the front end has a bit of a plasticky feel, the construction is good and the distinctive appearance is a break from the norm.

From the off the impression you get is that this

is a very smooth, laid-back amplifier. The brochure describes it as 'lively', an opinion that I personally don't share, but, if they are referring to the crisp upper-mid band, then I can see what they're getting at. There's a likeable presence to the soundstage, and tonally the HK 670 gives a very warm, lush sound that is nicely balanced with good bass weight. I found it could have been quicker with fast, rhythmic music but this didn't really ever become a problem. The 70 watts of power on tap is more than enough to drive the kind of loudspeakers that you are likely to partner this amp with, and throughout the audition, in terms of presentation and sheer coherence, I had to keep reminding myself that this was a £300 amp. For the money, this amp comes warmly recommended if you like your music chilled. DG

**"IT GIVES A VERY WARM, LUSH SOUND THAT IS NICELY BALANCED WITH GOOD BASS WEIGHT."**

## DATASTREAM

**POWER OUTPUT** rated as 70 watts into 8 ohms, remote control, headphone socket, five line inputs and a pair of tape loops, phono stage, Preamp output, tone controls, two sets of speaker outputs.

**HARMAN/KARDON**  
0208 731 4670



# Small change

RECORD



# Big difference

Introducing the Philips DVDR 1000: The biggest small change in DVD technology. Thanks to its red record button, you can now capture your favourite films and TV programmes in the highest digital picture and sound quality. Up to 4 hours recording per side of a Re-Writable disc.

Your recordings will play perfectly on most DVD players and the Philips DVDR 1000 will play DVD-Video movies too. This two-way compatibility is achieved without any compromise on picture quality, recording time and ease of use.

And now preserving your home movies is simply a matter of connecting your camcorder to the Philips DVDR 1000 via the i-Link digital connection. Your recording will be saved forever on DVD.



The new Philips DVD Recorder.

**EISA**  
AWARDS

DIGITAL VIDEO RECORDER 2001-2002  
Philips DVDR1000

**RW**  
DVD+ReWritable

**DVD**  
VIDEO

**DOLBY**  
DIGITAL

**dts**  
DIGITAL OUT

**i-Link**  
compatible  
**TWINWAY**

For more details, call 020 8665 6350 or visit our website  
[www.ce.philips.co.uk/dvdrw](http://www.ce.philips.co.uk/dvdrw)



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# MARANTZ PM8200 INTEGRATED AMPLIFIER

★★★★★ £599.90

**“THINGS LIKE THE WBT SPEAKER TERMINALS ARE RARELY SEEN ON SUB-£1,000 AMPS.”**

**T**he majority of Marantz's stereo amplifiers have a common thread; they come from the Ken Ishiwata stable and share similarities of character, features and style. The PM8200 does not seem to be of that ilk, its styling is distinctly Japanese – check out the blue LED and its little star and the notch on the volume knob – and its feature set is subtly different from the European norm. There are two sets of tape sockets labelled for MD and CD-R (despite being entirely analogue connections) and a switch on the amp allows you not only to route inputs to either but to record from one recorder to the other, a process that would usually be done with a direct digital link, albeit not as conveniently.

The power ratings also suggest something other than the norm, claiming as they do that output only increases by 20 watts (60W-80W) when jumping from an eight to a four ohm load – as a rule a considerably greater increase would be expected (the perfect amp doubles its output with a halving of impedance). None of which means that this beautifully finished amp will

not be a great performer, and there are factors that indicate quite the opposite. Things like the WBT speaker terminals which are rarely seen on sub-£1,000 amps, or the source direct option and proper IEC mains inlet.

Initial listening with the PM8200 was done through the Spendor S9 speakers (page 24) which proved a little too revealing, the result being crisp and lively with plenty of power but also a slight glassiness to piano notes and a hardness which creeps in with choral works. Moving over to the B&W 601 S3s elsewhere in this section proved a happier combination, the result being better balance with plenty of acoustic space albeit not so much depth. It's a little lacking in tonal colour but makes up for it with decent timing and resolve. **JK**

## DATASTREAM

80 watts/8 ohms, MM phono, 3 line & 2 tape loop inputs, WBT speaker terminals, source direct, independent record selector, system remote & bus connection, tone controls.  
MARANTZ ☎ 01753 680868





"MUSICALLY, THE NEW MODEL IS CLEARLY A STAR, AND WELL WORTH THE EXTRA £100."

## SONY DVP-NS900V SACD PLAYER

★★★★★ £500.00

**A**n upmarket version of the DVP-NS700V (HFC 220), the DVP-NS900V has a much stronger aluminium structure and a great-looking brushed aluminium fascia. An R-Core transformer replaces the 700's frame transformer, a variable coefficient digital filter has been added, and so has a 'video off' feature. The video section benefits from a 54MHz ten-bit D/A converter instead of the '700's 27MHz part, and RGB is available on the loop-through Scart connections, but there is no component output.

There were some minor glitches with the test player which 'locked up' when playing one SACD, cured by switching off and back on. I have heard that this can be a problem with Sony SACD players, but this is the first time I have experienced it. The RGB output also lacked one of its three colour feeds, a simple sample fault, though S-Video (which offers picture quality that is almost as good) and composite (which doesn't) were unaffected. Picture performance wasn't my main concern, but in practice S-Video playback was very good for a moderately inexpensive

player, albeit with higher MPEG-related motion-induced noise levels than with top of the line Sony (and other brand) players.

Musically, the new model is clearly a star, and well worth the extra £100 for its sharper, more physical sound quality and superior build. I'd judge that the DVP-NS900V is subtly less euphonic than the cheaper model, but it makes up for this with greater detail resolution and less of a sense that the sound was being rounded off, an almost subliminal factor with the current crop of affordable Sony SACD players, and which indeed makes them highly successful in systems that in many ways are less than ideal. The Sony also cooked up a storm with some of my CDs, only just keeping a lid on Joanna MacGregor's stunning piano playing on her album *Play*, which can be hot stuff in the wrong system. Here the powerful dynamics were retained, the bass registers had the power of a train, and each note retained its independence (in *42nd St Romp* for example). In short, buy this player, but if you can't, buy the album. **AG**

### DATASTREAM

**COMPATIBLE WITH SACD** stereo & multichannel, DVD-Video, Video-CD, CD, CD-R & CD-RW discs. Connections: Composite (phono), S-Video (Y/C) & component (phono) video + 2 x Scart (composite, S-Video & RGB) for loop-through connections. Digital optical & electrical S/PDIF, stereo audio out + six channel audio out (phono). LCD remote with multi-maker code library for TV and AV receiver operation.  
SONY UK ☎ 08705 111999

# ATC SCM7 LOUDSPEAKER

★★★★★ £480.00



**"IT'S VERY QUICK, DETAILED AND PUNCHY - ALL THE THINGS THAT MAKE FOR AN ENJOYABLE LISTEN."**

**I**t's a good thing that the professional orientation of Gloucestershire-based ATC loudspeakers hasn't led to a lack of consideration for the domestic market.

Luckily for Joe Consumer, even the smallest and most affordable ATC models feature technology handed down from their larger cousins. ATC has a large presence in the professional world, supplying active monitors to studios such as the BBC, both across the country and overseas. Interestingly, ATC's founder Bill Woodman, originally created the company to develop a mid-range driver capable of outperforming the competition with acoustic music.

The SCM7 by ATC's standards is tiny: the little seven-litre cabinet is definitely one for smaller rooms, and near-field listening. Treble is assisted by a 25mm soft-dome tweeter, and the 150mm mid-bass driver contains a 45mm soft dome, for claimed exceptional horizontal dispersion. The baffle displays the drive units in all their beautifully-engineered glory, and is actually recessed within the cabinet by 5mm or so, which is fairly uncommon these days. It's worth noting that the SCM7 is a sealed box design: it has no reflex port and this in practice made the balance very lean with limited bass extension. This may well be a compromise that dance and rock fans shy away from. Bass aside, this speaker excels in so many other areas. It's very quick, detailed and punchy - all the things that make for an enjoyable listen. Frequencies across the range are very clean, and the SCM7s project a very airy

midband with well-separated

instrumentation that is

mighty impressive for a sub £500

loudspeaker. I expect

the ATCs will gain a

following

predominantly from

classical music lovers

and fans of vocal/acoustic

work. I did find they

require some driving, as

their 84dB sensitivity

confirms, but in a small

environment I think you'd

be hard pressed to find a nicer midband

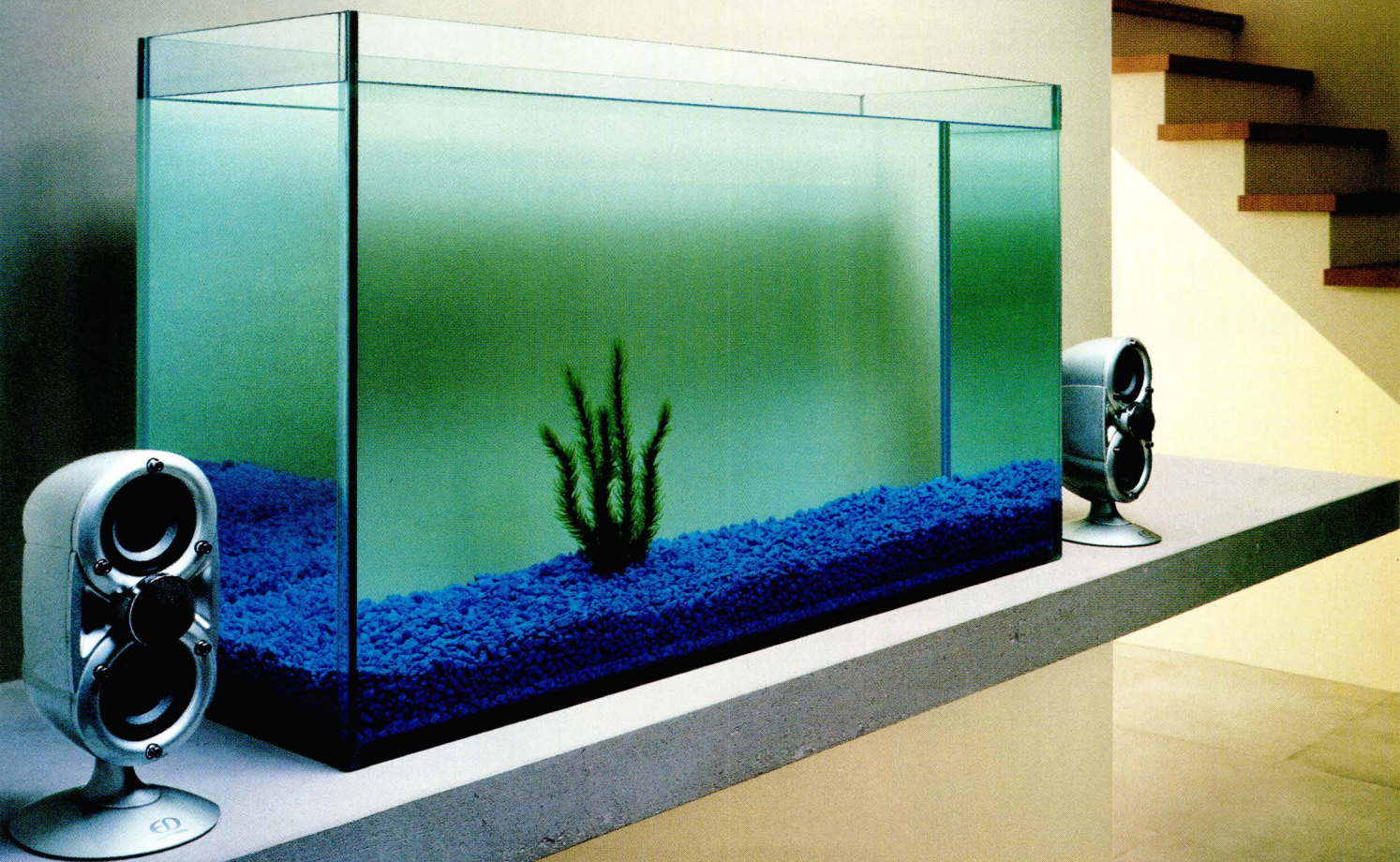
or indeed, a better value box. **DG**

## DATASTREAM

**DIMENSIONS** 16x30x20.5cm (WxHxD), sealed box design, 25mm soft dome tweeter, 150mm treated polyester weave mid/bass driver, bi-wirable, 84dB sensitivity, choice of veneers.

**ATC** ☎ 01285 760561

Pascal



You won't want to look at anything else.

It's rude to stare. But who can blame you? Our tiny Pascal 815ED hi-fi speakers are designed for eyes as well as ears. Their pure aluminium cases produce a sound so clear a Soprano would be jealous. And thanks to Extended Definition (ED) Tweeters they're perfect for Super Audio CD as well as Home Cinema. With a range of Pascal speakers to suit any budget, it all sounds very impressive. Unless you're a fish.

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

Customer information centre 08705 111 999

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SONY

# NEWS

BROUGHT TO YOU BY TIM BOWERN.



## SOUND IN VISION AFFORDABLE DVD-AUDIO FROM DENON

Denon has unveiled its second DVD-Audio/Video player. The DVD-1600 is the brand's first combination DVD below £500, compatible with high-definition DVD-Audio music discs in addition to the movie-oriented DVD-Video format.

Denon claims its long-standing hi-fi experience has enabled it to get the most from the new music format,

and has included an 'audio only' mode that turns off the video circuit for optimum sound quality. Full DVD-A-spec 24-bit/192kHz audio digital-to-analogue converters are installed, alongside 54MHz, 12-bit video D/A conversion. It's compatible with CD-R/RW discs and it's also one of the few DVD players to output up to 24-bit/96kHz stereo PCM audio data from its digital output.

Other features include a sturdy aluminium front panel and a Headphone Virtual Surround mode for a pseudo-surround effect from an ordinary pair of headphones.

The DVD-1600 is available in the New Year, priced at £499.99. To find out what we think of it, see next month's issue.

Denon ☎ 01234 741200

## WADIA CALL THAT?

NEW ENTRY-LEVEL CD

Wadia's excellent 830 CD player has been replaced by a brand new design. The W301 sports a smart new case and features circuit design derived from the company's 861 player – one of the world's most highly-

regarded CD players. Proprietary technologies include a Wadia Swift Current IC for current-to-voltage conversion and the Digimaster filter system, said to preserve vital time and phase information.

It's the first in a new entry-level range from the US digital audio specialist. The next few months will see the 300 Series expand as a DVD player, a multichannel processor and the first Wadia power amps join the ranks. The W301 costs £3,650 – exclusive HFC review coming soon.

MDC ☎ 01992 573030

## MUSICAL HARD CASE

NEW HARD DRIVE PORTABLES

Hard drive portables are sure to hit the top of many music fans' wish lists this Christmas. These little gadgets combine hard disc storage with compression technologies like MP3 to squeeze hundreds of albums' worth of music into their compact frames. That means entire music collections can be carried wherever you go!

An interesting clutch of new designs has arrived in time for the Christmas rush. Fashion-conscious Apple Macintosh users may be tempted to shell out £349 on Apple's iPod – a lightweight, pocketable and deeply funky 'portable music device' that operates in tandem with Mac-specific iTunes software. Hook the iPod to a Mac and you can transfer something like 1,000 tracks to its 5Gb hard disc; it supports MP3 and WMA audio formats as standard, and its firmware is upgradable to suit future formats. Apple claims it's easier to use than any similar product, and it's fast too – it sports a FireWire port, which means tracks are transferred 30 times faster than via USB connection when used with a new, FireWire-equipped Mac. An entire CD in under ten seconds!

Leading PC audio brand Creative Labs has another portable hard disc product up its sleeve – a new version of its DAP Jukebox, recipient of a Best Buy in HFC 208 and now sporting a whopping 20Gb capacity – that's room for something like 500 albums. Price is £339.

UAS Enterprises is also launching a

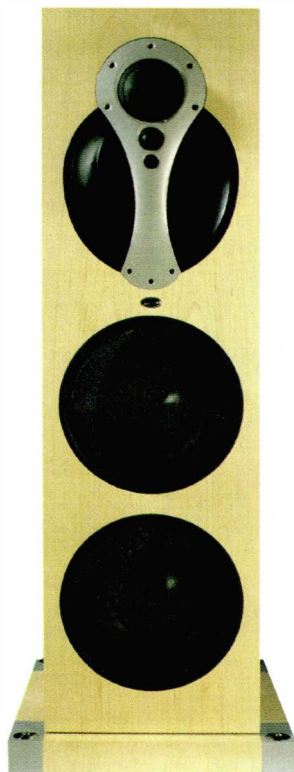
20Gb version of its Personal Jukebox, the £529 PJB-100, and in-car specialist Blaupunkt is taking hard disc to the road with the CompactDrive, a hard drive audio storage unit priced at £499 and compatible with a range of standard Blaupunkt head units. For more information on this new category of audio product see our digital recording Buyer's Bible, starting on page 78.



Apple's heart-breakingly stylish 5Gb iPod.

## LINN AND A MISSION

BRITISH LEGENDS LAUNCH FLAGSHIP LOUDSPEAKERS



Linn's bank-busting Komri (above) and two views of Mission's Pilastro (right).

Two of the UK's most renowned hi-fi manufacturers have unleashed shockingly expensive loudspeakers. Both Mission and Linn's new range-topping boxes are statements of intent created to show what they can achieve when cost is no object.

Mission is most famous for its respected budget designs, with many of its landmark models costing less than £200. But its new Pilastro is priced at £20,000 per pair – a towering three-way floorstander weighing a whopping 155kg and sporting an impressive array of drive units. Its enclosure is made of a material Mission calls Granitech, said to mirror the inert properties of granite. This is embellished with a 20mm laminated wood trim, with anechoic grade foam damping inserted internally. A pair of front-firing 165mm midrange cones made from natural hemp sandwich a 28mm ring dome tweeter, while five 200mm Nomex-coned bass units fire from the side. Sensitivity is high at 95dB, which should aid dynamics, and a seamless sonic output from 22Hz to 56kHz is claimed. Though developed primarily for overseas markets, Mission says the Pilastro will be available in the UK through half a dozen or so select dealers.

Linn's Komri costs even more, described as a "professional full range monitor" and carrying a £25,000 price tag. Linn says it's a five-way design, combining a conventional tweeter with a 'very high frequency' super-tweeter, a midrange driver, an upper bass driver and twin active bass drivers with their own integral amplification. The mid/treble drivers are mounted closely together in an "optimised acoustic array, for uniform dispersion characteristics and a defined acoustic centre". The result is claimed to be ultra-low coloration across a 10Hz to 40kHz frequency range and flat performance from 18Hz to 28kHz.

Linn ☎ 0500 888909, Mission ☎ 01480 423700

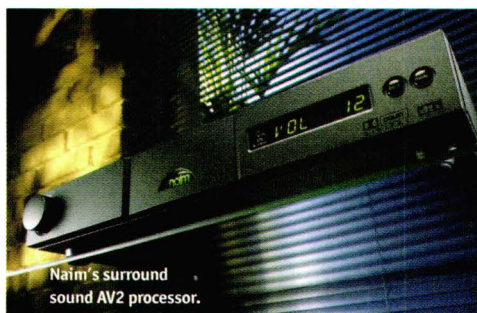


## MULTICHANNEL NAIMED!

NEW GROUND FOR TWO-CHANNEL TITANS

Naim has launched a pair of multichannel amps, one aimed at surround sound applications, the other at multi-room and custom installations. Both products – a processor and a six-channel power amp – are said to embody the same sonic ethos prescribed to by the two-channel products on which the firm has built its reputation, capturing "the involvement and excitement that only real live performances can give".

The processor is the AV2, a £2,200 design sporting Dolby Digital, dts and dts-ES as standard, with Dolby Pro-Logic upgradable to Pro-Logic II via internet. It's designed to be used with existing Naim power amps – one suggested combination is to add the AV2 to a Nait 5 two-channel integrated to drive the front left and right channels, with the new three-channel NAPV 175 for surround and centre.



The custom install/multi-room product is the NAP 6-50; a six-channel power amp designed to drive three stereo 'zones'. It delivers 50 watts per channel according to Naim's usually conservative rating, each zone receiving a separate power supply with individual windings on a large custom-designed mains transformer. It's priced at £2,249 and like the AV2 features Naim's customary resonance-rejecting build.

Naim Audio ☎ 01722 332266

## IN BRIEF



SONY has added two models to its Network Walkman range of solid state personal stereos. The £230 NW-E7 has a built-in 64Mb memory and the £300 NW-E10 (above) gives 128Mb. Unlike previous Sony models, the new Walkmen will play MP3 tracks directly as well as supporting Sony's own ATRAC data reduction system. ☎ 01932 816417

LEEMA ACOUSTICS is a new loudspeaker brand with family ties in the professional community. Its initial range consists of two standmounts, the Xen (£899) and Xeus (£1,799), together with a pair of subwoofers, all said to be devel-

oped to the highest professional monitoring standards. ☎ 01442 255405

CUSTOM DESIGN, the Newcastle-based racks and stands specialist, has launched a new range of equipment supports. The Ultra Range is modular in design, so it can grow as your system does; it incorporates both rectangular and triangular-shaped racking systems and covers a range of materials and finishes. ☎ 0191 262 4646

AUDIOPHILE CANDY is a new website from hifforsale.com dedicated to audio accessories. Apparently, it's an "e-commerce experience"! www.audiophilecandy.com

AIWA reckons its new, low-cost DVD-Video player is a much safer bet than the other sub-£200 DVD players available from supermarkets and depart-

IN BRIEF CONTINUES ON P.16

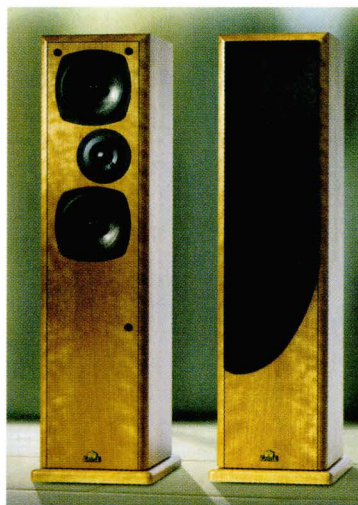
## CASTLE KEEPS THEM ROLLING

THREE NEW QUALITY VENEERED LOUDSPEAKERS

Castle Acoustics has revealed three additions to its range of loudspeakers, each clad in the company's usual range of gorgeous wood veneers.

First up is the Richmond 3, a two-way stand-mount featuring a 130mm mid/bass unit with a woven carbon fibre cone and a 19mm polyamide dome tweeter. It costs £280 in one of seven standard veneers, or if you plump for rosewood or yew it'll set you back £340. Then there's the Stirling 3, an 87cm-tall floorstander that replaces the long-running Severn. It employs two 130mm carbon fibre coned mid/bass units, a 28mm fabric dome tweeter and is priced at £730, or £880 in one of the two premium veneers. Last comes the Conway 3 (right), a floorstander much like the Stirling 3 but larger and featuring twin 150mm main drivers. It costs £950 or £1,150 according to veneer.

Castle Acoustics ☎ 01756 795333



## ROTEL SCORES 10

NEW PLAYER FROM CD TORCH-BEARER

New players dedicated to CD are rare these days, but they're far from a dying breed according to Rotel, which has just released the first of its new 10 Series – the RCD1070.

Priced at £525, the player sports Rotel's newly spruced-up aesthetics but continues to follow its traditional attitude to audio design. The usual high standard of build applies, and a new digital-to-analogue converter has been introduced from Burr-Brown.

Several other components have been added. There's the RSX1065, a five-channel receiver with heaps of processing modes including Dolby Pro-Logic II, dts ES Matrix 6.1 and dts ES Discrete 6.1. It delivers 100 watts per channel and costs £1,800. And for fans of two-channel there's a pair of new amps priced at £1,000 a piece – the RC1090 preamp and the RA1070 integrated.

Rotel ☎ 01908 317707



## FANCY A KAPPA?

INFINITY'S NEW SPEAKER RANGE

Infinity has replaced its existing mid-market Kappa range of speakers with an all-new Kappa line-up. There are five models in all, including a centre speaker and an active subwoofer, each one the brainchild of much-respected British designer Robin Marshall.

The range starts with the Kappa 200, a two-way standmount at £599 per pair. Two floorstanders come next, the Kappa 400 and Kappa 600 priced at £999 and £1,199 respectively. Both feature bass drivers that fire from the side so their fronts remain slender. A matching centre speaker called the Kappa CC is priced at £399, while the Kappa Sub weighs in at £699.

All five models feature Infinity's Ceramic Metal Matrix Diaphragm drive unit technology – their cones and tweeter domes are made from a ceramic composite claimed to be exceptionally



stiff and light, with minimal tendency to support internal resonance. The Kappa Sub also features the brand's Room Adaptive Bass Optimisation System, said to ensure more consistent, less room-dependent bass. Next issue features a review of a multichannel package based around the brand's Alpha speakers, so tune in then.

Harman/Kardon ☎ 020 8731 4670

## ARCAM'S WIDE RECEIVER

NEW MODEL REPLACES AVR100 FAVOURITE

Arcam's well-reviewed AVR100 multichannel receiver has been replaced by a new model – the AVR200. Price is unchanged at £800, yet the new design sports improvements to its control system and adds Dolby Pro-Logic II for surround sound from two-channel sources like CD and radio. What's more, it's also claimed to sound significantly better with both movie and music material.

Like its predecessor, Arcam reckons the greatest distinction of this receiver is the quality of its two-channel sound. Whether you're spinning a CD, a surround sound movie on DVD or even one of the new high definition multichannel music formats, the AVR200 is said to deliver a

quality performance. It delivers 5x70 watts or 90 watts per channel in two-channel mode, and incorporates an FM/AM tuner with 40 presets and RDS.

Arcam ☎ 01223 203203



## IN BRIEF CONTINUED

ment stores around the country. The £180 XD-DV480 is apparently "a fully specced DVD player from a serious brand at a no-name price".  
☎ 0870 168 9000

**NATALIE IMBRUGLIA'S** new *White Lilies Island* CD is the first UK release to feature Cactus Data Shield, a copy protection system intended to prevent MP3 swapping by making the disc unplayable on a PC (or a PlayStation 2, for that matter).

But in a bizarre twist, a 'pre-ripped' MP3 version of the album is also included on the disc for Windows users – surely that makes it easier to pirate?

**VELODYNE**, one of the most respected names in subwoofers, has a new line-up heading for the UK. The SPL series consists of two active subs: the substantial SPL-1200 at £1,325 and the more compact SPL-1000 £1,125.  
☎ 0131 226 1981

**TAG MCLAREN'S** Digital Radio Module gives AV32R owners access to Digital Radio (DAB) broadcasts. The module fits inside the multichannel preamp/processor and costs £690 or £789 depending on the age of your AV32R.  
☎ 0800 783 8007

**CDCLIPS** aims to help music lovers with eclectic CD collections get organised. You get a pack of 26 alphabetical black clips to slip onto CD case

spines so it's easier to store and locate your CDs alphabetically. A pack costs £7 and they're available online.  
www.cdclips.co.uk

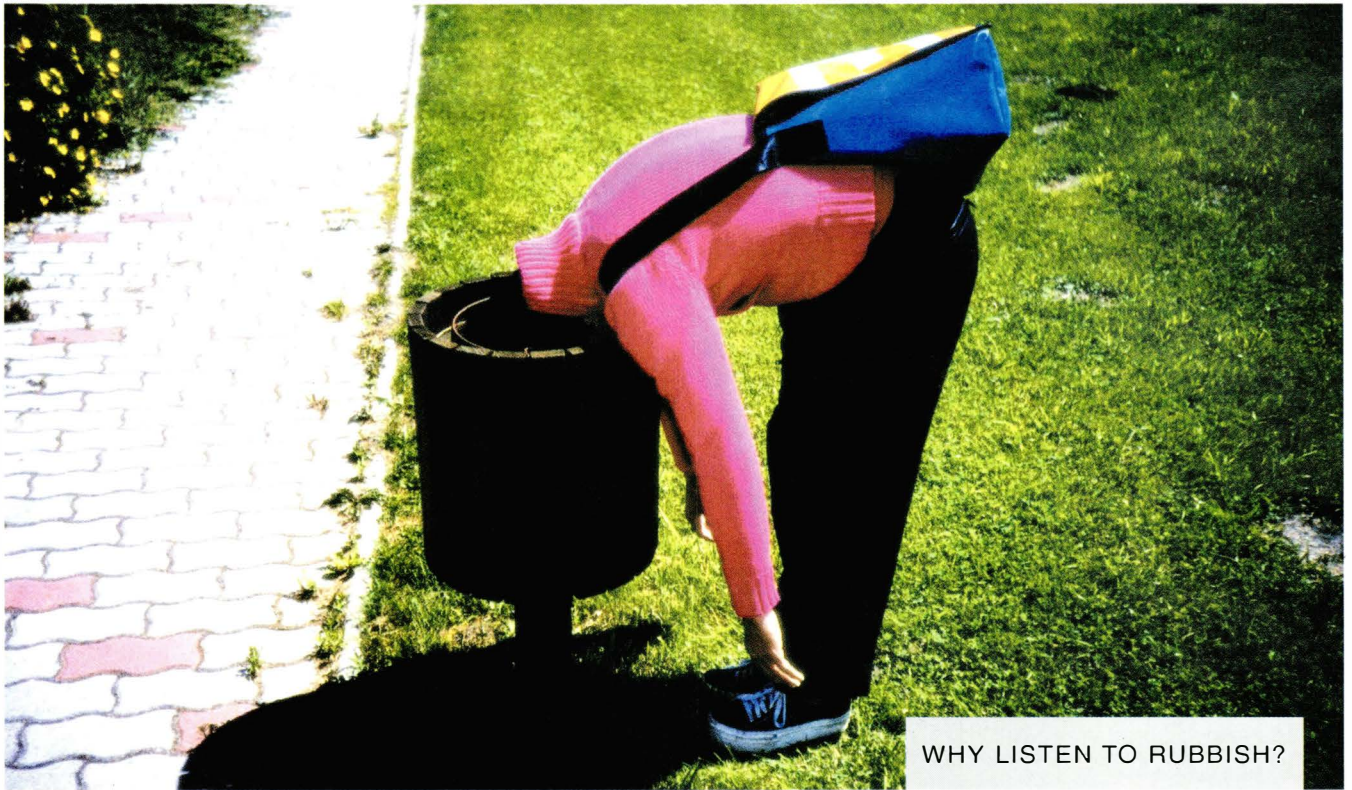
**HI-FI JUNKIES** is a new website aimed at buyers of serious hi-fi and home cinema kit. It claims to be the only UK site to sell high-end brands complete with delivery and installation, along

with competitive pricing and interactive online advice.  
www.hifijunkies.co.uk

**VAN DEN HUL** has a new entry-level interconnect cable – the BAY C5 HYBRID (above). It features a silver-coated, oxygen-free copper conductor with vdH's carbon layering technology and costs £39 for a 0.8m pair. Review next month.







WHY LISTEN TO RUBBISH?

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# COMPLETE CONTROL

RICHARD BLACK TALKS TO QED ABOUT MULTIROOM HI-FI – IT'S EASIER THAN YOU'D THINK, APPARENTLY.

**“MUSIC SOOTHES OR EXCITES THE SPIRIT, BUT WHAT IS SOOTHING OR EXCITING ABOUT A RACK OF EQUIPMENT AND THE PALAVER OF OPERATING IT?”**

**T**he ‘automated house’ is a nice sci-fi concept – doors that open as you approach them, while lights gently dim up and music switches on. But what, if anything, has it got to do with hi-fi?

Converted from my one-time cynicism, I look at it this way. Hi-fi – music itself, indeed – is all about quality of life. Music soothes or excites the spirit, enabled in the home by hi-fi. What is soothing or exciting about a rack of equipment and the palaver of operating it? Not much. Whereas a well-installed multi-room system hides itself away and is effortlessly heard, and controlled, from anywhere in the house.

I was won over to the attractions of multi-room hi-fi in the course of a fascinating day in the company of Alan Ainslie of QED. Through its Systemline brand and its associated installation company IMI, QED is one of the leading players in the multi-room market and has an astonishing 15 years’ experience in the field. Alan explained the practicalities and benefits of such systems and then showed me round a real installation in a show home near Enfield, just north of London.

The concept is simple. On the one hand, home entertainment components are proliferating – CD, MD, DVD, cassette, FM and DAB tuners, TV, satellite and cable set-top boxes. On the other, they can nowadays generally speak to each other with bus and more intelligent comms systems. And then there’s the attraction of being able to listen to one’s choice of music in any room in the house. Combine all these, and you end up with a single rack of equipment, which can be anywhere in the house, plus a small control

panel and speakers in each room. Everything is controlled centrally by an additional box. Also, with the addition of vision switchers you can even have video piped round the house with the audio, and the whole shebang can be linked to burglar alarms, lighting controllers, heating, etc.

Implementation is a little more complicated. QED’s answer in the Systemline units is to centralise intelligence in the controller box and have relatively ‘dumb’ control panels and remote controls in each room or ‘zone’. Commands are sent back to the controller which has been programmed by the installer with an appropriate set of remote control commands for the source components in use. A little infra-red transmitter attached to each component relays these commands. Meanwhile, another Systemline box contains the multiplicity of power amplifiers required to drive speakers in each room, which are connected via long speaker cables – about the only drawback, and not too serious if good quality cables are used (QED of course reckons it has the answer to that!). If this all sounds over the top, QED also sells a much simpler version, the MusiQ, which can cover two zones very simply, can be installed by a good DIYer and requires no more than speaker wires.

You’ll be wondering by now what all this costs. MusiQ starts at £550, but for the full four-room system, including controller, in-room modules and power amplifiers, the cost is a little over £3,000. Add to that the source components if you don’t have them already (multidisc CD players make life easier) and it’s a fair chunk of money. Granted, if all you want is a basic CD-playing

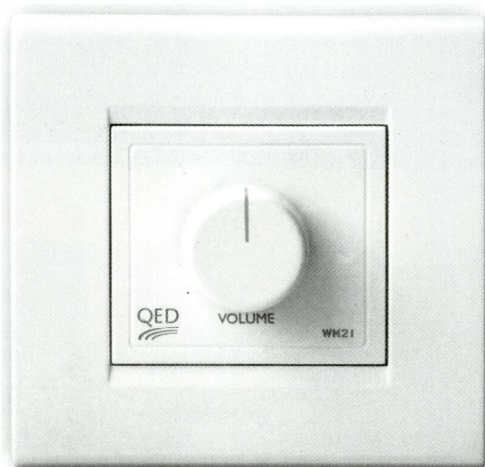




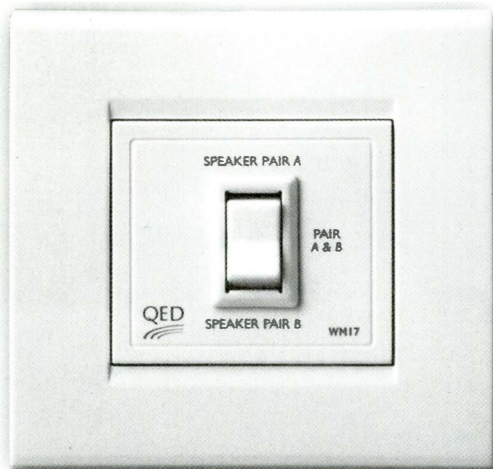
Individual control panels are sited in each room and come in a variety of styles and finishes to suit (nearly) any interior.



The automated house of the future won't look like the Jetsons, but it will contain some subtly-hidden space-age technology.



The central hi-fi system can be controlled from any room in the house by means of a universal remote or wall-mounted panels.



system in each room you can get it cheaper in four mini systems. And then there's the wiring itself. The good news is that if you're buying a brand new home you may find that it's already there. The bad news is that adding the wiring to an existing home can be complicated and expensive: but full-scale refurbishments are increasingly coming to include wiring. That's wiring not just for audio and video but computer networking and telephone lines, of course.

The fact that most new homes (any that are the least bit upmarket, anyway) incorporate that wiring is surely a pointer and a big money-saver. Alan took me to visit a new Laing development where the five-bedroom show home had a fairly modest multi-room installation. Many of the rooms had only ceiling speakers, hardly the last word in hi-fi, but walking round such a house it's easy to see the attractions of controlling everything, wherever it is, from wherever you happen to be, all with one remote control (in this case a Philips Pronto handset).

Mention of those ceiling speakers brings up the question of sound quality. Alan is keen to emphasise that QED came to multi-room from a purely sound background (as did the other big UK name in the field, Linn) and naturally hopes to achieve the best possible sound. Much depends on your choice of speakers and they don't have to be the same everywhere. You can even opt for local power amplifiers and distribute line-level signals, and evidently some fairly 'hair-shirt' types are happy to do this. Maybe a pure stereo minimalist system for a few grand will perform better, but not necessarily by so hideous a margin. For those of us still living in 100-year-old flats it's still decidedly aspirational, but multi-room music is surely the way to go for the future. I say 'bring it on'!

**Richard Black** currently has a pretty hair-shirt system but will shortly be trading it in for something more discreet.

MARANTZ'S FIRST FORAY INTO MULTICHANNEL SUPER AUDIO CD HAS STRONG LINKS WITH A CERTAIN PHILIPS PLAYER, BUT YOU WOULDN'T GUESS BY ITS LOOKS ALONE.

# SYMBIOTIC

# h

REVIEW PAUL MILLER

aving already established the benchmark among two-channel SACD players with its fabulous SA-1, which graced the cover of *Choice* a year ago, Marantz is hoping to follow that success with its £3,500 multichannel SA-12S1. Most enthusiasts will know that Marantz and Philips have a symbiotic relationship, so there's no point pretending

that the SA-12S1 isn't based on Philips' SACD-1000 chassis, despite appearances. The two arms of the business will often share technology, which is why Philips' gifted Marantz with the launch of SACD, preferring to wait for the development of the multichannel format before entering the fray itself. The SACD-1000 even uses a variation on Marantz's HDAM op-amp technology to drive its six analogue output stages. So what goes around, comes around.

All of which begs the question: why spend an extra two grand on Marantz's version of Philips' SACD-1000 chassis? In terms of build and aesthetics there's really no contest – the SA-12S1 looks and feels a million dollars. And, unlike Sony's player, at least you can read the display with the drawer open. Otherwise, the SA-12S1 incorporates the same features as the SACD-1000, including the same on-screen menu and compatibility with CD, CD-R, CD-RW plus Dolby Digital and dts-encoded DVD movie discs. All formats, in fact, bar SACD's competitor, DVD-A.

As an indication of the politics involved, Marantz does provide DVD-A playback in its companion DV-12S1 DVD player which offers compatibility with all formats *except* SACD.

This model also has a progressive NTSC video output, while the SA-12S1 and SACD-1000 do not. Hook-up remains very simple, but while CD, two and multichannel SACD are all available from the front L/R outputs of Marantz's multichannel phono's, the 'stereo' outputs are best reserved for connection to a TV, for example, when listening to down-mixed DVD movie soundtracks.

Marantz's fancy remote control certainly looks the part, but the buttons are a little fiddly and it can over (or under) shoot during track selection. Operation is pretty straightforward,



**"IN TERMS OF BUILD AND AESTHETICS THERE'S REALLY NO CONTEST - THE SA-12S1 LOOKS AND FEELS A MILLION DOLLARS."**

# EVOLUTION

partly because the bass management and interchannel delay settings provided for DVD are unavailable for SACD. Still, the lack of a CD or SACD text facility is a missed opportunity.

There's also the choice of three different analogue filters, implemented to curtail the worst excesses of the ultrasonic noise associated with SACD's encoding process. Simply put, some amplifiers are quite miffed at being asked to 'amplify' substantive levels of noise well above our 20kHz range of hearing, with the effect that sounds *within* our range are compromised. The standard filter reduces the treble level by -0.6dB

at 20kHz, reaching -4.9dB at 50kHz and -28.9dB at SACD's notional limit of 100kHz. The gentler, custom filter hits -3dB at 50kHz and -23.6dB at 100kHz and is best if the player is partnered with a modern, wide-bandwidth amplifier.

Otherwise, the guts of both the Marantz and Philips players are identical, so both use a custom SACD decoder that offers a realtime 'unpacking' of both two and multichannel data with a combination of three stereo CS4397 DACs from Crystal. There's also a dedicated audio clock rather than one derived from the 27MHz MPEG video clock which, in Marantz's version,



## HIGH PERFORMANCE MARANTZ SA-12S1 MULTICHANNEL SACD PLAYER



Nice display but it doesn't show track title information.



may be turned off for the best quality listening.

Such tweaks, combined with its OFC wiring, the 'audiophile' capacitors in the filter stage, the enhanced power supply and copper-screened HDAM buffers all have a cumulative effect in the SA-12S1. For example, distortion is actually a little higher at 0.0012% versus Philips' 0.0002% (re 1kHz/0dBfs) and while jitter is unchanged at a vanishingly low 160psec, the overall S/N ratio is up from 112dB to 113dB.

### PERFORMANCE

All this makes for a very rich, cultured-sounding CD player full of precise detail – particularly where strings are concerned – and yet the performance as a whole remains very relaxed. There is a great sense of perspective, commanding a realistic sense of order without destroying the nature of the recording itself. Favourite discs from Christy Moore were impressively realised, even if he sounded a little too polite for a rough and ready Irishman. It would seem that although this player was auditioned some six months after the Philips SACD-1000, there's no mistaking the similarity in opinions expressed by our two blind listening panels.

Carmen Lundy's *Self Portrait* disc sounded especially alive, the percussion delicate but pointedly detailed, each note hanging in the air while the bass line brought a weight and ambience to complete what was described as a "well rounded" sound. Her voice, our listeners explained, "could have enjoyed a sharper stereo focus but is nevertheless both expressive and

colourful". A top drawer performance, and no mistake. Ryan Adams' disc oozed a relaxed confidence, bolstered by the solid attack of the kick drum, his languid voice contrasted with the leading-edge detail of strings and light percussion. It seems to sniff out the intricacies of a good recording, planting subtle signposts to the twists and turns of chords and inflections.

That said, the CD layer of Joe Beard's *For Real* SACD sounded tight but also slightly too 'contained' as both his voice, harmonica and – in particular – the drums lacked some dynamic expression. As with the SACD-1000, this was a very 'safe' sound if lacking that 'thrill factor' which we know to be possible. Switching to the SACD layer brought about an increase in bass extension and a little extra freedom and freshness to his voice but, quite frankly, not the fully expressive, airy and easy-going performance that's possible from SACD.

By way of recompense, while this two-channel SACD performance was not up with the very best (Marantz's SA-1 included), its multichannel output sounded very special indeed. The Jerry Goldsmith/*LSO Movie Medley* disc is, despite the title, one of the best multichannel orchestral recordings available and the SA-12S1 applies its palpable bass and rich midband capabilities to strings and woodwind with tremendous effect. Almost every track enjoys a powerful, emotive strength as the sound of the orchestra swells around the listening position, developing a soundfield with impressive depth and height.

David Bridie's *Act Of Free Choice* disc sounded a lot more open than we had heard, almost as if the microphone position had been moved. Now his voice was both deeper but also far more intelligible thanks to the vastly superior separation left to right and front to back. "The guitar seems to pass right through us," exclaimed one listener in response to the sort of eerie effect impossible to achieve with conventional two-channel audio.

### CONCLUSIONS

So, like Philips' SACD-1000, this player has an exceptional hold of multichannel audio, delivering a gripping bass line while allowing the mid and treble complete freedom to develop. The musical atmosphere, whether dark and brooding or light and thrilling, is never less than enthralling. At £3,500, Marantz's SA-12S1 represents the top flight in price and performance, but because Philips' own model is so very close, but so very much more affordable, its 'real world' value may well boil down to a personal expression of brand loyalty.

£3,500, Marantz UK ☎ 01753 680868

**"THE MUSICAL ATMOSPHERE, WHETHER DARK AND BROODING OR LIGHT AND THRILLING, IS NEVER LESS THAN ENTHRALLING."**

# SAVOIR-FAIRE

Harman Kardon creates great-sounding, innovative products that are easy to use.

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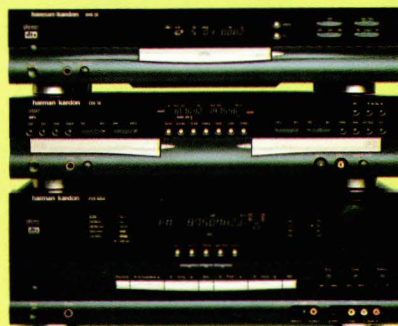
And if you love a good film but think that Home Cinema's horribly complicated, you'll love the AVR4000. It'll satisfy the most input-hungry enthusiast yet you can set up a multi-channel speaker system with a single button press of its EzSet™ remote control.

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# HEY BIG SPENDOR

THEY'RE NOT SMALL, BUT SPENDOR'S S-SERIES THREE-WAYS ARE MOST CERTAINLY BEAUTIFUL.

EDITOR'S CHOICE

HI-FI CHOICE  
magazine



**P**hil Swift is a brave man. Having established and eventually sold Audiolab he has acquired a loudspeaker brand that has a good history but a rather slim consumer profile and is in the process of bringing it into the commercial world without sacrificing the company's

REVIEW JASON ENNEDY

reputation. Spendor used to be a byword for BBC designs such as the venerable LS3/5A, indeed the brand was founded by a Beeb engineer, Spencer Hughes and his wife Doreen (Spen + Dor = Spendor). But as a brand its traditional image cannot have been helping to expand sales in these design-conscious times and if Phil was going to make a serious go of Spendor, something new had to be done – and fast. Having bought the company at the beginning of the year he has, with the help of designer Derek Hughes, managed to get the S series into production for autumn, six new models in as many months is good going for a company with real-world resources.

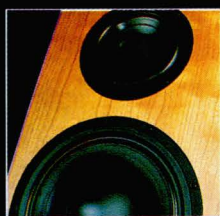
The example you see before you is the largest in the range at a metre high and weighs a hefty 35kg. Designed to be used with the grilles on for a change, the S9 is a three-way design featuring bass and midrange drive units made by Spendor. The bigger of the two is the same eight-inch (200mm) chassis bass driver that we liked on the SP2/3e in issue 219 and subsequently prompted Paul Messenger's piece on the scarcity of decent-sized bass drivers. This and the 120mm chassis midrange unit use what Spendor calls homopolymer cones, a material that looks and feels very similar to polypropylene. These combine with a 19mm tweeter with a fabric dome to give a claimed bandwidth of 35Hz to 20kHz (+/-3dB), the lower of these being fully apparent in use. The real wood veneered box is

made of 15mm MDF with 6mm of bitumen damping on all surfaces and bracing throughout. This heavily damped thin wall approach is a Spendor speciality and no doubt contributes to the lack of bass overhang or smear.

Supporting this box is a plinth whose rear spikes are spaced out from the box by a stabiliser bar. While not the sort of speaker that would be easy to topple this is a nice aesthetic touch and presumably aids the solidity of the box to some degree.

## SOUND QUALITY

This is a pretty easy-to-drive loudspeaker, the quoted specs being 90dB at 8ohms with an impedance minimum of 6ohms, the manual suggests that they will run happily with anything from 35 to 250 watts of driving power. I used 200 watts as is my habit and stuck the S9s on Townshend Seismic bases, which, once I'd got sufficient air pressure in them, elicited phenomenal bass extension from the speakers. Indeed, bass depth and quality are the factors that are most immediately apparent on auditioning these speakers, not only because of the sheer depth but because it breathes so easily and naturally. This gives the impression that the majority of speakers are having a compressing effect on real bass, and the truth of the matter is that more internal volume and larger dedicated drive units have a far greater chance of producing decent weight and control than the more popular approaches. In musical terms this means that big bass drums and plucked double bass strings take on a degree of character normally associated with midrange instruments like guitar and piano. Basically you are getting the same timbral resolution through the lower



The Spendors benefit from an airflowed rectangular port and stabilising plinth.

**“BASS DRUMS AND DOUBLE BASS STRINGS TAKE ON A DEGREE OF CHARACTER NORMALLY ASSOCIATED WITH MIDRANGE INSTRUMENTS.”**



**"IF WHAT YOU'VE GOT SPINNING IS HALFWAY DECENT YOU'LL WANT TO HEAR MORE OF IT, SIMPLY BECAUSE YOU CAN HEAR MORE."**

octaves that you do in the more immediate part of the aural spectrum. One result of this is that bass sounds that had been appealing on smaller speakers reveal their limits while acoustic bass notes take on a whole new life and meaning. Occasionally you dig up something previously unheard or unnoticed because it is so low in frequency, and at times Elbow's *Newborn* being an example (rather a noisy piece of vinyl BTW), that can be a bad thing, but you can't blame a speaker for being too revealing.

The midrange is best described as explicit. It's highly revealing of each and every recording and in some respects seems a little forward and exposed for many discs. This balance is better for low and medium-level listening than for those occasions when you want to let rip. Playing loud I found that toeing the speakers in quite heavily tamed the hardness that was apparent with some CDs but did nothing to reduce the resolution, which is remarkable. Vinyl fared rather better and I'm inclined to think that the Spendors weren't entirely well suited to the Sony SCD-555ES SACD player I use for silver discs.

Because of its explicit nature, great sense of timing and gorgeous bass the S9 is an extremely engaging loudspeaker - it's hard to press 'stop' when you should be writing a review, for example, or even to change discs. If what you've got spinning is halfway decent you'll want to hear more of it, simply because you *can* hear more and it's all presented in such a coherent and involving manner.

#### CONCLUSION

This is my first three-way speaker in quite a while and it has done plenty to make me want to hear more. But then again this is only one element in a well-thought-out design that provides both insight and entertainment at a very competitive price. It would seem that Phil Swift's efforts have paid off, but don't take my word for it - get down to a dealer now and take all your favourite discs.

£2,499.90, Spendor Audio Systems ☎ 01323 843474

GETTING THE FULL STORY ON SONY'S NEW FLAGSHIP MULTICHANNEL PLAYER PROVED DIFFICULT BUT THE EFFORT WAS REWARDED WITH SOME STARTLING SOUNDS.

# HEAD MUSIC

f

uelled by the promise of 1,000 software titles by the end of March 2002, Sony's SACD task force is increasing the pressure on its rival, DVD-Audio. New audio-only hardware, including the top-of-the-range £2,300 SCD-XA777ES featured here, also reinforces the contention that SACD is the more serious audiophile format. There is, for example, currently no DVD-A

REVIEW PAUL MILLER

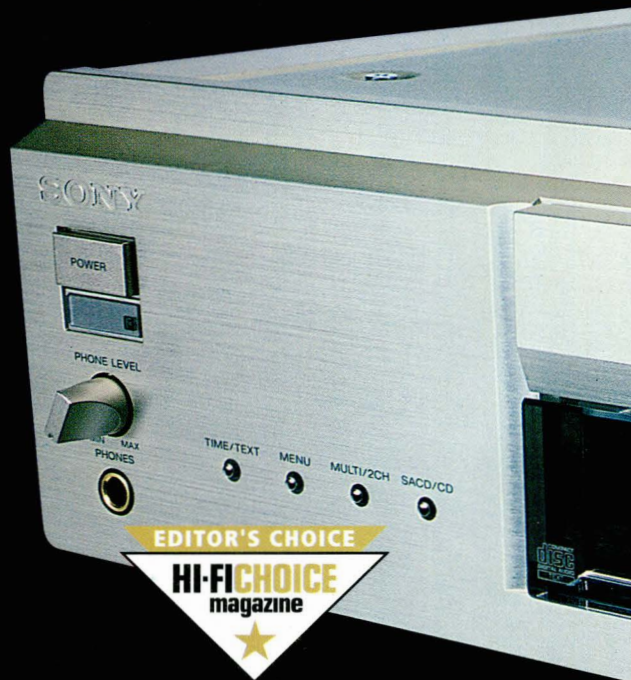
player solely for music playback. Rather, DVD-A is typically being treated by manufacturers as an addition to the DVD-V feature set.

But that's not to imply that the SCD-XA777ES is limited in scope. Sure enough, neither the '777, or its more affordable partner the £1,200 SCD-XA333ES, will recognise any form of DVD software, but they do cater for CD, CD-R and CD-RW discs plus both two and multichannel SACD software. Moreover, Sony is increasing the flexibility of these players with additional DSP for independent control of volume and front/back balance plus a bass management menu that'll be familiar to anyone with a home cinema system. Not all aspects of the system menu are accessible via the RM-SX700R remote control but the player does include a scrolling CD/SACD text facility, which is very useful in identifying tracks as you skip through a disc.

From the player's front panel, you can set combinations of speakers to 'small' or 'large' depending on their capacity to handle low bass frequencies. If the centre and surround speakers are set to 'small' for example, then their bass content is re-directed to the front speakers,

provided the latter are defined as 'large'. Processing a 1-bit DSD (Direct Stream Digital) signal is far trickier than with the 16/24-bit linear PCM code used by CD and DVD, so features like down-mixing to two channels and setting interchannel delays will simply have to wait for future generations of SACD players, as will a compatible digital output.

The rear of this heavy machine features 5.1 channel *and* stereo audio outputs, the latter fed from both CD and two-channel SACD software. In contrast with other players, two channel software cannot be heard through the front L/R multichannel outputs unless manipulated, via



**"THERE'S A GOOD REASON FOR SEPARATING TWO FROM MULTICHANNEL AUDIO, OTHER THAN SIMPLE BLOODY MINDEDNESS ON SONY'S PART."**

## SONY SCD-XA777ES MULTICHANNEL SACD PLAYER HIGH PERFORMANCE

the bass management menu, to a '2.1' channel configuration. All of which means a total of eight interconnects for one machine!

There's a good reason for separating two from multichannel audio, other than simple bloody mindedness on Sony's part. Under the bonnet, Sony is using six of its latest DSD converters to feed the 5.1 channel outputs, but in two channel mode these DACs are 'tripled-up' to deliver a parallel, summed output that's three times higher. This level is reduced internally back to the standard 2V peak, but with a commensurate reduction in both noise and distortion. Low-level resolution is also pretty spectacular, with errors of less than plus or minus 1dB over a full 120dB dynamic range. This is about 20dB better than with most CD players, for example.

Anyone who's read the promotional literature for SACD will remember its claims of a 100kHz plus bandwidth. In practice, SACD encoding produces increasing amounts of noise above the 20kHz audioband, so the useable dynamic range is progressively pinched. As a result, Sony now includes a filter in its DSD converters to reduce

this noise by rolling-off its ultrasonic response. Far from being flat to 100kHz, the SCD-SA777ES is -2.6dB down at 50kHz and a full -33dB down at 100kHz (see Marantz SA-12S1 review on page 20). In CD mode it's also possible to select from two different *digital* filter settings, though these have no impact on SACD replay.

Things were not so straightforward in the listening room, however, as our first sample of the SCD-SA777ES (serial number 0004) was not entirely impressive either as a conventional CD or SACD player in two channel mode. Its bass was not especially full or well-rounded, so complex bass textures appeared thin and even muted despite the music still capturing a free and lively 'air'. The Carmen Lundy CD was a case in point, her voice sounding harder in tone at higher levels, while the accompanying percussion still sounded crisp and delicate *without* this sense of sharpness. This emphasis affected the upper midrange/presence band more than the high treble which is, by comparison, very smooth and free of edginess.

In my experience, sophisticated products may not settle into production until 50 or more samples have passed down the line, but the

Sony's range topping multichannel player has enough subtlety and grace under the bonnet to both surprise and delight.



## HIGH PERFORMANCE SONY SCD-XA777ES MULTICHANNEL SACD PLAYER



The SCD-777ES is the best reason for building a music oriented surround system we've heard.

wholesale improvement offered by our second SCD-SA777ES (serial number 0009) still caused one or two raised eyebrows. Assuming *this* sample is more representative of models on sale, then the well-heeled audiophile is in for a rare treat. Ryan Adam's *Gold*, as one listener pointed out, "now hits the spot," for while his Dylan-esque voice had sounded appropriately sombre and dark with the first player, the effect was lost once the harmonies joined in. Not so with player number two, which maintained an altogether more consistent and spacious musical tenor.

Both players demonstrated the advantages of SACD over plain vanilla CD. Joe Beard's two-channel SACD *For Real* had sounded crisply detailed but both compressed and slightly oppressive via its CD layer. "This band has the blues playing the blues", quipped one panellist. With player number two, especially, the SACD layer sounded immediately more open and relaxed, almost as if the performers had taken a collective sigh and, the tension dissolved, settled back into the session. The Hammond organ was transformed from a 'portable' to a full-blown instrument, with all the swing and gusto you'd expect. The short, clipped decay of cymbals heard on the CD layer now decayed effortlessly on SACD, each strike fading into the next in a thoroughly realistic fashion.

But this was but a foretaste of the leap into multichannel mode where phrases like "impressive scale" and "big musical structure and space" tumbled from our listeners in

response to this final freeing-up of the soundstage. Even two-channel SACD had sounded slightly tense, but the 5.1 channel output allowed the music to wash out into the room, overhead and around the listeners. "The only tension now is the thrill of strings and atmosphere built by the music itself". All assisted, I must add, by a fundamentally deeper and easier-sounding bass that plugged every nook and cranny in the room.

The spectacular *Gaudeamus* disc sounded superb. The chorus was especially clean, the venue tremendously open and clearly composed of cold stone. By contrast, the very modern and somewhat experimental *Act Of Free Choice* from David Bridie was now more intelligible and emotive than ever. So intimately was the sound now interlocked that his voice appeared not in front or behind but *inside* our heads. To a man, this caused a palpable shudder from our panel of traditionally 'hard nosed' listeners. A thrill sparked by a sound that clearly has the capacity to challenge our senses.

Evidently, because the conventions of stereo imagery, separation and the like are replaced by a more uniform and homogenous sound, listening to multichannel SACD will be a new experience for 'stereo' enthusiasts. And Sony's latest 'high end' SCD-SA777ES is arguably the most exciting exponent of this musical adventure. At £2,300 it is not cheap, but few components at any price have this capacity to reach out and touch both heart and mind so evocatively.

£2,300, Sony UK ☎ 08705 111999



**"SO INTIMATELY WAS THE SOUND INTERLOCKED THAT HIS VOICE APPEARED NOT IN FRONT OR BEHIND BUT *INSIDE* OUR HEADS."**

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Chord Electronics Limited

# TRUE SOUNDS

ENERGY SET OUT TO BUCK A FEW TRENDS WITH ITS VERITAS RANGE, HERE WE GET TO GRIPS WITH THE CHUNKY 2.2.

# V

REVIEW PAUL MESSENGER

eritas is the name used by major Canadian brand Energy to distinguish its upmarket range of models. The 2.2 is one of four models sold as stereo pairs.

Priced at £1,295 (plus £345 for the matching stands), it's the more expensive and elaborate of two Veritas standmounts, and is

certainly among the more complex of the type, most obviously because it features a very unusual three-way driver line-up. And that's by no means the only interesting engineering solution found in this unconventional speaker.

It's exceptionally solidly built, turning the scales at a hefty 15kg, and is a little taller than most standmounts in order to accommodate the extra driver. The two side panels are fetchingly finished in cherry wood veneer, while the front, base and back have a shiny black finish. The top is covered in some sort of synthetic matt black compound, formed into a dome shape that's more than an inch thick in the centre, which looks a little odd.

Why go for a three-way? Like most things in loudspeaker-land, there are arguments for and against. From a marketing point of view, it's a way of adding real individuality, to distinguish the 2.2 from a host of more conventional two-way competitors. More seriously, the prime reason is clearly acoustic. A port-loaded 6.5-inch frame driver is the most popular choice around for bass and lower midband reproduction, where it radiates sound in all directions, but a driver of this size will 'beam' the upper midband more like a searchlight than a conventional light bulb. When the wide-radiating tweeter then takes over, there's an unavoidable discontinuity in the speaker's

sound dispersion pattern.

Adding a two inch (50mm) alloy dome midrange driver to bridge the gap between the bass unit and the tweeter ensures that the sound dispersion remains relatively uniform and wide throughout the audio band. This in turn should give a more consistent sound balance, from both the direct and the room-reflected sound which arrives at the listener's ears.

Power handling is another three-way plus, because the amplifier's power (and hence heat) is distributed across three, rather than two voice-coils. Energy quotes 150 watts for this 2.2, against 100 watts for its 2.1 two-way sibling.

On the down side however, the three-way is a more complex animal, both acoustically and in the considerably more elaborate crossover network needed to integrate the output of the three sources.

The 2.2's bass driver is interesting for several reasons, though the company's website is vague on the finer details. It has a deep motor assembly in order to accommodate two counter-wound voice coils, in the interests of improved linearity. The cone material itself is an unspecified composite, but is coloured silver and has a stippled surface that should help break up standing waves. A large bolt tensions the driver's motor metalwork against the rear panel (and the enclosure as a whole).

On my 'real-world' (far-field, in-room) traces, sensitivity is a relatively modest 87dB, in view of the 4ohm impedance – a little shy of Energy's claimed 89dB. A decent 100 watt amp will be required to drive them hard. The in-room balance is pretty well controlled, though somewhat laid back through the upper mid and lower treble, leaving the treble proper a tad

**“ALTHOUGH IT PACKS A GOOD THUMP WHEN REQUIRED, THE SOUND DOES LACK SOME WARMTH AND RICHNESS.”**

## ENERGY VERITAS 2.2 STEREO SPEAKERS HIGH PERFORMANCE



exposed. The bass end shows pretty good extension down to around 30Hz (in-room), but under our conditions (and well clear of walls) the midbass (40-80Hz) was rather strong while the upper bass octave (80-160Hz) looks correspondingly weak.

### SOUND QUALITY

To a significant extent, the sound of the Veritas 2.2 is a function of its balance idiosyncracies, but that is at least partly because this is an exceptionally clean-sounding speaker with obviously low distortion and coloration.

The first impression is of a slightly 'shiny' overall character, with quite strong – but by no means 'splashy' or unruly – sibilants. One reason why the top end stands out is that the bottom end, especially in the upper bass, is a little lean. Although it packs a good thump when required, the sound does lack some warmth and richness – 'cellos are not too well served here. Bass guitar has plenty of weight and uncommon clarity low down, but there's some lack of 'punch' and drive higher up.

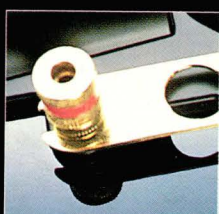
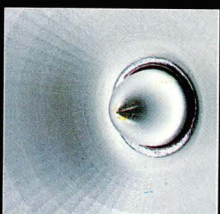
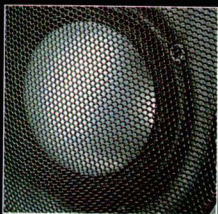
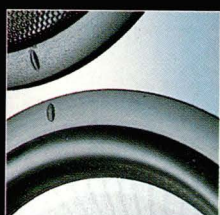
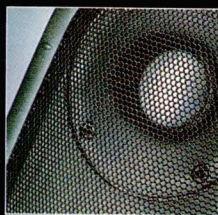
Another reason the top end sounds a little exposed is because the upper mid and presence is just a little too laid back. There's no forwardness or aggression with this speaker, and that is a quality that many will find admirable. At the same time, others will find it a little lacking in vigour and excitement.

The elaborate enclosure engineering – especially that curious-looking domed top – clearly keeps cabinet coloration very low and the dynamic range consequently wide. But dynamic expression itself seems a little muted and lacking in serious tension.

### CONCLUSIONS

An unusual loudspeaker in a number of respects, the Veritas 2.2 has notably low coloration. The sound is very clean and free from aggressive tendencies, if a little lacking in drive and excitement.

Speakers £1,295, stands £345, API Ltd ☎ 01787 249656





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# Hi-Fi Accessories

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## Maplin Isolation/Damping Pads **£14.99**

These isolation pads offer an affordable budget upgrade for anyone looking to make small overall improvements to their system. The pads can be placed under each corner of CD players, DVDs and even standmount loudspeakers providing they weigh less than 10kg. Made from advanced polymers, a pack of four costs around the price of a CD and offers some localised damping against structural and airborne vibrations caused by large air-shifting loudspeakers. The improvements on offer here weren't night and day, but there was a feeling of improved bass extension and transient speed. Well worth a go if you're not using a rack. As if.

Maplin ☎ 0870 264 6005



## Rothwell In-Line Attenuators **£30.00**

Rothwell produced these attenuators in response to customer demand for a product that would reduce the gain of certain pre/power amplifier combos. These phono plug-type connectors reduce preamp output by 10dB, which means you avoid the early part of the volume pot's operation where tracking errors are at their worst. Stick them between a preamp and power amp at the power amp end end of the cable. The attenuators claim to improve control at low listening levels and also improve the signal to noise ratio. Some reduction in noise was evident, but otherwise with the well matched Brystons I use they didn't offer a great deal of benefit. Success with this product depends very much on how much range you are able to use on your pre-amp's volume pot - if you rarely get past nine o'clock it could be a real boon.

Rothwell ☎ 01204 654614

## Maplin 10-Gang Surge Protected Extension **£29.99**

If you're always running out of sockets and struggling to reach the four-way block at the back of your rack, take a look at this new 10-way vertical mains block from Maplin. You should find it easier to separate your mains and signal cables and the vertical array makes for a neater, less cluttered back-end! Mains boards can offer a genuine improvement in sound quality and prices vary enormously between dedicated hi-fi manufacturers' boards and electrical component distributors. This design clearly made cable management easier, and it meant you could route mains cables together more easily than with a horizontal board. Whether it offers any sonic benefits over regular boards is dubious.

Maplin ☎ 0870 264 6005



## RDC SSP Platform **£99.95**

The SSP platform utilises the wonder-stuff that is RDC, a compound of materials including lead and rubber that offers extremely effective damping of unwanted vibration when used to isolate hardware. The SSP platform is a shelf made from a piece of MDF with a spiral groove cut from its underside, into which RDC is moulded. RDC 2 cones offer support, and using three in a triangulated array offered the most stability. I've found in the past that RDC racks change tonality, and in this instance, between my CD player and a steel/glass rack, the platform helps neutralise lively recordings and offers a tad more detail, as well as improving bass transients.

Hififorsale.com ☎ 0870 241 2469



# Hi-Fi Accessories



## Vision 1 Headphone Cable £47.65

The Vision 1 is designed to replace the standard cable supplied with a wide variety of Sennheiser headphones that have a detachable lead. Terminated with silver solder in 2.5mm (for the headphone end) and 3.5mm gold-plated plugs, you get a standard adaptor for quarter inch jacks. Any sonic differences evident using this cable weren't huge, but there was an increase in bass extension, and a slight improvement in transparency. It could however, be a little more flexible. It almost lives up to the claims made in the literature, and it's good to see someone trying to improve this overlooked link.

Stefan AudioArt ☎ (001) 860 313 8088

## Densen DeMagic £9.95

By the summer of 1999, Danish manufacturer Densen had managed to shift 100,000 copies of this little disc to hi-fi fans across the globe. Densen suggests that you spin this disc once a week, to 'clean' your CD players' signal path of magnetism. Densen claims that DC leakage and other influences add to unwanted magnetism that results in a form of distortion. A cleaner, more detailed sound is claimed on the tin, but perceived improvements were in terms of greater presence. However, it's not the sort of thing you can easily A/B test. For a tenner, this weekly clean-up should help keep things tickety-boo.

Hififorsale.com ☎ 0870 241 2469



## Aurex Mat £25.00

If you remember flexidisks, the sort given away with copies of *Smash Hits* in the eighties, you can imagine what the Aurex disc looks and feels like. Aurex claims that by spinning your CDs at high RPMs, a static charge is built up that can encourage laser light to scatter and lose focus. Ultimately, this means more errors in the data that is recovered. The basic idea is that the black disc sits on top of your CD, and absorbs the scattered light, simple eh? However, this accessory left only the smallest impression, and with no significant improvement on offer, I'd spend the cash on a new album or two!

Audusa ☎ 0208 241 9826

## Hype 5-Stage Pollution Eraser £99.95

Mains filters can cost a few quid, but here we have five-stage filtering for under £100. The Hype is built from separate circuits, each with its own function that work together to minimise 'noise' on the mains. The output cable is a bit short in practice, but the unit can be used with your existing mains cables for a bit of flexibility. The Hype uses a combo of HF and LF filtering after current has passed through a protection circuit and lived up to its name offering improvements in depth and detail. It also successfully suppressed noise, giving noticeable overall improvements in soundstaging. A good way to spend a ton.

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But Audio Research does not restrict its expertise to its flagship models. The company has always employed a "trickle down" approach, applying the gains acquired through the development of the Reference models throughout the range. Among its latest achievements are the CD3 Cd player the LS25 Mk II pre-amplifier and VT100 Mk III power amplifier, products capable of reproducing sound of a calibre unknown at their price points.

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# FORUM LETTERS

LETTER OF THE MONTH WINS A TDK GOODIE BAG



Hard disc servers may have trouble with copy protected discs.

Send us your views of the magazine and the world of hi-fi:

Forum: Letters

Hi-Fi Choice

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dan.george@futurenet.co.uk

**"I FIND IT DISTURBING THAT PEOPLE ARE FORCED INTO DOWNLOADING LICENSED VERSIONS OF THE MUSIC THEY HAVE JUST BOUGHT."**

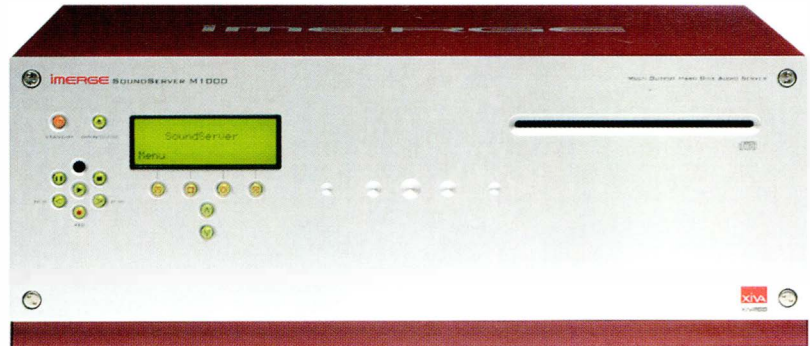
ANTON CHTERENLIKHT & DAN ACKROYD, VIA E-MAIL

**"I SUSPECT MUCH (POSSIBLY ALL) OF THE BENEFITS WITH THE ISOLDA CABLES CAN BE FOUND BY PUTTING CABLES INTO THE DEEP FREEZE FOR A COUPLE OF HOURS."**

RICHARD GRAHAM, VIA E-MAIL

**"IT IS NIGH ON IMPOSSIBLE TO FIND A SYSTEM THAT WILL PLAY DVDS AND CDS TO THE SAME HIGH STANDARD."**

PAUL COOKSON, VIA E-MAIL



## LETTER OF THE MONTH

### DO YOU COPY?

I'm writing to you to boost awareness of so-called encrypted CDs. There are a number of issues regarding these discs; the major one being that the sound quality is not as good as that of a normal CD because manufacturers have deliberately introduced faulty data blocks on them. They hope that data correction algorithms will make such a CD play as normal. There are also some other issues: encrypted CDs cannot be played on some DVD players or computer CD-ROM drives, and also encrypted CDs cannot be converted into the MP3 format.

At the moment I know of only two CDs which are modified in such a way. These are Charley Pride's *Tribute To Jim Reeves* CD, and Michael Jackson's single *You Rock My World*. Pride's CD uses SunnCom's Digital Content Cloaking Technology to prevent the music being played on computers. A small panel on the CD reads: "This audio CD is protected by SunnComm(tm) MediaCloQ(tm) Ver 1.0, it is designed to play in standard Audio CD players only and is not intended for use in DVD players. Licensed copies of all music on this CD are available for

downloading. Simply insert CD into your computer to begin."

What is meant to happen is that when you put the CD into a normal CD player the disk will play perfectly correctly. When you put the CD into a DVD player the disc will fail to play. When you put the CD into any computer you will be directed to the SunnComm website where you can download licensed copies of the music. I find it both amusing and disturbing that people are forced into downloading licensed versions of the music they have just bought.

Anton Chterenlikht & Dan Ackroyd, via e-mail

*The Editor replies... George Cole looked at this issue in depth in the December issue of Hi-Fi Choice. Manufacturers of the copy-protection software claim that they are trying to reduce piracy and avoid people mass distributing the music. Imerge, the manufacturer of hard disc-based music storage argues that people should have the choice to store music that they have paid for however they like. Our concerns primarily lie with sound quality, and we will continue to monitor the situation with these technologies with interest.*

Audio CD-R Range



## BRASS MONKEYS

I was pleased to read the positive review of Max Townshend's Isolda cables, as the issue of cryogenic treatments, or freezing products, has been largely ignored by the British press. It is sad that it has taken so long (Martin Colloms reported on Peter Belt's work in this area almost 20 years ago) and that it is still limited to these cables. I appreciate many will go ballistic as I write this, but I suspect much (possibly all) of the benefits with the Isolda cables can be found by putting your own cables into the deep freeze for a couple of hours, and thawing them slowly. Best repeated twice to maximise the effect. If anyone notices a benefit from that, and feels it is just altering crystal structure, hold on.

This also works for CDs, and if you hear an improvement, how can that be explained? Further, if this works for cables, what about all that wire inside our equipment? And so it goes on.

I have to say I have moved on from much of this since you cannot freeze everything, and Peter Belt has shown how this change can be achieved in other ways. The question is, should the public be deprived of this information for much longer? Max Townshend seems, at least, to think not.

*Richard Graham, via e-mail*

*The Editor replies... The cryogenic process involves significantly lower temperatures, two-thirds of the way to absolute zero or about -190 degrees Celsius, the cables are then baked up to 180/190 degrees Celsius. These temperature extremes are needed to produce a structural change. As for putting your equipment in the freezer, I wouldn't suggest you go that far.*

## DO-IT-ALL

After reading your reviews of DVD players and multichannel systems, I have come to the sad conclusion that it is nigh on impossible to find a complete system that will play DVDs and CDs to the same high standard, without great expense. After listening to various systems at hi-fi dealers, I feel the only DVD players worth considering for CD replay are the likes of the Arcam DV88 and above, which are all more than £1,000. At this price level the spectre of recordable DVD starts to intrude, but the early indications are that DVD recorders are lousy CD players! Also, the only speaker systems capable of reproducing good stereo as well as multichannel are conventional, non sub-sat systems. I've heard the KEF 2005 AV system and thought that its stereo could have been better. Most multi channel receivers are equally poor at



conventional stereo (with notable exceptions). I think that if you want a system to do all things, then you should forget a DVD player for playing CDs and buy a dedicated CD player. This then allows you to buy a decent DVD player at modest price levels or an expensive one if you want recordable.

*Paul Cookson, via e-mail*

## GOLD PLATED POWER

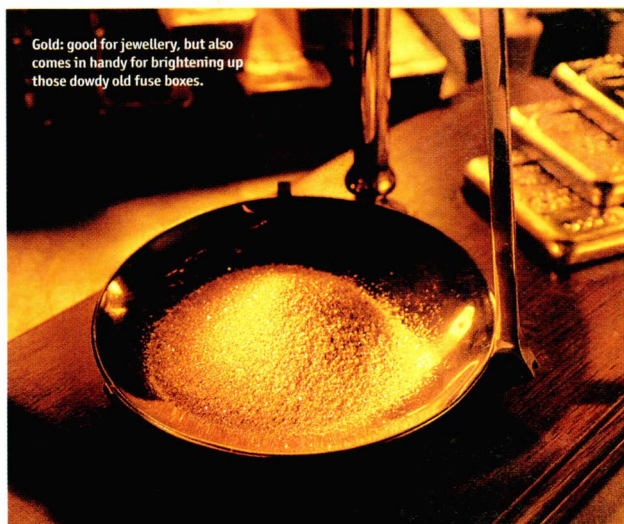
As you have done mains plugs, mains cables, mains conditioners etc, why not review mains consumer units and MCBs, such as MK, Hager, Wylex and others from various electrical suppliers?

I am having my Dorman Smith Loadmaster plated-up in rhodium and have just stripped down two 50A MCBs to have all relevant electrical parts in the chain plated in five-micron gold. I'm also having my Henley fuse carrier and 60A fuse done in gold, and Henley clamps and screws done in gold.

I'm using a company in Perivale, Middlesex called BJS, which specialises in small orders of plating up *objets d'art* in gold, silver, rhodium and other noble metals. Contact Richard Lewis, 020 8810 5779 at BJS. Apparently their clientele includes the Windsor Sisters at Buck Palace, W1!

*Alistair Hardwick, via e-mail*

*The Editor replies... While I can see that this sort of thing might be beneficial, it's not the sort of activity I would encourage readers to undertake unless they have a good grasp of electrical installation practice.*



Gold: good for jewellery, but also comes in handy for brightening up those dowdy old fuse boxes.

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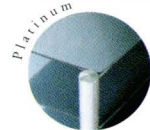
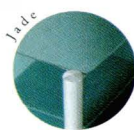
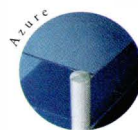


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# TURNTABLES, PHONO STAGES & CARTRIDGES

RICHARD BLACK GETS HIS SPIRIT LEVEL OUT AND TELLS YOU HOW TO GET THE BEST OUT OF TOP-NOTCH VINYL PLAYING COMPONENTS

**A** lot of water has passed under the bridge since I first reviewed vinyl players in this organ, and a lot of that water is digital. But vinyl refuses to die, kept alive both by the many collectors who can never replace their vinyl rarities and by the astonishing stream of new vinyl issues and re-issues.

Playing LPs is no trivial exercise. Oh, putting them on the platter and lowering the arm is simple enough (and it's still easier to find your place on LP than CD), but for the equipment itself there are many pitfalls. The information in that squiggly groove must be followed to an accuracy of less than a wavelength of light (itself under a hundredth of the thickness of a piece of paper) and the process can be upset by many things, not least any vibration within the record playing apparatus. Solving the problems is not simple, and money spent on LP replay is often well repaid by performance.

Once you've managed the spending part, you can optimise your system by careful tweaking, generally at no further cost. It may seem a drag but can be very rewarding and there's a real sense of achievement when a record player suddenly comes 'on song' after an evening or two of adjusting, listening, adjusting... Of course, your dealer will be able to set your

system up for you but a little experimentation once it's run in is no bad thing.

What to adjust? First, offset and overhang, the parameters that define the cartridge's position under the headshell. Use a good protractor or alignment gauge and use it carefully, because small errors can easily lead to audible distortion. Once that's right, the next two parameters are tracking force and vertical tracking angle (VTA). These interact, but as a rough rule of thumb you should set tracking force as per the cartridge manufacturer's recommendations (using either the calibrations on the arm or some kind of stylus balance) and set VTA by adjusting arm height so that the main arm tube is horizontal. Then try force a little higher and lower: once that is optimised, tweak arm height a little and then go back to force for a final check. You may also wish to tweak anti-skating force, though it's often not critical if everything else is right.

Almost all turntables 'read' the surface they are standing on to a far greater degree than any other hi-fi components, so isolation platforms are well worth a try. Make sure the deck is level. Keep your LPs free of dust and the stylus free of gunge (clean it carefully!) and you'll be rewarded with many hours of musical joy. More hints on the following pages...

## TURNTABLES

Clearaudio Champion Level 2	£1,955.00
Michell Gyro SE	£829.00
Wilson Benesch Full Circle	£1,995.00

## CARTRIDGES

Clearaudio Aurum Beta S	£270.00
Clearaudio Aurum Virtuoso	£325.00
Reson Etile	£485.00

## PHONO AMPLIFIERS

Creek OBH-8SE	£160.00
Tom Evans Microgroove Plus	£700.00
Heed Quasar	£429.00
Graham Slee Era Gold/Elevator	£650

## OTHER EQUIPMENT USED

Shure VST cartridge  
 EAR 802 preamplifier  
 EAR 519 monoblock power amplifiers  
 ATC SCM20 speakers  
 Custom and Kimber cables  
 Revox/EAR G36 open-reel tape deck

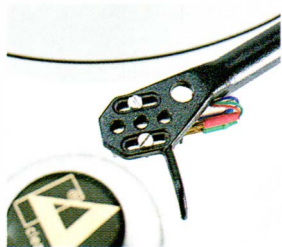
## MUSIC USED DURING TESTS

Bruckner *6th Symphony* (Klemperer)  
 Little Feat *Feats Don't Fail Me Now*  
 Ronald Stevenson *Passacaglia* on DSCH  
 Pink Floyd *The Wall*



## CLEARAUDIO CHAMPION LEVEL 2

**SOUND** ★★★★★ **VALUE** ★★★★★ **£1,955.00** **CONTACT** 01252 702705 [www.audioreference.co.uk](http://www.audioreference.co.uk) **G'TEE** 2 years



**“AN ‘AUDIOPHILE’ LP COMES FREE WITH THE DECK, WHICH YOU SHOULD SACRIFICE FOR THE GREATER GOOD OF MUSICAL PROGRESS.”**



This fetching little number includes Rega RB300 arm and Clearaudio Aurum Alpha cartridge.

**C**learaudio is a pretty highly-respected manufacturer in analogue circles. The company's range starts with products at reasonably affordable prices and ascends rapidly: this model comes from the lower echelons. It bears considerable visual resemblance, however, to some of Clearaudio's dearer offerings, due to its extensive use of highly polished acrylic and stainless steel. Indeed, those two materials make up everything except the bearing.

Despite its striking looks, the design is essentially very simple. There is no subchassis as such, just two thick acrylic plates rigidly bolted together via the thick steel pillars. The platter is another piece of acrylic, unusually thick and very heavy, and it is driven via a round-section pulley from a small AC motor enclosed in a stainless steel block. The motor is free-standing, supported by a solid block of steel to get to the correct height. A Rega RB300 – budget arm of choice since time immemorial, and justifiably so – is standard fitment, as is an Aurum Alpha cartridge, Clearaudio's base model (£145 if bought alone).

Assembly and set-up are entirely simple. Fit the arm into its threaded hole: put a blob of grease on the spindle and fit the platter: place the motor near (but never touching) the plinth and fit the belt: switch on. However, that threaded hole is a nightmare if you want to fiddle with arm height (which is definitely a parameter worth optimising), since you will have to unplug the arm and move the deck sufficiently clear of walls so that the entire arm can be rotated. But setting tracking force and anti-skating on the arm is a no-brainer, because the RB300 uses calibrated spring setting for both. Since there is no lid with this deck, expect to do a lot of dusting – acrylic doesn't half show the dust! An 'audiophile' LP comes free with the deck, which you should sacrifice for the greater good of musical progress, as a sort of Darwin Award for music.

### SOUND QUALITY

It's ever so tempting to associate a big heavy LP player with a big heavy sound, but such associations are dangerous. Yes, the solidity is there, but no one should ever have cause to accuse this deck of sounding lumpy or leaden. It manages to tread a nice line between excess at either frequency extreme, with a strong but not over-prominent bass and an agile but never bright treble. In short, it is tonally very close to neutral and that is equally welcome in any kind of music.

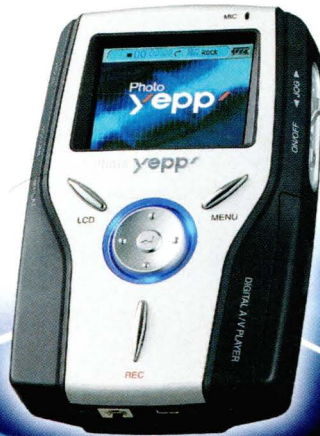
What's a little less assured is detail recovery. Although the essentials are there it's often a little hard to follow everything that's going on, and stereo imaging is not always completely clear. Simple music – unaccompanied vocals, for instance – is nice and pure, but while the grandeur of a Bruckner symphony or a well-mixed rock spectacular is well presented in the big, bold outline, those little details of instrumental colour that are so important to the end result are not so apparent. This is particularly true if the deck is not well isolated from the environment, and some kind of suspension platform is definitely worth considering.

Pitch stability is pretty good, which isn't really all that surprising given the sheer inertia of the platter we have here, but in some of the most demanding piano recordings it is possible to hear a trace of wow (subtle fluctuations in speed). Surface noise and rumble however are both kept to a satisfyingly low level.

### CONCLUSION

This is a very pretty piece of hi-fi that does a pretty good job. Budget for an isolation platform and have a listen to see how its detail resolution grabs you, but I think it qualifies for Recommendation.





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- Voice Recording



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- Voice Recording



#### YP-20S

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- 64MB Embedded Flash Memory
- Time & Date Display
- 4-Mode Equalizer/Bass booster



#### YP-NEU64

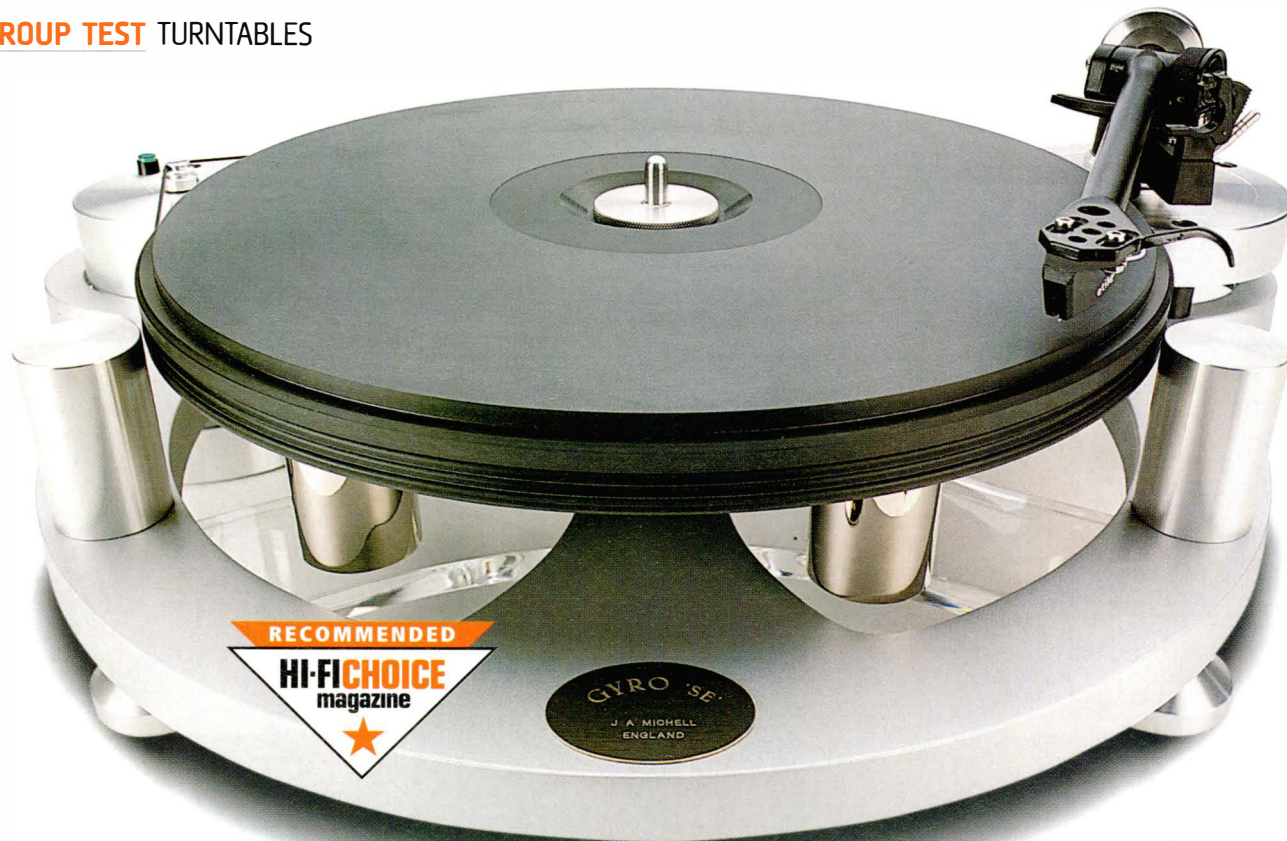
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## MICHELL GYRO SE

**SOUND** ★★★★★ **VALUE** ★★★★★ **£829.00** **CONTACT** 020 8953 0771 [www.michell-engineering.co.uk](http://www.michell-engineering.co.uk) **G'TEE** 5 years



**“ITS PARTICULAR CHARACTERISTICS COME TOGETHER TO MAKE FOR A STRONG, DRIVING, RIP-ROARING SOUND.”**



The Gyro SE works hard to control vibrations so you don't have to.

**T**he GyroDec has more than earned the sobriquet of 'legend in its own lifetime' and while SE usually denotes a more expensive variant, in this case it's a slightly stripped-down offering. The differences are in the use of a 'spider' instead of a full plinth (hence Spider Edition), and the absence of dustcover. The review sample came with the optional lid (£44) which is the simplest thing in the world: a piece of acrylic which you plonk over the platter to keep off dust overnight and to provide a modicum of protection to the arm.

This is a fully suspended subchassis design. The arm mount and platter bearing are fixed to a metal subchassis which is mounted on the spider base by springs, in such a way that it 'floats' freely from the surroundings. The point is to isolate the disc and cartridge from vibrations which may exist in the surface on which the deck is standing, due to acoustic feedback from the speakers, footsteps etc. Michell has opted for an arrangement in which the springs are in tension rather than compression, a more stable system but which requires the springs to stand proud of the subchassis. They can be adjusted easily by hand from above, a recent improvement over earlier versions, and are concealed under aluminium tubes.

As on the other decks in this survey, the Gyro SE has an acrylic platter which should give good damping of vibrations within the record itself. Drive is through a round-section rubber belt, from a DC motor enclosed in a free-standing metal housing. Power for this comes as standard from a simple external power supply, but the real enthusiast may care to buy the optional souped-up QC supply for a rather jaw-dropping £419 extra. For review an RB300 was fitted along with a device for arm height adjustment that Michell sells for £16, but pretty much any arm can be accommodated.

### SOUND QUALITY

Although the tonal balance isn't entirely neutral, the sound of this deck is rather beguiling. Its bass is a little on the heavy side but somehow manages to retain agility, with the result that anything a bit rhythmic has a real danceable quality and lively jazz sounds most invigorating. Big orchestral sounds benefit too. Lighter musical textures are also well served, though a shade of coloration in the midband can subtly alter the sound of individual instruments on occasion, making guitar in particular more 'twangy' and slightly less resonant. There's nothing that's too disturbing, however, and the clean and open treble (at its most pleasing with the high-compliance Shure cartridge I used for part of the listening) makes for enjoyable long-term listening.

Of all musical styles, the Gyro SE seemed most at home with rock'n'roll, where its particular characteristics all come together to make for a strong, driving, rip-roaring sound that seems particularly faithful to the spirit of the genre. And given that detail is recovered well it is still possible to pick out the words in a well-recorded track. There are limits to the detail, and in the Bruckner recording some of the more distant instruments (woodwind particularly) occasionally seemed in danger of getting lost altogether, but most of the time there is no difficulty in hearing way into any recording. Once again, pitch stability is good but not great and if you're sensitive to pitch purity you might find instruments such as piano and organ a little revealing.

### CONCLUSIONS

The material value, appearance and finish of this deck are all very good and the sound's good all round for the price. Recommended.

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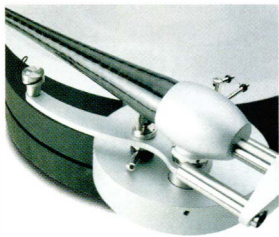
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## WILSON BENESCH FULL CIRCLE

**SOUND** ★★☆☆ **VALUE** ★★☆☆ **£1,995.00** **CONTACT** 0114 285 2656 [www.wilson-benesch.com](http://www.wilson-benesch.com) **G'TEE** 3 years



**“THE SOUND HAS AN ESSENTIALLY LIGHT AND FAST QUALITY, WITH NOTICEABLY LESS BASS THAN THE OTHER DECKS BUT A GOOD KICK TO IT.”**

**T**he turntable is the Circle, the arm is the Act 0.5 and the cartridge is the Ply: together they are the Full Circle, the point being that purchased together they cost considerably less than they would individually. Fair enough, assuming that no one item lets the side down.

Wilson Benesch is the company that more than any other has brought that ‘wonder material’ carbon fibre to audio, originally with tonearms in the mid nineties. Thanks to some investment in tooling, WB claims to make arms which offer greater stiffness and damping than any metal construction can offer, without sacrificing practicality. Through the laws of action and reaction, a cartridge playing a recording unavoidably dumps some vibration into the arm supporting it, and it behoves said arm to resist the vibration at low frequencies (stiffness) while dissipating it as heat at high frequencies (damping). In the Act 0.5, the carbon-fibre arm tube is supported on a ‘kinematic bearing’, which behaves like a unipivot in that it allows rotation about three axes but gives better location and some damping.

The deck itself is quite simple, being based on two circular pieces of thick MDF. The top one is the subchassis and rests on the bottom one (plinth) via soft mounts which give surprisingly good isolation. An AC motor is mounted on the plinth while the armboard is stood off to the side on two metal tubes, a smart solution but one which introduces a classic opportunity for mechanical resonance, which turntable designers are usually at pains to avoid. The Ply cartridge is a moving coil model, with no body over the generator assembly and a mounting bracket made of WB’s favourite carbon fibre composite. Since it was initially examined in *HFC 190*, the Circle has had a few minor cosmetic changes to make it match WB’s new loudspeakers: the plinth is now painted in textured Nextel and metal parts are powder-coated, not anodised.

### SOUND QUALITY

To my ears the potential of this deck is limited by its lack of speed stability. With almost any kind of music except unaccompanied vocal, it is all too easy to hear that pitch is varying in a seemingly random manner. There was no sign at all of damage on the review sample, but with its small subplatter and relatively light platter the Circle is at a disadvantage in terms of inertia when compared with the Michell and Clearaudio models.

That apart, the sound has an essentially light and fast quality, with noticeably less bass than the other decks but a good kick to it which often does a lot to compensate. There’s little in the way of obvious coloration, perhaps a touch of added brilliance in the low treble but nothing serious. The Ply cartridge is fussy about set-up and even after some experimentation I had trouble taming its tendency to brightness, but the Shure was more flattering and showed what the arm and deck are capable of.

In the detail department things are only moderate, with a rather opaque quality about the sound which prevents ready access to inner strands of the music. By the same token, while image width is not at all bad, depth is a little lacking. The brightness of the Ply sometimes seems to offset this, but it’s more illusory than real.

### CONCLUSION

If you value the classic ‘Linn virtues’ of foot-tapping bass, this deck may suit you, and if our last review of this deck is anything to go by, not everyone is as sensitive to pitch variation as I am. At its best it is indeed a lively performer and its vices become easier to ignore. However, in the context of the competition in this group it’s a little short of the mark for Recommendation.



The double thickness deck offers surprisingly good isolation.



## CREEK OBH-8SE

**CONTACT:** 0208 361 4133 [www.creekaudio.co.uk](http://www.creekaudio.co.uk) **G'TEE:** 2 YEARS

**SOUND** ★★★★★ **VALUE** ★★★★★ **£160.00**

**Y**ou'll have no problem accommodating this tiny beastie in a crowded hi-fi rack. But for all the simple construction it's a smart unit. Assembly inside is intelligent, too, with good quality components all round. There is a non-SE version (£99) which has some cheaper components and a slightly different input stage, but this one's hardly expensive.

Since this is an amplifier intended for use only with moving magnet cartridges it has fixed gain and no adjustments. The usual 'lump-in-the-lead' power supply is included. The circuit uses only discrete transistors in the signal path, with the input DC-coupled to a JFET: in layman's terms, this eliminates an input capacitor which can cause distortion and premature bass roll-off. Gain is not too high, and the headroom is adequate for real-life use.

As with other Creek amplifiers I have tested, this is a very enjoyable unit to listen to. To be fussy, its budget background is apparent in its less than analytical way with fine details, but to expect any better at this price would be most unreasonable. Against that, the highly neutral tonal character and low subjective noise level, plus the generally relaxed and laid-back nature of the sound, make for very good listener involvement. When something more lively is required the energy is not lacking, and it is admirable that the sound maintains good coherence up to the peak of a musical climax. Bass-rich modern dance music doesn't suit the '8SE's character too well, but all the other musical styles I tried seemed very happy.

Creek can be justly proud of this amp. It does a good job in an undemonstrative manner and scores highly for practicality too. Of all those in the group reviewed here, it seems the obvious candidate for a Best Buy.

## GRAHAM SLEE ERA GOLD/ELEVATOR

**CONTACT:** 01226 244908 [www.gspaudio.com](http://www.gspaudio.com) **G'TEE:** 2 YEARS

**SOUND** ★★★★★ **VALUE** ★★★★★ **£325/£325**

**G**raham Slee designs and manufactures a small range of audio products under his own name in time-honoured 'cottage industry' manner. Such operations frequently offer excellent value products, although fit and finish are a common gripe.

No such problems here though: OK, the labelling is a bit basic but it's smart enough and assembly is neat and professional.

The Era Gold is an MM phono amplifier, the Elevator boosting the minute signal from an MC cartridge to MM level – an easy enough job, except for the potential for noise. In fact Slee admits that the Elevator is not the world's quietest head amp, but argues that this is a minor side effect of his choice of circuit design, which confers exceptional high-frequency performance (bandwidth exceeds 2MHz!). Both units use integrated circuit op-amps, but the op-amp types are unusual and they are both used in slightly unconventional circuits. Input loading is variable on the Elevator only.

Performance is inconsistent. At best, both units sound lively and incisive, and they seem well suited to generally upbeat music. Tonally there is a slight imbalance in favour of the treble, which is I suppose a question of taste, but detail is not in the front rank. This seems to be more a function of the Era Gold, but the Elevator is not entirely blameless either. There is a certain amount of veiling, which distances the music from the listener and requires real concentration to hear all the strands and ultimately makes for less enjoyable listening.

If your tastes run principally to high-octane musical styles you may find these units more to your tastes, and they can certainly muster some excitement, but on balance, they're not highly competitive.





## HEED QUASAR

**CONTACT:** 00 36 209 268269 www.heedaudio.com **G'TEE:** 5 YEARS

**SOUND** ★★★★★ **VALUE** ★★★★★ **£429.00**

**H**ailing from Hungary, Heed is a relative newcomer to the hi-fi scene but with established roots. In particular, there are links to past UK brands Nytech and Ion through designer Richard Hay. This unit is all Heed's own, though, and it aims to be a universal phono stage capable of accepting input from any cartridge on the market, all at a reasonable price.

At the rear of the unit are sockets for MM and MC cartridges, and outputs at high and low level, the latter intended for feeding elderly amplifiers with high sensitivity inputs. Inside are some jumpers which can be used to set gain and (for moving-coil cartridges) loading. Despite the separate sockets, you also have to set jumpers to select which cartridge type you are using, and having to remove the case to do this is a pain, but you shouldn't need to do this often. Circuitry uses mostly discrete transistors, lots of them, neatly laid out with decent quality components all round.

Heed's decision to cater for ultra-low output MC cartridges is brave, but to be honest the noise floor seems only just adequate. However, those with an output above 200µV or so should be fine. Noise is also a bit high for MM cartridges, especially in the high treble, and with bright speakers this may be off-putting.

That apart, the sound is well balanced and generally pleasing. The main problem is that it's rather bland. Tonally it's fine, if a shade rolled off in treble and bass. Detail could be better, and other units at or even below this price (from Creek and Moth, for instance) can show it a thing or two in that department. Its versatility is admirable but ultimately the sonic results don't seem to justify the pains that clearly went into its creation.

## TOM EVANS AUDIO DESIGN MICROGROOVE PLUS

**CONTACT:** 01443 833570 www.besthifiintheworld.com **G'TEE:** L/TIME

**SOUND** ★★★★★ **VALUE** ★★★★★ **£700.00**

**T**he 'real McCoy' from Tom Evans is The Groove, but it's expensive. Realising that not everyone is rich, Evans introduced the Microgroove as a £400 'budget' version. This model is an upgrade on that, incorporating Evans' renowned 'Lithos' power supply regulation which considerably better the integrated circuit regulators more commonly used.

Inside the dark acrylic case (which offers no circuit shielding, despite which there seems to be no radio pickup in evidence) is a fair bit of circuitry, based mostly on integrated circuits. In the audio path, these are op-amps but the type number has been ground off so I can't reveal more than that. Loading and gain are fixed and should suit the vast majority of MC cartridges.

There's no question that this is a very capable little amplifier. It has the greatest assurance with any kind of music, terrific insight and the requisite chameleon-like way of adapting effortlessly to the character required; commanding with reggae bass, airy and agile with string quartets and good on everything in between. Detail is there in spades – perhaps if I'd had a full Groove on hand I'd have found more but it's hard to imagine.

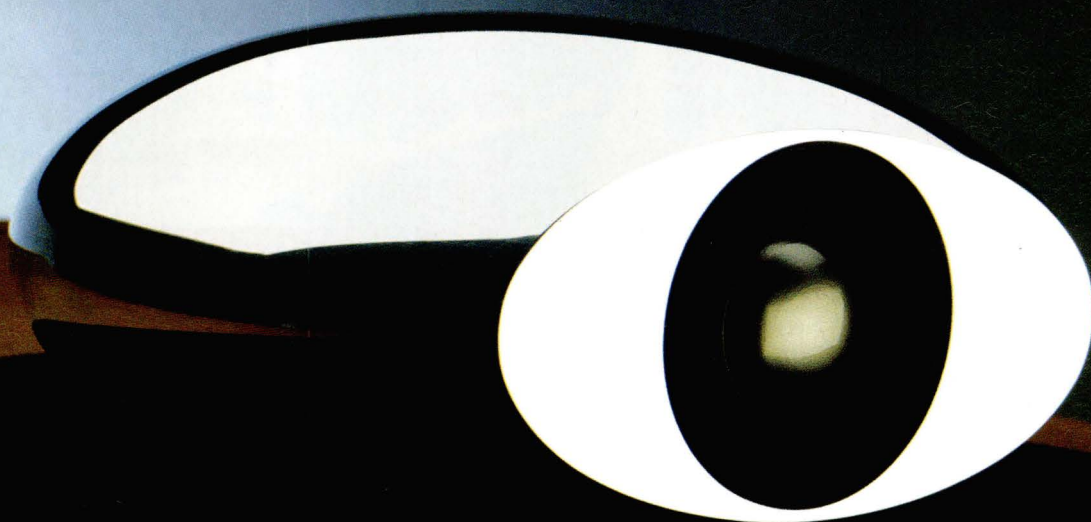
Intriguingly, it's hard to substantiate exactly why this amplifier so clearly outperformed its rivals. Noise is the lowest of the set but not by a vast margin, and similar results hold true for other parameters. Evans has his own theories as to what's important, but in terms of relating output to input the lead on the competition is small, or we boffins are all missing something.

I strongly recommend this phono amplifier to any owner of a moving-coil cartridge who wants to hear it as its best.



# Dimension

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**SOUTHERN ENGLAND:** Adams & Jarrett, 6-8 Norman Road, St Leonards on Sea, East Sussex, TN37 6NH, Tel. 01424 437165. Sounds Of Music, 10-12 Chapel Place, Tunbridge Wells, Tel. 01892 539 595. Movement Audio, 588 Ashley Road, Parkston, Poole, BH14 0AQ, Tel. 01202 730 865. Oxford Audio, Cantay House, Park End Street, Oxford, OX1 1JD, Tel. 01865 790 879. SMC Sound & Vision, St Michaels Street, Shrewsbury, SY1 2ES, Tel. 01743 232 065. Radletts Audio, 9 Holywell Hill, St Albans, AL1 1EU, Tel. 01727 855 577. Unilet, 35 The High Street, New Malden, KT3 4BY, Tel. 0208 942 9567. **MIDLANDS / WALES:** Symphony, Unit 3 The Business Centre, Greys Green Farm, Rotherfield Greys, Henley on Thames, RG9 4QG, Tel. 01491 629 402. Audio T, 40-42 Albion Street, Cheltenham, GL52 2L2, Tel. 01242 583 960. The Audio File, 41 Victoria Road, Cambridge, CB4 3BW, Tel. 01223 368 305.  
**NORTHERN ENGLAND:** Vickers Hi-Fi, 24 Gillygate, York, YO31 7EQ, Tel. 01904 629 659. Peter Tysons, 6 Abbey Street, Carlisle, CA3 8TX, Tel. 01228 546 756.



## CLEARAUDIO AURUM BETA S

CONTACT: 01483 575344 www.audioreference.co.uk GUARANTEE: 2 YEARS

SOUND ★★★★★ VALUE ★★★★★ £270.00

**T**he Aurum range of cartridges comprises four models, ascending from the Alpha to the Beta, the Beta S and the Virtuoso. Essentially, they are graded versions of the same cartridge, with important parameters improving as you go up the grades. Price increases quite sharply, so one hopes performance does likewise. Clearaudio is not very forthcoming with details, but all you really need to know is that this is a moving-magnet cartridge with the usual output level and is compatible with any MM phono stage. It's quite heavy at 10g, and the metal top plate has threaded holes which make fixing both easy and safe.

Judged in isolation, the sound of the Beta S is solid, quite detailed and nicely unfussed at climaxes. Compared with the Alpha (as fitted on the Clearaudio turntable in this test), it offers noticeably better levels of detail and particularly better stereo imaging. The tonal quality is much the same, which is no bad thing because it's generally neutral, perhaps a little laid back in the treble and just occasionally hinting at over-full bass, but neither of those is a problem and may be welcome in many systems. It's an honest and capable cartridge and despite its apparently high price deserves Recommendation.



## CLEARAUDIO AURUM VIRTUOSO

CONTACT: 01483 575344 www.audioreference.co.uk GUARANTEE: 2 YEARS

SOUND ★★★★★ VALUE ★★★★★ £325.00

**T**he top Aurum model costs a good deal more than several well-thought-of moving-coils. Traditionally, MCs were thought of as upmarket, so what's the story here? Two factors: first, there's nothing wrong with MM cartridges in principle, although their very-high-frequency response does tend to be sensitive to loading. Second, a killer £200 MC such as the famous Denon DL-304 will almost certainly need a pretty smart MC phono stage to make it sing best, compared with which a good MM running into the phono stage of a good integrated amp can offer fine value.

Despite copious fiddling with the set-up I felt that the law of diminishing returns applies when comparing the Virtuoso with the Beta S. Yes, there is better stereo imaging, but not by much and with all but the finest LPs it's hardly apparent. In most ways, indeed, the sound is very similar indeed, and in fact at one point I forgot which cartridge I had mounted and thought this was the Beta S. In other words, it's a good cartridge but I suspect for most users its performance will be effectively equalled at lower cost by its own little brother.



## RESON ETILE

CONTACT: 01277 227355 www.reson.de GUARANTEE: 3 YEARS

SOUND ★★★★★ VALUE ★★★★★ £485.00 E395 TRADE-IN

**T** Funny name – but spell it backwards and it's the name of a well-known cartridge from Goldring. Goldring makes this model for Reson, basing it on the Elite but with changes to both generator assembly and stylus which are said to bring improvements all round. It's an MC type with a fairly healthy output, not a true high-output model but with double the voltage of many MCs, thus making it more tolerant of phono stage noise. It requires a modest tracking force of 1.65g, which bodes well for stylus and record wear.

Reviewing the Elite 120 issues ago (help!) I complained about "dirtiness" in the sound. Not having a modern Elite for comparison, I nevertheless felt that that criticism must be dropped. Perhaps it lacks the smoothness and sophistication of some models, but it is still a pretty suave performer. It has fine insight into details and really first-class excitement factor, without ever becoming shrill or harsh. Tonally in fact it's close to neutral with a bit of bass-lightness. Compatibility with different decks seems good and it's especially suitable for those who value life and vibrancy highly.





# CONCLUSIONS

RICHARD BLACK SEES THROUGH THE SPIN ...

Looking back over these reviews, I find more enthusiasm for the phono amps than for the cartridges, and less for the decks. It's just the luck of the draw over a small sample, but while these decks are very good none is really outstanding. All three are fine-looking creatures and all can, at best, sound convincing and informative. I guess I could have made life easier for them by not making comparisons with open-reel analogue tapes copied directly from the original master tapes from which a couple of LPs were cut, its a tough test which only the finest will master.

Still, the Clearaudio and Michell decks can achieve great results with care taken in setting up (yes, the Michell too, despite its suspension). The Rega arm common to both seems a good choice, but don't

discount the possibility of another cartridge on the Clearaudio: I quite liked the Aurum models but my Shure VST (similar to current top-range Shures) suited it at least as well.

Among the cartridges there is likewise no head-and-shoulders top performer, but the overall standard is good. Clearaudio's three offerings (including the Alpha supplied on the Champion deck) are chips off the same block despite the price difference, and in terms of character the similarities outnumber the differences. The Beta S and Virtuoso can generally better the Alpha and the extra money buys something, but how much? It's a matter of opinion, but I felt the

difference between the Virtuoso and the Beta S was less easily justified than that between the Beta S and the Alpha. Up a little further yet in price, the Reson Etile adds still greater insight and dynamic ability.

Finally, the phono stages. The Heed and Slee units are competent and perfectly listenable, but the Creek is a little gem at its modest price and the Evans is a high-end bargain which could indeed sit happily alongside decks and cartridges more esoteric than those in this group.

Top-notch LP replay can be expensive, but the players in this group show that a fine level of performance can be achieved for sensible sums – with good looks too.

**“THESE PLAYERS SHOW THAT A FINE LEVEL OF PERFORMANCE CAN BE ACHIEVED FOR SENSIBLE SUMS.”**

## TURNTABLES AT A GLANCE

## CARTRIDGES AT A GLANCE

						
<b>MAKE MODEL</b>	CLEARAUDIO CHAMPION LEVEL 2	MICHELL GYRO SE	WILSON BENESCH FULL CIRCLE	CLEARAUDIO AURUM BETA S	CLEARAUDIO AURUM VIRTUOSO	RESON ETILE
<b>PRICE</b>	£1,955.00	£829.00	£1,995.00	£270.00	£325.00	£485.00
<b>SOUND VALUE</b>	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
<b>CONCLUSION</b>	Neutral balance, great looks but only so-so detail. Benefits greatly from isolation.	Stripped-down version of classic GyroDec, offering strong and lively sound.	The arm's probably the star and the cartridge is good too, but the deck lacks speed stability and detail.	Clear improvement over cheaper Alpha, and good sound all round by any standards.	Better yet than Beta S - but only just.	Plenty of life and detail, and refined with it.
<b>GUARANTEE</b>	2 YEARS	5 YEARS	3 YEARS	2 YEARS	2 YEARS	3 YEARS

## PHONO STAGES AT A GLANCE

				
<b>MAKE MODEL</b>	CREEK OBH-85E	GRAHAM SLEE ERA GOLD/ELEVATOR	HEED QUASAR	TOM EVANS MICROGROOVE PLUS
<b>PRICE</b>	£160.00	£650.00	£429.00	£700.00
<b>SOUND VALUE</b>	★★★★☆	★★★★☆	★★★★☆	★★★★☆
<b>CONCLUSION</b>	Neutral, relaxed and involving. Excellent value.	Lively and upbeat sound, let down by veiling of detail.	Versatile unit suits all cartridges but sounds a little bland.	Stunning detail, gives new insights into familiar discs. You'd have to spend a lot more to better it.
<b>GUARANTEE</b>	2 YEARS	2 YEARS	5 YEARS	TOM'S LIFETIME

# FORUM HELP

TROUBLE WITH THE RIG? LOST IN THE UPGRADE JUNGLE? FEAR NOT, DAN GEORGE IS HERE TO GUIDE YOU TO SONIC SAFE HAVEN

Write to us with your hi-fi queries:

Forum: Help

Hi-Fi Choice

99 Baker Street  
London W1U 6FP

Or e-mail:

dan.george@futurenet.co.uk



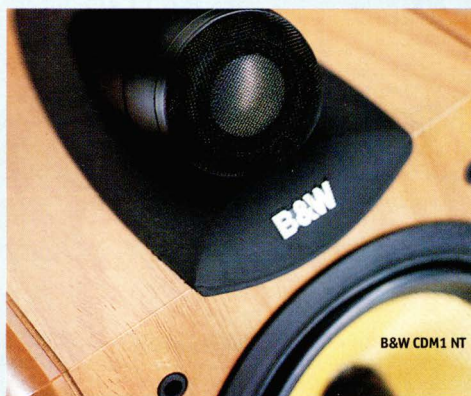
## SYSTEM **MP3 FOR ME**

Are there any hi-fi systems that allow CDs of MP3 files to be played? The media players on computers allow huge amounts of MP3s to be stored and played. I'm looking for a new hi-fi system but I would like to be able to play MP3s on it. But I also want ordinary CD replay as well, can you help?

Colin Little, via e-mail

Marantz Eclipse 25

A lot of new CD players and DVD players, especially the mass market models, will play back MP3-encoded CDs. A nice example is Marantz's Eclipse range which comes in midi and full width and allows you to build a system to taste. It also looks great.



## SPEAKERS **GRAND FOR SPEAKERS**

Using your hi-fi expertise could you help find a pair of speakers to match our John Shearne Phase 2 integrated and power, with John Shearne Phase 7 CD. I have been using Tannoy's MX2s for a short-term fix, but now I have approximately £1,000 to spend. I have been thinking of testing B&W's CDM1 NT, but they don't seem to impress you in your reviews, any other ideas?

Pete Hambury, via e-mail.

The CDM1 NTs scored eight out of ten back in December 2000, which is a great score, but we expressed some reservations about their scale and polite manner. We'd still suggest you arrange an audition however, and maybe compare them with Castle Harlech S2s, which are a bit livelier. It might also be interesting to investigate the Celestion A1 which is a rather desirable standmount speaker.

CD PLAYER

## **DEAD TRANSPORT**

Help! I have a dead and irreparable Audio Alchemy DDS III CD player, which has left me with a DDE 3 DAC with PS3 power unit. With a budget of up to £1,000 what would you recommend to replace it - transport, integrated CD player or DVD? If I choose an integrated unit is the DAC likely to be discarded? The rest of the system is an Exposure Super VIII amp, XI preamp with VI power supply and Rogers LS3/5a speakers, playing mainly classical music.

John Lashbrook, via e-mail

Current thinking would suggest that such good CD players can be had for £1,000 it's hard to advocate a transport and DAC combo. If you're playing a lot of music, we'd still recommend a dedicated CD player, and perhaps you can pick up a budget DVD at a later date. That way you can use the DAC if it offers a benefit.

So many options: for a bit of musicality, try the Naim Nait 5, or for a smoother ride the NAD Silverline S500 is well favoured by *Choice*. we're keen on the CD ability of the Sony SACD players. A slightly larger £1,300 budget will get you an SCD-XA333ES, the multichannel replacement for the much-loved SCD-555ES.



NAD S500

DVD/CD PLAYER

## BEST OF BOTH WORLDS

I'm enquiring about the Cyrus DVD7 as I'm considering buying one. I would like to know how much it costs and how it performs with music CDs compared with the CD7. Are there any others you could recommend?

Dale Robinson, via e-mail

The DVD7 at £1,000 is based on the CD7 in terms of CD replay and uses the same DAC. You can hear the CD7's qualities when spinning discs and this makes the DVD7 a fine product for both audio and video. It's not quite as good as the standard CD player but is a better than average compromise. Alternatively, if you can rustle up another £300, the Philips SACD-1000 adds SACD while the Toshiba SD900E brings DVD-A to the party.

Cyrus CD7



NAD C350

SYSTEM

## BOSS MAN

Hi, I'm gonna buy a new stereo and I've got a budget of about £600-£700. I'll need a set of speakers (floorstanders), an amp, and a CD player. My boss has told me that the best I can get for my money is an NAD C541, NAD C350 and a pair of Mission m73s. I know the above is over my budget but I can get 20 per cent off Empire stuff so it should bring my costs down. What do you think to the above? Let me know if he is making a monkey out of me!

Dan Bradley, via e-mail

Is your boss the self-righteous sort? Well he's on the right track. The C350 won a Best Buy when we reviewed it but there is some competition notably from the more affordable Rotel RA-971 MkII at £275. We haven't tried the C541 but can recommend the Marantz CD6000 at £250, or the Cambridge D500SE at £230. This should leave £200 for your M73s, which we rate highly for the money.

SPEAKERS

## SPEAK TO ME

I'm in the market for some new speakers and want to pick your brains at a couple of price ranges. Between £600 and £1,200, what do you think are the top five speakers for sheer imaging, transparency, and sound quality? I have been interested in the B&W CDM-1NT and 7NT, and Dynaudio Audience 52s and 72s. I am also considering using these for home cinema.

Ben Watt, via e-mail

Top five speakers is a bit tough, the following are all very good though: Tannoy D300, Castle Harlech S2, Royd Revelation RR2, PMC FB1 and the JMLab Cobalt 826. We haven't tested the Dynaudio 52s, the 72s weren't all that impressive but the cheaper 42 is an all-round winner. The one for you will depend on your amp and your room, do try and audition at least one pair at home.



Tannoy D300

CABLE

## 79 STRAND TO GO

I have just purchased the new KEF PSW2000 sub and corresponding satellite speakers. I am using standard 79 strand speaker cable and have decided to upgrade but within a sensible budget. Could you recommend some suitable cables?

DN Batty, via e-mail



Replacing basic cabling often gives impressive results. SonicLink has a good range - try the AST75 at less than three pounds per metre, or at similar money the Tara Labs Klara. If you can stretch to five pounds per metre, you can just afford the excellent Kimber 4PR.



Sennheiser HD565 Ovation

HEADPHONES

## CAN CAN

I am looking to purchase a pair of headphones, is there one that you could recommend? My use for these headphones will be TV, hi-fi, and PC.

I've also considered wireless AKGs as these appeal to me, but one hi-fi retailer mentioned that wireless headphones are inferior in terms of sound quality to headphones that use a cable to connect to the appliance. What do you think?  
Imran Khan, via e-mail.

Wireless headphones are not generally as good as the wired variety and are susceptible to interference when you move around. There's a great pair of cans for under £100 made by Grado called the SR-60s. They often sound better than much more expensive 'phones. For something more sophisticated and for a bit more dosh, look at the Sennheiser HD 565 Ovation priced at £160.

CONTROL RECEIVER

EON

PTY SEARCH

TA/NEWS/INFO

PRO LOGIC

PRO LOGIC

VOLUME 21

VCR 1

VCR 2

VIDEO

TV SOUND/DBS

DIGITAL EQ

LEVEL ADJUST



SOURCE NAME

EFFECT SETTING



CDR

TAPE / MD

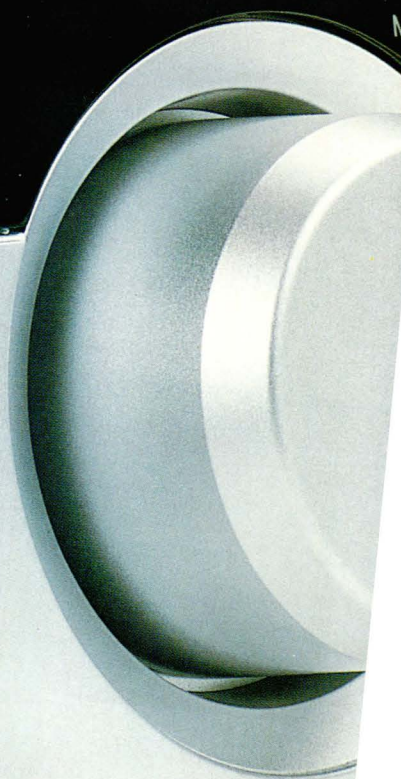
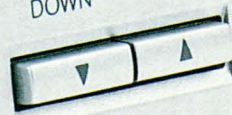
USB AUDIO

FM / AM

CONTROL DOWN UP



SOURCE NAME





# MULTICHANNEL AMPLIFIERS

MULTICHANNEL SYSTEMS AREN'T JUST FOR HOME CINEMA. ALVIN GOLD AND PAUL MILLER SORT THE OSCARS FROM THE GOLDEN RASPBERRIES.

**T**he home cinema amplifier or receiver is rapidly becoming the lowest common denominator of modern hi-fi systems. At least in principal they offer everything the traditional amplifier delivers and more, at prices often scarcely more than that of the two-channel solution, thanks mainly to the use of common power supplies and outer casings. They can all be used as stereo amps, but they can also be used with DVD-video, as they decode Dolby Pro-Logic/Digital and dts, and they can all cope with five speakers and, optionally, a subwoofer. This test concentrates on ten such receivers, at prices that are smack in the mainstream for conventional two-channel integrated amps, in this case £270 to £650. Why receivers and not amplifiers? Mainly because at this end of the market there are overwhelmingly more receivers around.

Receivers have another *raison d'être*, which is the long-promised and now imminent integration of home cinema and audio, based on DVD-Audio and SACD. Each of the ten models tested has the 5.1 channel analogue input required for the multichannel output of such players, and sometimes other supporting features – wide bandwidth input circuitry being the obvious example. In this test we concentrate principally on those features of each model that impact directly on sound quality with stereo and multichannel music.

From the user's viewpoint, a high resolution, multi-channel audio system can be configured exactly like a good home cinema digital surround system, with three speakers in front, and two behind the listening plane, but they should all be as full bandwidth as possible – this usually means floor standers or large bookshelf speakers at the front and preferably behind too. Miniature subsat systems can be used of course, but usually represent a severe quality trade-off which becomes all too obvious when the focus is strictly on the sound.

## ON TEST

Denon AVR-1602	£349.99
Harman/Kardon AVR5000	£599.00
JVC RX-8012R	£400.00
Kenwood KRF-X9050D	£399.00
Marantz SR5200	£399.90
NAD T761	£649.95
Onkyo TX-DS595	£450.00
Pioneer VSX-D810S	£450.00
Sony STR-DB1070 QS	£600.00
Technics DX-950	£279.00

## EQUIPMENT USED

Denon DVD-3300 DVD-Audio player  
 JMLab Mezzo Utopia speakers  
 Musical Fidelity A3 integrated amplifier  
 Nordost SPM Reference and Valhalla speaker cables  
 Sonus Faber Home speaker system

## THE LISTENING PANEL

Steve N Harris (Tag McLaren Audio)  
 Colin Hinkins (Mirage/Energy)  
 Mark Hockey (Kenwood)

## MUSIC USED

Steve Stevens - *Flamenco A Go-Go*  
 J S Bach/ Stuttgartarter  
 Kammerorchester/Tacet - *Concerto 1 in F major BWV 1046, Adagio from Six Brandenburg Concertos*



SOUND   
 BUILD   
 VALUE   
 Aug. 2000

WHAT HI-FI? ★★★★★ Aug. 2000

Gramophone Editor's Choice Jan 2001

T3 ★★★★★ Awards 2000

HI-FI CHOICE BEST BUY Jan. 2001



**PMC**

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 www.pmc-speakers.com  
 sales@promonitor.co.uk

## Stars

Ashford (Kent)  
 Aylesbury  
 Birmingham  
 Bournemouth  
 Brighton  
 Brighton  
 Bristol  
 Cardiff  
 Cheltenham  
 Chelmsford  
 Chester  
 Colwyn Bay  
 Doncaster  
 Dundee  
 Dunstable  
 East Grinstead  
 Edinburgh  
 Eastbourne  
 Enfield  
 Epsom  
 Exeter  
 Glasgow  
 Glasgow  
 Grimsby  
 Guildford  
 Halifax  
 Hitchin  
 Hull  
 High Wycombe  
 Ipswich  
 Kettering  
 Kingston  
 Lakeside  
 Leamington Spa  
 Leeds  
 London (W1)  
 London (NW)  
 London (SE)  
 London (SW)  
 London (SW)  
 London (W)  
 Manchester (Greater)  
 Manchester  
 Newcastle Upon Tyne  
 New Malden  
 Milton Keynes  
 Nottingham  
 Norwich  
 Oxford  
 Portsmouth  
 Rayleigh  
 Reading  
 Sheffield  
 Southampton  
 Southend  
 St Albans  
 Stafford  
 Swansea  
 Taunton  
 Tunbridge Wells  
 Worthing  
 Worcester  
 Yeovil  
 York

Soundcraft HiFi  
 Northwood Audio  
 Griffin Audio  
 Suttons HiFi  
 The Powerplant  
 Jeffries HiFi  
 Radfords  
 Audio Excellence  
 Audio T  
 Rayleigh HiFi  
 Audio Excellence  
 Electrotrader  
 The HiFi Studios  
 Sounds Perfect  
 Technosound  
 Audio Designs  
 Loud & Clear  
 Jeffries HiFi  
 Audio T  
 Audio T  
 Audio Excellence  
 Loud & Clear  
 Stereo Stereo  
 Manders HiFi  
 PJ HiFi  
 Huddersfield HiFi  
 David Orton  
 The Audio Room  
 Audio T  
 Seven Oaks Sound & Vision  
 Classic HiFi  
 Infidelity  
 Rayleigh HiFi  
 Stratford HiFi  
 Image Audio  
 The Cornflake Shop  
 Audio T  
 Billy Vee  
 Auditorium  
 Oranges & Lemons  
 Thomas Heinitz  
 Adventures in HiFi  
 Replay  
 Lintone Audio  
 Unilet Sound & Vision  
 Technosound  
 Nottingham HiFi  
 Basically Sound  
 Audio T  
 Jeffries HiFi  
 Rayleigh HiFi  
 B&B HiFi  
 Moorgate Acoustics  
 Audio T  
 Rayleigh HiFi  
 Radlett Audio  
 Acoustica  
 Audio Excellence  
 Mike Manning  
 Audio T  
 Phase 3  
 Worcester HiFi  
 Mike Manning  
 The Sound Organisation

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 01296 428790  
 0121 622 2230  
 01202 555512  
 01273 775978  
 01273 609431  
 0117 944 1010  
 02920 228565  
 01242 583960  
 01245 265245  
 01244 345576  
 01492 548932  
 01302 727274  
 01382 226592  
 01582 663297  
 01342 314569  
 0141 221 0221  
 01323 731336  
 020 8367 3132  
 01372 748888  
 01392 491194  
 0131 226 6500  
 0141 248 4079  
 01472 351391  
 01483 504801  
 01442 366832  
 01462 452248  
 01482 891375  
 01494 558585  
 01473 286977  
 01536 310855  
 020 8943 3530  
 01708 680551  
 01926 888644  
 0113 278 9374  
 020 7631 0472  
 020 7794 7848  
 020 8318 5755  
 020 7384 3030  
 020 7924 2040  
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 0191 477 4167  
 020 8942 9567  
 01908 604949  
 0115 924 8320  
 01508 570829  
 01865 765961  
 0239 266 3604  
 01268 779742  
 01189 583730  
 0114 275 6048  
 023 8025 2827  
 01702 435255  
 01727 855577  
 01785 259199  
 01792 474608  
 01823 326688  
 01892 525666  
 01903 245577  
 01905 612929  
 01935 479361  
 01904 627108

# SME

The way to play vinyl...

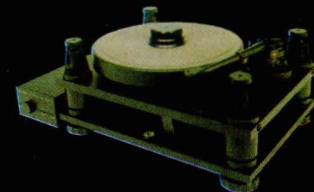
Model 10



Model 20/2



Model 30/2



Series 300



Series IV



Series V



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## DENON AVR-1602

**SOUND** ★★☆☆

**VALUE** ★★★★★

**£349.99**

**CONTACT** 01234 741200

<http://elec.denon.jp/europe>

**GUARANTEE** 2 years

**T**he AVR-1602 is a basic home cinema receiver package. The solitary concession to luxury is the inclusion of Dolby Pro-Logic II, which is designed to give better surround results with stereo music and provides a full bandwidth stereo rear mix (Pro-Logic surround is monaural) and enhanced front separation. It's a win-win scenario on paper that actually works rather well. Also available is Cinema EQ (not THX re-eq) which reduces the treble sting in many digital surround recordings, and is on tap for all multichannel digital sources. The Denon's DSP soundfield modes are supplemented by a five-channel stereo mode which plays two-channel sources through the full speaker complement for those who feel short-changed by two-

channel stereo. Although a 5.1 channel analogue input for high resolution multichannel audio is available on this receiver and all the others in this month's group, the AVR-1602 doesn't stretch to multichannel preamp outputs. The handset is multi-brand coded and will operate several components of different types together. Usefully, different set-up parameters can be programmed and stored for each input, which are then recalled automatically when each input is selected.

### SOUND QUALITY

"If you just had a triple bypass, this is just the sort of sound you should have," was one wit's comment, and indeed there is nothing here that is at all likely to frighten the horses. Not only is the Denon palpably lacking in

horsepower when given its head, it is rather flat and lacking on occasion, even when played at more modest volume levels. "Lifeless – flat, no top end and no image scale" was how one panel member pithily put it, and another, commenting on the classical excerpt specifically, complained that, "there was no sense of performance".

Nevertheless, although diminished in scale and architecture, the Denon is far from being actively amusical. It was reasonably detailed and transparent, but simply failed to communicate much of the excitement and passion of well-made recordings, and although switching to two-channel operation helped, it didn't offer a complete cure. It simply doesn't offer the soundstaging and image scale of a good budget stereo

**A lot of switches for the money but the money could have been better spent.**

amplifier like those produced by Denon itself, among others.

### CONCLUSION

The AVR-1602 has one important feature in its favour – it's cheap. At this sort of money it is unlikely that you'll find much better, and as it comes from a respected name and is decently put together, it could certainly make a good stepping stone to something better in the fullness of time. As it stands however, this model illustrates the inadvisability of relying on what on paper looks like a perfectly reasonable specification. However, in practice you'd be better off buying by the pound – in weight or sterling.

### THE LAB REPORT

This receiver sets the scene for many in our test, ostensibly offering as much power as a comparably-priced two-channel amplifier, albeit shared across five independent channels. It's all in the specification. Denon rates its AVR-1602 at 70+70W (front), 70W (centre) and 70+70W (surround) but this is *not* the same as 70W through all five channels at the same time. The power supply simply cannot sustain the added burden, so while it delivers 2x105W, this falls to 4x52W and just 5x35W into 8ohm. An amplifier that *really* offers 5x70W+ will be a lot costlier, like the HK AVR5000.

Otherwise, the AVR-1602 offers a very consistent spread of distortion

on all front channels at ~0.014% through bass, mid and treble even though this is significantly higher than the ~0.0025% achieved by the surround channels through the midband. There's also a volume-independent front/surround channel imbalance of 0.5dB, though the multichannel separation is rather better than average at 85dB (1kHz, 0dBW). Noise is below average at ~81dB (A-wtd, 0dBW, all channels) while the response is flat to -0.2dB/30kHz via the multichannel inputs. Dolby decoding is within specification though there's an additional LF rolloff on the surrounds even when the rear speakers are set to 'Large' mode.

**"IT WAS REASONABLY DETAILED AND TRANSPARENT, BUT SIMPLY FAILED TO COMMUNICATE THE EXCITEMENT AND PASSION."**





# HARMAN/KARDON AVR5000

<b>SOUND</b> ★★★★★	<b>VALUE</b> ★★★★★	<b>£599.00</b>	<b>CONTACT</b> 020 8731 4670	www.harmankardon.com	<b>GUARANTEE</b> 2 years
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**A**t the AVR5000's core is a complex switchbox. This can handle eight analogue and six digital inputs, three optical and three electrical, one of each being plumbed into the front panel alongside a video input which is switchable to operate as an output. There is also a pair of digital outputs on the back, and the digital circuitry is 24-bit 192kHz and HDCD compatible. There are even two component video inputs. All preamp outputs and power amp inputs can be accessed independently. The remote has an excellent backlit design with full code, learning and macro facilities, and the set-up can be done automatically using an internal microphone.

The AVR5000 includes a version of

Harman's proprietary Logic 7 which provides a degree of envelopment that was once exclusive to Lexicon and other Harman-owned brands, but it has now been effectively usurped by the various 6.1 channel iterations of Dolby Digital and dts. Not here though. Also, MP3 decoding can be performed. A two-zone, two-source facility extends to a second remote control (included) which operates via an IR repeater (optional). About the only trick that HK has missed is Dolby Pro-Logic II. Why?

### SOUND QUALITY

The AVR5000 is not quite the best in group sonically, but it comes close, producing music that is "interesting, and holds together well". There was

criticism of the bass, which was felt to be weak dynamically, and some criticism overall of a design that the panel felt sounded "safe and controlled" rather than vivid and exciting. But with an amplifier as complex as this one, it is a minor miracle that the audio signal finds its way past the output terminals at all...

But this is a good receiver. In extended hands-on testing, the AVR5000 impressed with its easy, powerful delivery, and it gave excellent spatial positioning with CD and DVD-Audio material, and also with data-reduced Dolby Digital and dts where the Harman/Kardon is operating in a more hands-on mode. The only real criticism concerns the constrained top end which lacks air

**A complex box of tricks that only seems to be missing Dolby Pro-Logic II.**

and space, and this has the effect of suppressing ambience. The bass wasn't a problem out of the panel test context, which appeared to be dominated by the Sonus Faber Home's bass quality, which can be a tad soft unless firmly directed otherwise by the amplifier.

### CONCLUSION

The well-written instructions are verbose in the extreme, but it's not hard to use, and it offers amazing value for money. The AVR5000 is the most flexible and complex of the models tested, and it offers a clean, powerful and finely disciplined sound.



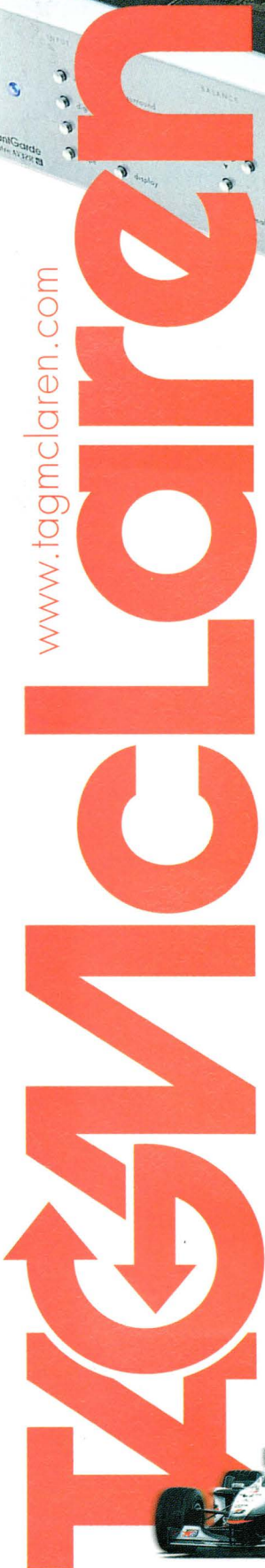
### THE LAB REPORT

As befits a Harman amplifier, the AVR5000 is a beefy performer that justifies its price with a capability to control different loudspeakers. In practice, the internal power supply will support 2x125W/8ohm, slipping very little to 5x100W/8ohm in full, multichannel mode. A headroom of +1.4dB yields peaks of 2x165W/8ohm under dynamic conditions. This is comfortably in excess of its modest 70W rating and explains why the amplifier consistently sounds louder than reviewers have anticipated (*Home Entertainment* issue 94). Reserves of current are limited to 12.5A into 1ohm before protection kicks in, but 13.7A is available to support

2x375W into 2ohm through a low 0.06ohm output impedance.

The response on all channels is flat to 30kHz (+/-0.1dB) and the front/surround channel balance is within 0.2dB. Distortion is also low, typically 0.005% through the midrange, increasing to 0.015% at HF on the front and 0.07% on the surrounds. There is no increase in these figures during Dolby Digital decode via the coaxial digital input. However, the surround amps are also a little noisier than the front channels with S/N ratios of 79.8dB and 82.4dB, respectively. Front, centre and surround symmetry could be improved, but it remains a very capable amplifier.





# AV32R: maybe the most versatile av processor ever?



"Most home cinema processors can also double as component preamplifiers, but they are rarely transparent enough for serious use in quality systems. However, the AV32R is... This processor is a tour de force."  
*What Video & TV - 8/01*

"Few processors can match the AV32R and none at the price comes close."  
*Hi-Fi Choice - 6/01*

"I can endorse the AV32R whole heartedly... It would be very difficult to improve on its thoughtful design, basic performance, and craftsmanship, and its inherent simplicity appeals to me strongly."  
*Stereo Reviews Sound & Vision - 6/00*

"Performance lives up to very high expectations, thanks to combination of finesse, clarity and control. Advanced software and full upgradeability protect substantial initial investment."  
*Audio Video - 4/01*

"The AV32R can lay claim to being one of the very best audio products on the market. This machine will not only provide you with high-grade audio reproduction, it should also remain at the cutting edge for some time to come."  
*Essential Home Cinema - 7/01*

"Flexibility is built into the AV32R at every level. Unlike others of this type, however, the processor is particularly well adapted to the task. Using stereo source material, it is particularly transparent and clean, easily matching many component two-channel audiophile preamplifiers... The AV32R is an equally excellent multi-channel processor too. Image steering is smooth, and imagery is generally seamless and homogeneous."  
*Home Entertainment - 9/00*



### Processing Formats

Mono, Direct, Pro Logic, Dolby Digital, DTS, TMS 7, DTS-ES Matrix, THX, THX Surround EX (Dolby EX)

### Optical Formats

HDCD, Pro Logic II, DTS ES 6.1 Discrete, DTS Neo:6, MPEG-2

### Upgrades via the Internet

PC owners can download software, incl. new sound formats, from the Internet

### Latest DSP Technology

The field-leading 32-bit Analog Devices Sharc 21065L allows processing at all native sampling rates, incl. 96kHz/24bit

### Minimal Jitter for superb sound

A twin phase-locked loop reduces jitter to a minimum, resulting in crisp sound

### TAGtronic Sync Link

Allows the DVD32R to synchronise its clock to the AV32R, resulting in the lowest jitter technically possible

### Enhanced TAGtronic Bus

This multi-device network allows information to be shared between products and can interface with multi-room systems

### Best components

Multi-layer glass epoxy pcbs, soldered using a nitrogen filled reflow oven & wave soldering are combined with ultra stable Vishay resistors and ultra low noise Elna Cerafine and Wima capacitors

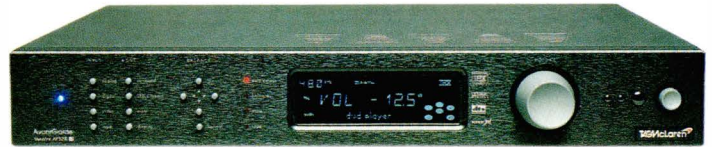
### Proven Upgradeability - not just promises

Nine upgrades since launch, for all AV32R - old and new- including:

- Dolby Pro Logic II
- THX Surround EX (Dolby EX)
- HDCD
- TMS 7
- DTS-ES + Matrix
- Remote controller I/O
- Automation triggers

### And more are coming:

- DTS-ES 6.1 Discrete
- DTS Neo:6
- DTS 96/24
- 5.1 analog bypass
- Second 21065L DSP
- Second stereo zone
- Balanced (XLR) outputs
- Comp. video switching
- Internal video scaler
- Digital Video Interface
- DVD-A digital interface
- Precision tuner module



**TAG McLaren Audio** Latham Road, Huntingdon PE29 6ZU

tel: 0800 783 8007 e-mail: helpdesk@tagmclaren.com

To book an audition contact one of these authorised AV32R stockists:

<b>Beds:</b> Sevenoaks Sound & Vision, Bedford	01234 272779	<b>Audio T Ltd, Cheltenham</b>	01242 583960	<b>Sevenoaks Sound &amp; Vision, Swiss Cottage</b>	0207 722 9777	<b>Sevenoaks Sound &amp; Vision, Glasgow</b>	0141 3329555
<b>Berks:</b> Audio T Ltd, Reading	0118 9585463	<b>Audio T Ltd, Basingstoke</b>	01256 324311	<b>The High End, Barnes</b>	0208876 3355	<b>Stereo Stereo Ltd, Glasgow</b>	0141248 4079
<b>Bristol:</b> Sevenoaks Sound & Vision, Reading	0118 959 7268	<b>Audio T Ltd, Chandler's Ford</b>	02380 252827	<b>Merseyside: Sevenoaks Sound &amp; Vision, Liverpool</b>	0151707 8417	<b>Shropshire: Shropshire Hi-Fi, Shrewsbury</b>	01743232065
<b>Bucks:</b> Audio Excellence Ltd, Clifton	0117 926 4975	<b>Sevenoaks Sound &amp; Vision, Watford</b>	01923 215353	<b>Middle: Audio T Ltd, Enfield</b>	0208367 3132	<b>Somerset: Radfords, Bath</b>	01225 446245
<b>Cheshire:</b> Sevenoaks Sound & Vision, Clifton	0117 974 3272	<b>The Audio File, Bishops Stortford</b>	01779 506576	<b>Midlands: Frank Harvey Hi-Fi Excellence, Coventry</b>	02476 525207	<b>Suffolk: Sevenoaks Sound &amp; Vision, Ipswich</b>	01476 685977
<b>Cumbria:</b> Audio T Ltd, High Wycombe	01494 558585	<b>HiFi Corner, Aston Quays</b>	00353 1671 4343	<b>Music Matters Ltd, Stourbridge</b>	01384 444184	<b>Surrey: Audio T Ltd, Comberley</b>	01276 685977
<b>Devon:</b> Peter Tyson Hi-Fi, Carlisle	01228546756	<b>Sherwoods, Waterford</b>	0207 794 7848	<b>Music Matters Ltd, Solihull</b>	0121 354 2311	<b>PJ Hi-Fi, Guildford</b>	01483 504801
<b>Essex:</b> Audio Excellence Ltd, Exeter	01392 491194	<b>The Hi-Fi Shop, Belfast</b>	02890 381296	<b>Sevenoaks Sound &amp; Vision, Birmingham</b>	0121 742 0254	<b>Sevenoaks Sound &amp; Vision, Epsom</b>	01372 745883
<b>Gloucester:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Harrow Audio, Harrow</b>	0207 794 7848	<b>Sound Academy, Wallsall</b>	01926 888644	<b>Sevenoaks Sound &amp; Vision, Kingston</b>	0208 547 0717
<b>Hampshire:</b> Suttans Hi-Fi, Bournemouth	01202 555512	<b>Listening Rooms, Chelsea</b>	0207 794 7848	<b>Stratford HiFi, Lemington Spa</b>	01922 473499	<b>Unileil Sound &amp; Vision, New Malden</b>	0208942 9567
<b>Hertfordshire:</b> Audio T Ltd, Brentwood	01275 264730	<b>Sevenoaks Sound &amp; Vision, Preston</b>	0207 631 0472	<b>Stratford HiFi, Stratford upon Avon</b>	01228 546756	<b>Audio Designs, East Grinstead</b>	01293 41569
<b>London:</b> Rayleigh Hi-Fi, Chelmsford	01245262545	<b>Audio Concept, Ealing</b>	0208567 8703	<b>Lintone Audio Ltd, Metro Centre</b>	0191460 0999	<b>Capital Sound &amp; Vision, Crowley</b>	01293 49352
<b>Northamptonshire:</b> Peter Tyson Hi-Fi, Carlisle	01708 680551	<b>Audio T Ltd, West Hampstead</b>	0207 794 7848	<b>Morlans HiFi, Norwich</b>	01603 627010	<b>The Powerplant (Hi-Fi) Ltd, Brighton</b>	01273 775978
<b>North Devon:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Billy Vee, Lewisham</b>	0208 318 5755	<b>Nottingham HiFi Centre, Nottingham</b>	0115978 6919	<b>Gilson Audio, Middlesbrough</b>	01462 248793
<b>North East:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Corrifoake.co.uk, West End</b>	0207 631 0472	<b>Sevenoaks Sound &amp; Vision, Nottingham</b>	0115 911 2121	<b>Audio Excellence Ltd, Cardiff</b>	0292 022 8565
<b>North West:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Harrow Audio, Harrow</b>	0207 730 1234	<b>Audio T Ltd, Headington</b>	01865765961	<b>Audio Excellence Ltd, Swansea</b>	01793 474608
<b>West Midlands:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Listening Rooms, Chelsea</b>	0208930 9933	<b>Worcester HiFi, Worcester</b>	01865 790879	<b>Audio T Ltd, Swindon</b>	01905 612929
<b>West of England:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Martin Kleiser Ltd, Chiswick</b>	0207 244 7750	<b>Worcester HiFi, Worcester</b>	01865 790879	<b>Wiltshire: Worcester HiFi, Worcester</b>	0114 2756048
<b>West Yorkshire:</b> Sevenoaks Sound & Vision, Plymouth	01752 226011	<b>Prestige Audio Ltd, Harrow</b>	0208868 3300	<b>Worcester HiFi, Worcester</b>	0141221 0221	<b>Worcester HiFi, Worcester</b>	01482 587171
<b>Wiltshire:</b> Sevenoaks Sound & Vision, Plymouth	01452 300046	<b>Sevenoaks Sound &amp; Vision, Southants</b>	0708 RBA 7777	<b>Worcester HiFi, Worcester</b>	01121 790 7967	<b>Worcester HiFi, Worcester</b>	01109 797974

# Heard the impossible?

It sounds amazing –

but what exactly is 1-Bit audio?



**SHARP**



**EVERY SO OFTEN**, along comes one of those events that completely transforms our enjoyment of music. Think of the impact that stereo must have had. Or more recently, the advent of the compact disc. Well, be prepared now to hear the impossible, because the introduction of 1-Bit audio by Sharp is nothing less than the sound of the new century. A breathtakingly pure sound that reproduces the original so faithfully, you'll believe you're actually at the performance. Impossible? Not when you hear it, and not when you hear how it's done.

### THE SECRET'S IN THE SAMPLING

Unique to Sharp, the revolutionary technology behind this new 1-Bit audio is pretty amazing, and it's all to do with the way it processes the signal from a CD. If you're ready for the technical stuff, here's how Sharp define it. 'An ultra-high sampling speed of 2.8MHz (2,822,400 times per second) gives unrivalled time accuracy and resolution resulting in faithful reproduction of the original signal. As 1-Bit signals are digital, there is virtually no noise or sound degradation during signal transmission or amplification process.'



### 1-BIT AUDIO LOOKS AS GOOD AS IT SOUNDS

Apart from the incredible sound quality, there's another significant advantage with this innovative technology. Being more efficient, the 1-Bit amplifier takes up less space.

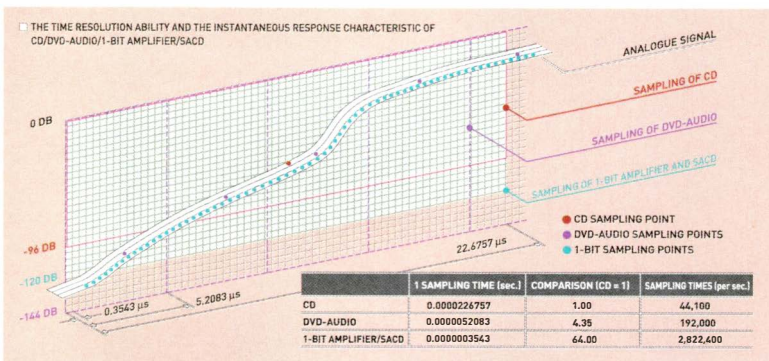
This means Sharp have been able to revolutionise the product appearance to create ultra-compact, slim models that strike a note in sophisticated lifestyle design. So they are as attractive to the eye as they are to the ear.

### WANT TO HEAR MORE?

With this new 1-Bit audio Sharp really have achieved the impossible. Audio that delivers the warmth and ambience of analogue, yet with the clarity and purity of digital sound. You actually experience the entire atmosphere, all the passion and all the excitement of being right there with the performer. Making you wonder if you're in your living room or at a live performance.

But if hearing is believing, why not listen for yourself? You'll find these new Sharp 1-Bit systems at Currys, Dixons, Comet and all good audio specialists.

Sounds like the best idea is to go and ask for a demonstration. Or, if you can't wait to see them, Sharp have a website at [www.sharp.co.uk](http://www.sharp.co.uk) that features the whole range.



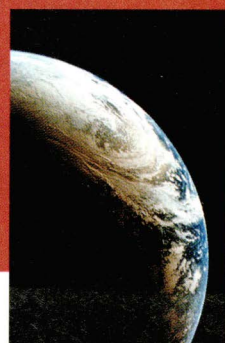
Let's look a little more closely at what that means exactly. To put the high speed sampling rate into perspective, compare it with the sampling rate of a CD. No contest, as 1-Bit audio samples at an incredible sixty four times the rate - and remember, we used to think that sound couldn't get much better with CD.

Quite simply, the higher the sampling rate, the more faithful the result. Slower sampling can actually add sound that may not have been present in the original recording. With 1-Bit audio, you hear the most accurate sound performance ever reproduced, because Sharp has completely re-invented the amplification process.

### MORE IN TUNE WITH THE ENVIRONMENT

1-Bit audio has superior power efficiency in comparison with conventional amplifiers - consuming only around half the power, and radiating only one fifth the heat.

In the manufacture of all its products, Sharp uses recycled materials wherever possible. All of these factors strike the right note environmentally, which is something we all have to be mindful of today.





# JVC RX-8012R

<b>SOUND</b> ★★☆☆☆	<b>VALUE</b> ★★☆☆☆	<b>£400.00</b>	<b>CONTACT</b> 0870 330 5000	<a href="http://www.jvc.co.uk">www.jvc.co.uk</a>	<b>GUARANTEE</b> 1 year
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**T**he JVC RX-8012R limits itself to 5.1 channels of processing and amplification, and does not offer Dolby Pro-Logic II. The maker's specifications talk airily of Dolby Pro-Logic with "full digital processing", which may be technically accurate if it means that Pro-Logic is handled digitally, but which is misleading if it is taken to imply that it uses the more sophisticated Pro-Logic II digital algorithm. Of the four digital inputs, only one is electrical, and considering the real world power limitations of this model, it is a surprise to see outputs for two pairs of main/stereo speakers. Perhaps we should be grateful that JVC hasn't tried to make this model a 6.1 or seven channel receiver.

The JVC has the odd surprise up its sleeve, including a front panel Windows PC-compliant USB input for playing material downloaded from the web. It also comes with a five-band equaliser and an extensively tuneable suite of DSP acoustics. The tuner has a 45 preset capability, with FM-RDS/MW reception, and the remote control is multi-make coded and operates several components together, but is not programmable.

### SOUND QUALITY

Although the remit of these tests doesn't really extend into home cinema territory, informal use with Dolby Digital and dts films suggests that sound quality doesn't pass muster at anything like cinema sound pressure levels in an only moderately

large room. With multi-channel music the amp held up quite well in the panel tests, which did not stress its modest output limitations when used with the Sonus Faber speaker system (without the subwoofer, by the way), and there was a split from the panel, but with more favourable comments than negatives. "Foot tapping... a bit of life here," was a typical comment, with others remarking on the JVC's "neutral balance", its "rhythmic" abilities and its "light, without being excessively lively," quality. But there were complaints of a loss of surround imagery and a lack of energy from the rear channels, even though they were working at the standard test level. The hands-on test results, some conducted at higher volume levels than were used with the panel, were

Capable and adequately equipped but a little short on power.

slightly less satisfying. It seemed to me that the sound was inconsistent with level, and that even when loud it somehow lacked power and that intangible quality called authority. There was a significant improvement, however, when the Line Direct feature was engaged with stereo source material.

### CONCLUSION

An uninspiring middle ranker, the RX-8012R is priced about £50 or so too high for its performance standard, but with the fluidity of prices in the high street, it might be worth looking out for at a bargain price if you have a smallish listening room.

## THE LAB REPORT

Although clearly a multi-channel amplifier, it really only satisfies in two-channel mode. Here it delivers some 2x125W/8ohm with a dynamic headroom approaching 190W/8ohm. However, its maximum current delivery (and thus its ability to drive multiple speakers) is limited to just 6.5A or 81W into 2ohm. Two-channel drive into 4ohm is limited to 130W. Moreover, whether via its Dolby Digital (coax) input or via the DVD multichannel analogue input, I could not raise more than 5x25W/8ohm from this receiver, at which point its electronic protection would cut in. The incoming front channel analogue signals are digitized via

an ADC unless JVC's 'Line Direct' facility is engaged, leaving a 1dB difference in level between front and surrounds. The gain is normalised and distortion reduced with 'Line Direct' but there remains an increase in LF and HF distortion on the surrounds vs the front channels (0.05% vs 0.006% at 40Hz and 0.5% vs 0.05% at 20kHz, respectively). When digitised, the (front) channel inputs fall to -0.8dB at 20kHz beyond which there's a brickwall filter. Otherwise, the response is up by +0.15dB at 30kHz in 'Line Direct' mode. Noise is poor: -77.8dB (front), -75.8dB (surround) as is multichannel crosstalk which reaches -40dB at 20kHz.

**"EVEN WHEN LOUD IT SOMEHOW LACKED POWER AND THAT INTANGIBLE QUALITY CALLED AUTHORITY."**





## KENWOOD KRF-X9050D

**SOUND** ★★★★★

**VALUE** ★★★★★

**£399.00**

**CONTACT** 01923 816444

[www.kenwood-electronics.co.uk](http://www.kenwood-electronics.co.uk)

**GUARANTEE** 1 year

**S**econd from top of the current Kenwood receiver range, and illustrating how far THX has penetrated the mainstream, this £399 5.1 channel receiver conforms to the THX Select specification. It also offers THX Surround EX 6.1 channel processing, which makes it unique in the group; the other 6.1 channel models all use proprietary matrices. There's a surprise around the back too in the shape of two component video outputs, which may be useful for those with US-sourced DVD players, a projector, or one of the handful of glass TVs with component inputs, though there is likely to be a glaring price/performance disparity with this inexpensive model.

Other highlights include Dolby Pro-Logic II, Cinema Re-EQ (one of the

THX processes which civilises bright or edgy film soundtracks originally meant for theatrical release), a 6.1 channel DVD-A input (also for SACD presumably, though there's no evidence that the Kenwood is in any meaningful sense adapted to wide bandwidth, high bit depth sources), and a button-bound learning remote control that can also operate your TV, VCR and DVD player. Composite video and audio feeds are available for a second room or for upgrading purposes. The FM/MW tuner is equipped with RDS and has 40 presets.

### SOUND QUALITY

Here is one of several receivers in our ten-strong group that delivered equivocal results when checked critically with multichannel music,

even at moderate volume levels well within the Kenwood's power ceiling. One panellist found it "hard and brittle", but also "detailed, and not unlistenable", and a second described the Kenwood as "superficially interesting and foot-tapping" in the Steve Stevens test track, and "fast, not very subtle," in the Bach, and he was not alone in pointing to a deficiency in the sound that he couldn't identify properly.

Perhaps it was the declining treble response, which gives the Kenwood a just perceptibly constrained quality. Rather than make it sound dull, the amplifier sounded quite clean to my ears, but slightly compressed, though not without a touch of tinselly top-end congestion at times. "The sense of scale is missing," was the conclusion from another panel

**Adequate performance at moderate levels but a tendency to 'duck' at high volume.**

member. But with THX engaged, the Kenwood gets into its stride; the KRF-X9050D is a significantly better home cinema receiver than it is an audio one, but at high volume levels the sound appeared to duck during sustained loud passages – the protection circuits perhaps?

### CONCLUSION

THX used to mean something really special in home cinema amplification, but although it may help here with film soundtracks, there is little of the integrity that used to be assured, admittedly at a much higher price. Music remains rather grey and sometimes edgy, and musically it is simply not very engaging.

### THE LAB REPORT

The front/surround responses are slightly tailored with a gently declining treble that's nearly -0.5dB down at 20kHz and a full -1dB down at 30kHz *before* any THX equalisation is applied. The overall gain of the amplifier is around 5dB lower than others in this test, but this allows the volume control to be operated over a wider range with modern, high output line sources. Distortion, meanwhile, is actually *lower* on the surrounds (0.002% vs 0.006% at 1kHz and 0.04% vs 0.085% at 20kHz).

As a straightforward two-channel amplifier, it seems very powerful, delivering a full 2x140W into 8ohm with a substantial +2.4dB dynamic

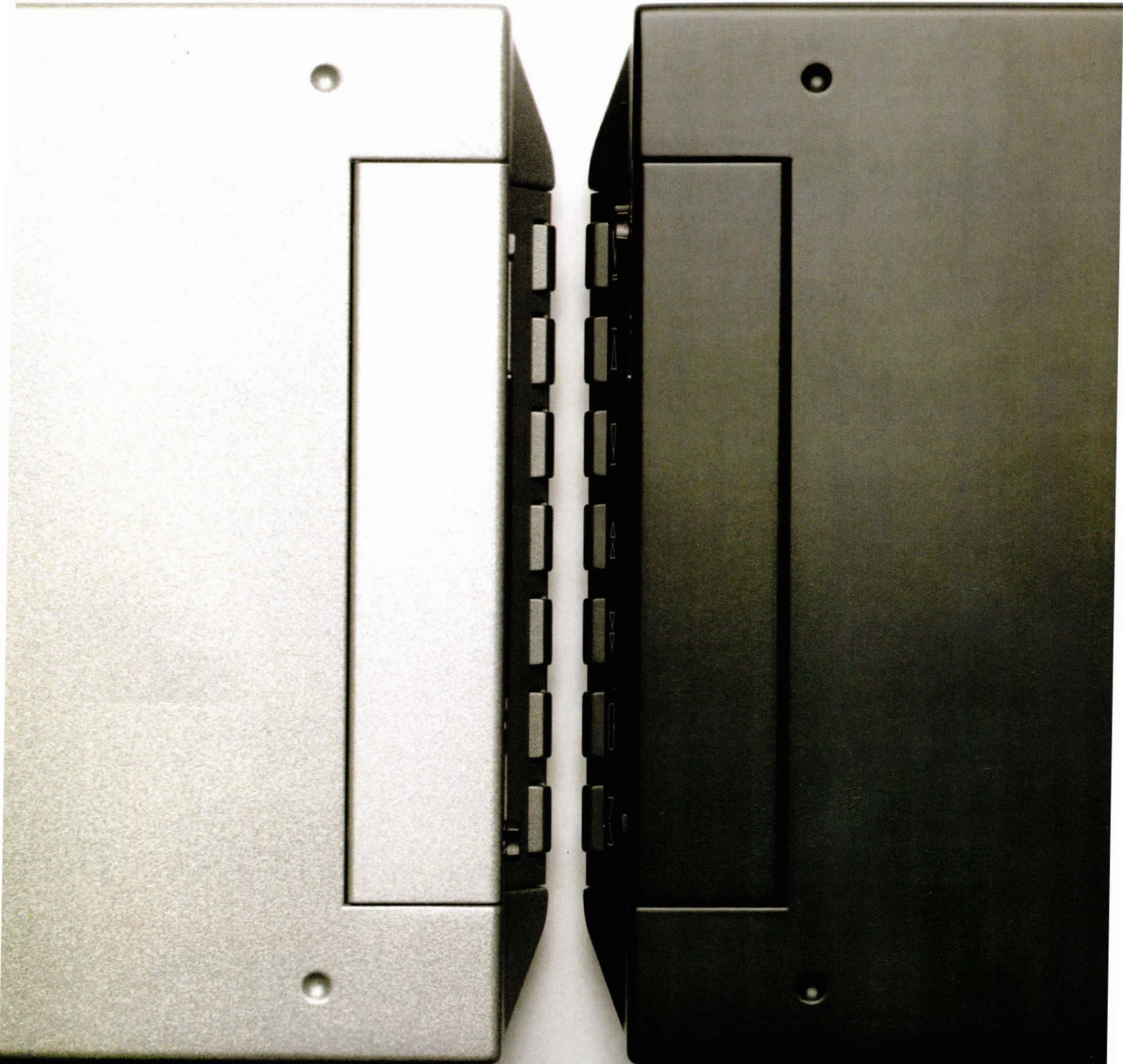
headroom to support 250W on musical peaks. High headroom typically means a reduced tolerance of low impedance speakers and, indeed, the 'X9050 only manages a slight increase to 2x160W into 4ohm. Regardless of speaker load impedance, Kenwood's fast-acting electronic protection limits the amplifier's current delivery to 9.5A (180W into 2ohm or 90W into 1ohm) even under dynamic conditions.

With multiple speaker combinations, the situation is more complex. I could coax 3x120W from the centre and surround channels but this fell to 5x55W with all channels driven simultaneously.

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## MARANTZ SR5200

**SOUND** ★★★★★ **VALUE** ★★★★★ **£399.90** **CONTACT** 01753 680868 [www.marantz.com](http://www.marantz.com) **GUARANTEE** 2 years

**A**lthough the looks are strictly traditional, the SR5200 is a thoroughly contemporary receiver, which boasts Dolby Pro-Logic II (the digitally enhanced alternative to Pro-Logic for analogue surround sources) and both main flavours of 6.1-channel digital surround, namely a matrix addition to Dolby Digital for 6.1 channel audio, and dts ES 6.1, though the Dolby channel option is a proprietary matrix solution, and not the fully kosher THX Surround EX implementation. The extra matrix derived channel is supported by an extra power amplifier, making six power amps in total, including a single rear centre channel amp, unlike a 7.1 system which has four rear channels. Not unnaturally, input

options include a 6.1 channel input. The tuner is an RDS-equipped FM/AM design with 30 presets.

Control possibilities include linked remote control operation with other Marantz components, which even extends to compatible non-remote control components when linked via the D bus wire link system. An external IR receiver can be used, which allows the hardware to be hidden, the system TV could then be used to monitor receiver status.

### SOUND QUALITY

The character of the comments from the panel was not dissimilar in tone to those made about other low-cost receivers, the Denon in particular. But overall it was better received than most, and performed well in the

sighted listening tests, which by the way were not confined to stereo and multichannel DVD-Audio. They also took in some Dolby Digital and dts material, which was handled quite well, but the Marantz sounded more transparent and refined with non-data reduced material, whether from CD or from some recently acquired 24/192 stereo DVD-Audio classical recordings of Beethoven and Bruckner, which are among the best of their type heard to date.

Back to the panel, which marked the Marantz's card as "flat", "lacking drive", "uninteresting" and "lacklustre". But they also described the Marantz bass as "better than the others" (those auditioned up to that point, that is) and "subtle", and there was explicit praise for the "large

The large scale at the front compensates for a rather "lazy" surround channel.

image scale" from the front of the soundstage, and some compensating criticisms of a "rather lazy" surround channel. From my tests, the SR5200 emerged with a clean bill of health. It's no world-beater, but it is sharp, clean and tonally accurate (perhaps I should say tonally credible), and it sounded both detailed and refined.

### CONCLUSION

On the whole, this is a far from unsatisfactory receiver at the price, which performs as well or better than any of the other low-cost models with stereo and multichannel music, and which also makes a decent stab at film-based material.

### THE LAB REPORT

In absolute terms, Marantz's SR5200 is not the most powerful of the multichannel amps in our test but it is the more tolerant of low impedance speakers, particularly under dynamic conditions. Here, the SR5200 yields 375W (13.7A) and 430W (20.7A) into 2 and 1ohm loads, respectively, with a headroom of +0.7dB (135W) beyond its continuous 8ohm rating of 115W. As more channels are loaded up, the practical output falls away despite it boasting a full 6.1 channel operation. With increasing demand on the shared power supply, the output falls from 2x115W to 3x100W, 4x70W, 5x40W and 6x35W into 8ohm.

Distortion is well matched between channels at ~0.02% in the midrange but increases more markedly at HF via the surrounds (0.18% at 20kHz) compared to the front (0.03% at 20kHz). Dolby decoding is textbook with an excellent interchannel separation of 90dB and front-centre-surround balance of 0.1dB. Decode distortion is very low at 0.007% (front) and 0.006% (surround). Noise is also low at -83.7dB (front) and -86.9dB (surround, all A-wtd), responses are flat to within +/-0.1dB over 20Hz-20kHz (all 'large' mode). Output impedance(s) are quite high at ~0.15ohm, so you can expect more variance in response in real life.

**"IT'S NO WORLD-BEATER, BUT IT IS SHARP, CLEAN AND TONALLY ACCURATE (PERHAPS I SHOULD SAY TONALLY CREDIBLE)."**





# NAD T761

<b>SOUND</b> ★★★★★	<b>VALUE</b> ★★★★★	<b>£649.95</b>	<b>CONTACT</b> 01908 319360	www.nadelectronics.com	<b>GUARANTEE</b> 2 years
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**L**ike the NAD T760 (reviewed in *Hi-Fi Choice* 210), this mildly enhanced model stays true to the idea that there is more to home cinema amplifiers than DSP and other non-essentials that needlessly consume resources. The NAD T761 has nine analogue and five digital inputs, and a digital output (the latter by no means standard at this price level), with all the video inputs available in composite and S-Video form. Preamp level outputs can be taken from all channels, and a component video circuit is available. The only significant sound bending circuit is EARS (Enhanced Ambience Recovery System) essentially a sum and difference mode after Hafler, which doesn't impact on musical definition

or sound quality. The tuner is a standard FM-RDS/MW 30 preset design, and the remote control has an extensive built-in code library supported by a learning function, and can control up to eight separate components simultaneously.

### SOUND QUALITY

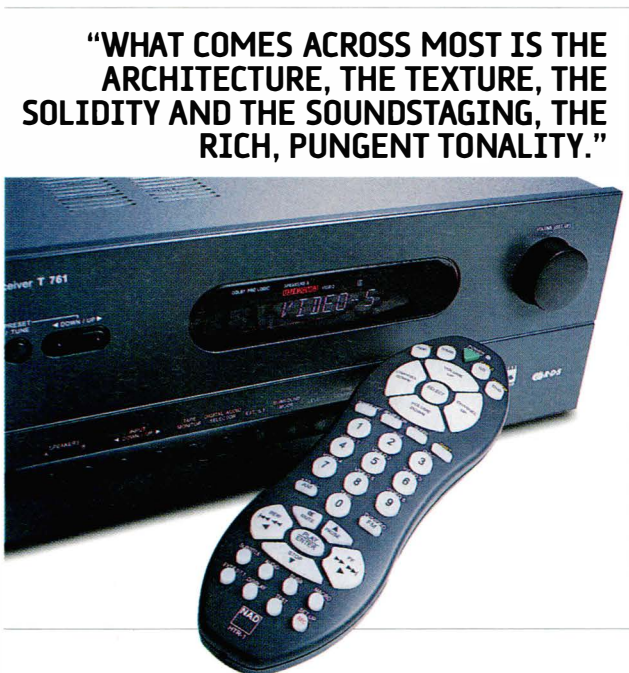
The T761 is a chip off the old block, and if you've forgotten or never read the original report, the T760 walked roughshod over most of the competition at the time. NAD's modest successor to that model comes to a marketplace that shows little more technical sophistication than it did then, and the T761 is equally ahead of most comers – no, all comers according to the test panel. To a man, they were in no

doubt that this was the best sounding model of the day. It had, as one put it, "some resemblance to musicality... the surround channels were easier to hear, with real life, even if the sound wasn't always very transparent". Or this: "best of the lot: it's musical, good to listen to, percussive... (and) definitely more musical, with a bigger, wider front soundstage image, though sometimes it seems slightly defocused". There's plenty more in this vein, and I agree absolutely. The NAD is ultimately slightly opaque and lacking detail (emphasis on "slightly"), but what comes across most is the architecture, the texture, the solidity and the soundstaging, the rich, pungent tonality – and ultimately the raw excitement of the music.

The remote (below) has an extensive built-in code library and a learning function.

### CONCLUSION

As NAD points out, there is "more to home cinema that just explosions, gunfights and car-crashes". Quite. It is not just that the maker has been uncommonly honest about the power specs (but more shame on the majority who were not!), because this amplifier sounds better at levels that are not only well within the power envelope of the NAD, but equally within the compass of the other nine models too. The simple fact is that this is a better mousetrap; it does the job better than the others, whether singing piano or forte, and none of the features it doesn't have were missed.



### THE LAB REPORT

Frankly, there's not a great deal to choose between this T761 and the T760 it replaces, though the newer model has additional digital inputs plus an extra set of front channel speaker binding posts. There's no significant change in its ability to wrestle with real-world speakers, as its 2x116W/8ohm performance compares favourably with the 105W/8ohm recorded for the T760. There's a relatively mild drop to 5x85W/8ohm in multichannel mode, just like the T760. But do remember that other '100W' amps in our test collapse to 35W or even 25W when driven in five-channel fashion. So the NAD T761 is really one of the beefier models available.

There is a trade-off in its dynamic output, however, for while the 2x152W, 2x265W (8.1A), 2x229W (10.7A) and 2x132W (11.5A) into 8, 4, 2 and 1ohm loads, respectively, is useful, it's still a far cry from the huge headroom typically demonstrated by NAD's traditional stereo amplifiers. The five internal amps are better matched as the respective output impedances are now consistent at 0.15ohm while distortion is steady at ~0.003% midband (re. 1kHz/10W/8ohm), increasing to ~0.07% at 20kHz. Separation is unusually consistent at 70dB (20Hz-20kHz) and the S/N ratio's matched but also slightly 'noisy' at 78dB (A-wtd, re. 0dBW).



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# ONKYO TX-DS595

<b>SOUND</b> ★★☆☆☆	<b>VALUE</b> ★★☆☆☆	<b>£450.00</b>	<b>CONTACT</b> 01788 556777	www.onkyo.net	<b>GUARANTEE</b> 3 years
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**T**his 5.1 channel receiver is rated at 70 real watts times five, as near as can be judged from the typically evasive spec sheet (110 watts/channel, continuous 6 Ohms, 1kHz DIN indeed!). Surround sound support extends beyond the usual Dolby Digital and dts to include Dolby Pro-Logic II, and Cinema Re-EQ, designed to tame bright-sounding soundtracks when reproduced in the home. The so-called A-form listening memory mode allows each analogue and digital input to be associated with a set of parameters such as surround sound algorithm, DSP status and so on. The TX-DS595 is claimed to be DVD-Audio ready by virtue of an extended (100kHz) frequency response.

The Onkyo has a novel control system which allows set-up without access to a TV using a jog-type control and an excellent dot matrix front panel display. An input is available for an infra-red repeater, but the Onkyo lacks preamp level outputs, so it is not possible to bypass the internal power amps. There are no digital outputs either, no component video and no RGB. On the plus side, the remote control features limited backlighting, a learning facility and macros.

### SOUND QUALITY

The Onkyo performed reasonably OK in the multichannel panel tests if you allow for the fact that "OK" ranks at little short of fantastic in the context of some of the models in our not always distinguished test group.

Typical comments included "muted at the top end", "lifeless and little gravitas", "flat, boring", "cool on the classical excerpt, and not very lively," and – yes – "OK". Two OK's in fact. The hands-on testing did little to contradict the basic thesis, but there was evidence that the Onkyo was a little more comfortable and in charge with stereo material played through two speakers. The slightly retiring sound, apparently related to a marginal lack of presence at the frequency extremes, was a factor in this, and was certainly part of the reason for the perceived coolness and lack of get-up-and-go.

The amplifier gave no indication of preferring high resolution sources. The test Denon DVD-A player used with some recently acquired 24/192 two-

**The Onkyo's novel control system allows set-up without access to a TV.**

channel recordings which performed promisingly well on the best hardware available for test, sounded slightly underpowered through the Onkyo, but the level of detail was impressive and the music had strong focus and stability.

### CONCLUSION

A little more rock and roll would have been the icing on the cake for this otherwise unexcitingly competent receiver. After-hours use with video material however, showed that the TX-DS595 has some strong talents in this area, and the overall ranking reflects this fact – but don't throw away your stereo amplifier just yet.



**"THE ONKYO PERFORMED REASONABLY OK IN THE PANEL TESTS IF YOU ALLOW FOR THE FACT THAT "OK" RANKS AT LITTLE SHORT OF FANTASTIC."**

### THE LAB REPORT

Like the Sony STR-DB1070, this receiver also features an 8/4ohm speaker impedance selector at the back. This is best left in 8ohm guise for, at 4ohm, the amplifier delivers just 35W/8ohm and 65W/4ohm under dynamic conditions. Onkyo rates the TX-DS595 at 2x75W/8ohm and, indeed, in 8ohm mode will deliver a continuous 2x115W or 2x145W and 2x245W into 8 and 4ohm loads under dynamic conditions. Very low impedance drive is limited by electronic current protection within the amp to 2x205W (10.2A) and 2x109W (10.4A) into 2 and 1ohm, respectively. With five channels driven simultaneously – as happens in 'real life' – the

maximum output peaks at 5x55W with near-instantaneous limiting back to 5x35W/8ohm should the amplifier judge that it's getting into trouble...

Dolby and dts decoding is clean, with distortion typically at 0.004% (front) and 0.003% (surrounds), increasing to 0.014% via the integral power amplifiers. The 87dB interchannel separation is useful and the precise 0dB interchannel balance very impressive. Responses are flat to within +/-0.1dB over a 30kHz span but the 0.1ohm output impedance(s) could still end up modifying the overall system response with long cable/low impedance speaker combinations.



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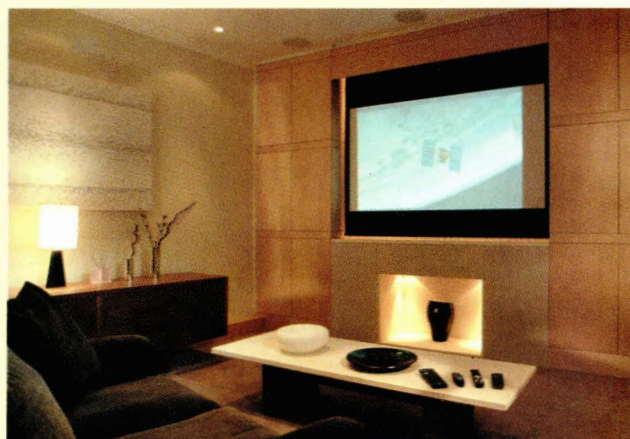
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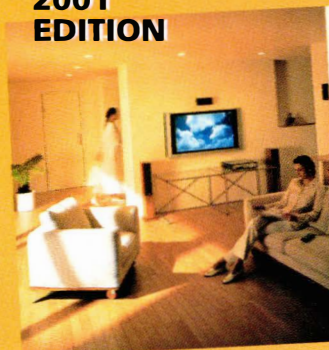
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## PIONEER VSX-D810S

**SOUND** ★★☆☆ **VALUE** ★★☆☆ **£450.00** **CONTACT** 01753 789500 [www.pioneer.co.uk](http://www.pioneer.co.uk) **GUARANTEE** 1 year

**F**ront panel display notwithstanding, this is a 6.1 channel receiver with proprietary matrix extensions of the Dolby Digital and dts codecs rather than the authorised versions. Connection possibilities include a 7.1 channel analogue input, and it seems that the claimed 7.1 channel compatibility is limited to this single provision as the two rears are mixed together downstream, and the preamp outputs are limited to the same 6.1 channel set as the main outputs. There are four (24-bit, 96kHz) digital inputs, only one of which is electrical, but there is an optical digital output, which will suit those with MD or other digital recorders, and the VSX-D810S also offers two assignable component video inputs. Altogether there is no

shortage of inputs. A comparatively simple DSP section is supplemented by tone controls and a source direct switch and tone bypass.

The Pioneer looks quite tidy thanks to a drop down cover that conceals the minor controls, though the remote control buttons are too cluttered and ill-differentiated for comfort. It is a comprehensively equipped handset, however, with a built-in code library, a learning facility and the ability to control up to eight components at once.

### SOUND QUALITY

Sadly, the panel was not impressed by the Pioneer, and neither was I. There were criticisms of poor sound-staging: from my own observations the music appeared to retreat into the loudspeaker enclosures rather

that taking up residence as a homogenous soundfield in the room. The panel described the sound as flat spatially and to an extent dynamically too. Choice adjectives culled from the panel tests included "amusical", "thin" in relation to the top end, and "irritating". There were persistent complaints that the bass lacked depth, and overall that the music lacked dynamics and life. I would add that there was a lack of presence too. The midband wasn't transparent, and the treble sounded edgy and coarse grained, and although the bass was OK, it is somewhat lacking in level.

But the lean balance was not the only factor adversely affecting the auditioning. In a cleaner-sounding amplifier, the dry, rather literal balance exhibited by the Pioneer would have passed largely unnoticed,

**Nice styling but suffers from a rather old-fashioned sound.**

or at least unremarked. In practice it meant that two-channel 24/192 DVD-Audio recordings of Beethoven and Bruckner on the Denon label, which are among the best DVD-As to date, sounded uncharacteristically etched and scrawny, though there was no shortage of detail.

### CONCLUSION

One panellist said he "struggled to say anything constructive", and he lived up to his promise, while the others were scarcely more complimentary. This is indeed a rather rough-sounding receiver, reminiscent as one pointed out of some well-known integrated amplifiers of some decades ago.

### THE LAB REPORT

Despite boasting "7.1 channel" operation, the VSX-D810 is configured as a 6.1-channel amplifier like the Marantz SR5200. Unlike the SR5200, the VSX-D810S is equipped with a rather noisy fan but, like the SR5200, the ability of the amplifier to drive more channels progressively taxes its power supply. The end result is 2x105W, 3x95W, 4x85W, 5x75W and, finally, 6x65W into 8ohm. All of which is a far cry from the potentially misleading "100Wx6" claimed by the sticker on its front.

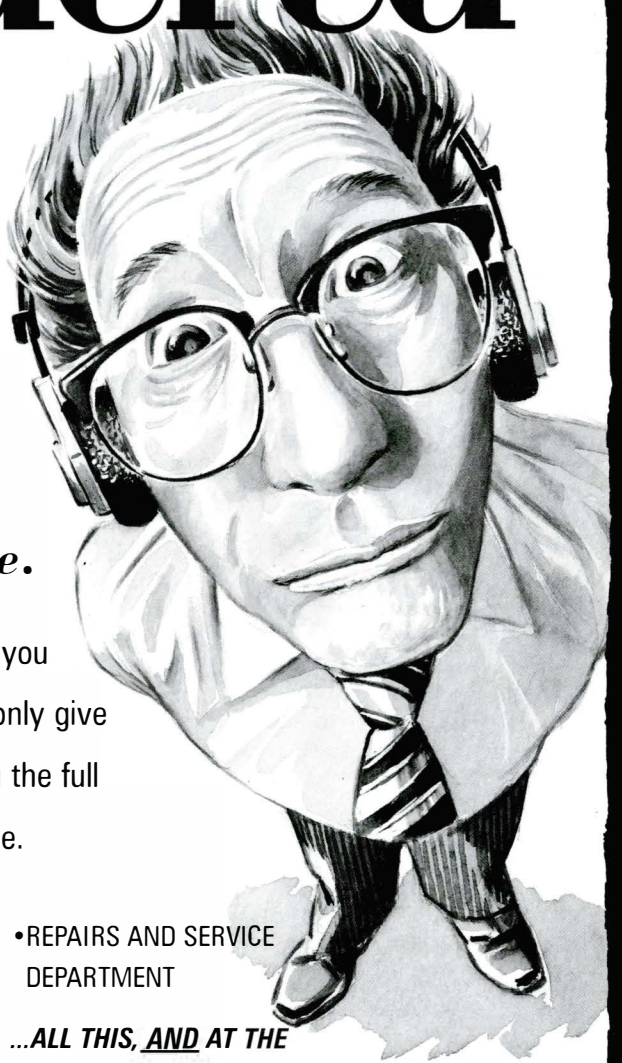
Under dynamic conditions, the 'D810 will sustain 2x165W into 8ohm followed by 2x115W (7.6A) and 2x95W (9.8A) into 2 and 1ohm

loads, respectively. Distortion is well matched between all six channels versus power output (typically 0.005%-0.008% between 1-60W/8ohm) but is less so with respect to frequency, increasing to 0.035% at 20kHz (front) but just 0.01% at 20kHz (surround). Dolby decoding yields a good 90dB inter-channel separation (re 0dBW) with a balance of 0.3dB and distortion of typically 0.005% at 1kHz. The A-wtd S/N ratio is a good 10dB ahead of many other amplifiers in this test at ~90dB (all channels, re 0dBW). Whether this results in a 'cleaner' sound or simply opens the window to interference will depend upon the VSX-D810's application.

**"THE MUSIC APPEARED TO RETREAT INTO THE LOUDSPEAKERS RATHER THAN TAKE UP RESIDENCE AS A HOMOGENOUS SOUNDFIELD IN THE ROOM."**



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## SONY STR-DB1070 QS

**SOUND** ★★★★★ **VALUE** ★★★★★ **£600.00** **CONTACT** 08705 111999 [www.sony.co.uk](http://www.sony.co.uk) **GUARANTEE** 1 year

One of the better-equipped models in our ten-strong group, the Sony STR-DB1070 has an impressive array of in and outputs, including separate 5.1 and 6.1 inputs, matched to 6.1 channel processing and amplification. There are six channels of power amplification, one of which is for the single rear matrix derived channel, but this is not full-on THX Surround EX, though two-channel rear channel power amplification is available in systems without a centre channel. Other features include a full set of preamp level outputs, and a sophisticated (or perhaps it's best to say complicated) DSP sound field processor.

Improvements over last year's model include shorter audio signal paths and better positioning of

individual circuits to reduce mutual interference, lower noise levels due to analogue and digital circuit improvements, a new 32-bit DSP which offers more sophisticated processing at higher bit depths, which should translate into improved sound quality, and the digital inputs (three optical and only one electrical) which are now 24-bit/96kHz compatible. A dedicated two-channel mode bypass is also now available. The chunky programmable multi-component remote control, an impressive item in its own right, includes a three-line LCD readout and a concise set of main control buttons, with secondary features available beneath a flap. A multi-step macro facility is available.

### SOUND QUALITY

Given the strong emphasis in this

model on improved sound quality compared to its immediate predecessor, the test panel's response was distinctly underwhelming, but there is nothing like a listening panel with no knowledge of the identity of the equipment under test for deflating expectations. Its take on the Sony was that it sounded "soft, with stereo imagery pushed back further into the soundstage" than the previous amplifiers, and that despite a good bass line in the Steve Stevens recording, the whole effect was "rather hi-fi sounding in the wrong sense," and "uninvolving," thanks in part at least to what the panel heard as a lack of top-end projection. At the end of the day, however, there was a slightly grudging acceptance that the Sony STR-B1070 was "unobjectionable" and "the third best of the

The programmable multi-component remote (below) is impressive on its own.

day", which was no better than it should have been at the price.

My own assessment based on extended listening was a little more positive. The Sony seemed to me to reproduce music with a touch of subtlety and grace missing from some others, and the benefit of using high resolution stereo recordings – 24/192 DVD-Audio in the absence of an appropriate SACD player during the test – was clearly audible and equally clearly beneficial.

### CONCLUSION

Although the STR-B1070 did not escape valid criticism, it is clearly a more subtle and engaging receiver than many of the competition.

### THE LAB REPORT

This is another multichannel amplifier equipped with a 'centre back' channel, typically derived from signals that are matrixed into the left/right surrounds of compatible DVD software. In practice, this means the '1070 will decode Dolby Digital EX and dts ES, but as Sony is not a THX licensee it cannot advertise the fact. Instead, it offers its own 'Virtual Matrix 6.1' playback with 'Cinema Studio EX' soundfield options. Otherwise, Sony rates the STR-DB1070 at 100W per channel, which is equivalent to 2x140W, 3x100W, 4x80W, 5x75W and 6x70W in a practical application. Under dynamic conditions, there is reserve for 2x187W, 338W

(13A) and 303W (17.4A) into 8, 2 and 1ohm loads, respectively.

Responses are flat, the S/N ratio's wide at 89.2dB (front) and 87.7dB (surrounds) and the interchannel balance is spot-on. The interchannel separation is impressive at 100dB through the midrange. Sony has matched the characteristics of all six amplifiers very closely, so all have the same trend of distortion (0.002-0.02% from 20Hz-20kHz) and all suffer some slight crossover distortion at low power (0.018% at 1W versus 0.004% at 30W/8ohm). Dolby and dts decoding is clean – just 0.004% distortion (front) and 0.0095% (surrounds). Technically, this is a solid performer.

**"THE SONY SEEMED TO REPRODUCE MUSIC WITH A TOUCH OF SUBTLETY AND GRACE MISSING FROM SOME OF ITS OPPOSITE NUMBERS."**



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Helios Model CD3i - ex-dem	£690	£900
Linn Genki - 1yr - boxed	£650	£1000
<b>Analogue</b>		
Nottingham Analogue Mentor - with reference platter	£1900	£2900
- Reference power supply for above	£490	£800
Nottingham Analogue 'Foot' - 12" carbon fibre tonearm - new	£700	£1100
Nottingham Analogue Space Deck - with SME arm mount	£650	£850
Helios Cyalene - tonearm	£590	£1350
Hadcock GH228 Super - 9" tonearm - nearly new	£440	£640
<b>Loudspeakers</b>		
Living Voice Auditorium - Hi-Fi Choice 'Best Buy'		
4 pairs - Walnut - ex-dem	£1150	£1500
Cadence DS	£750	£1750
Dali 104 (MS)	£390	£650
Lowther Bi-Core 2000	£500	
Klipsch LaScala Black	£1750	£3500
Quad ELS63 - fully reconditioned by Quad	£1500	£3000
Quad ELS63 - fully reconditioned by Quad	£1300	£3000
<b>Amplifiers</b>		
Border Patrol 300B SE - with new Western Electric valves.		
Light Oak - the best SE available - ex-dem	£3750	£4500
Canary Audio 301 - 24 watts stereo power amp with		
2 matched pair Western Electric 300B - fabulous	£3900	£5200
Art Audio Concerto - integrated 40 Watts Class A. V.good	£1500	£2650
Audio Innovations S1000 - 50 watt class A monos	£790	£1550
Joule Electra 2 box phono pre-amp	£800	£2000
Art Audio VPS - valve line pre-amp	£600	£1400
Sugden A21 - integrated (line only) ex-dem - mint condition	£750	£900
Musical Fidelity A1000 - 'super pre main' class A	£850	£1800
Cary '2A3' 7 watt power amp. 1992	£850	
Cary 5500 Line pre-amp. 1992	£550	
Unison Mystery One PR+	£950	£1750
Tube Technology MAC phono pre-amp. Fully refurbished by		
manufacturer. Including Hovland film and foil capacitors.	£900	£1400
Tube Technology line pre-amp with separate power supply.		
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## TECHNICS DX-950

**SOUND** ★★☆☆☆☆

**VALUE** ★★★★★

**£279.00**

**CONTACT** 08705 357357

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

**GUARANTEE** 1 year

**T**he DX-950 has a stripped down spec to suit its stripped down price, though all the standard mod cons – Dolby Digital, dts, Dolby Pro-Logic and a 5.1 channel analogue input for multi-channel hi-res sources – are available, and the Technics also includes a basic set of DSP-powered acoustic effects and a 30-preset FM-RDS/MW tuner. The last word on the features front concerns the remote control, which will operate a complete system, but only if it consists of Panasonic/Technics branded components.

It has a bare minimum of analogue inputs: six in total, one for a record player, plus one electrical and one optical digital input but no digital out. Video socketry is limited to

composite, not S-Video, which puts the glass ceiling on picture quality unless you wire your S-Video or RGB-capable source components directly and bypass the Technics completely, which is a good idea anyway in a Scart-enabled universe. There are other signs of cost-cutting too: only the main L/R outputs use 4mm binding posts. The others are all small-capacity spring terminals.

### SOUND QUALITY

The panellists were ambivalent towards this model, though they felt it answered some of the criticisms of the model that preceded it in the test programme. "It has a more spirited performance... far more life than the last one," was the way that one saw it, but it was still seen as "hard and

mechanical-sounding," in the Bach Brandenburg excerpt, and "lacking in depth," in the Steve Stevens, though the same piece elicited the comment that the Technics was "bigger in scale, definitely faster and more detailed, and with a better sense of the output from the centre channel" than the previous model.

In the hands-on testing, which involved some extended listening to the test amplifiers in stereo back-to-back with a conventional good-quality stereo amplifier, the Technics did indeed sound hard and mechanical, and lacking in such qualities as transparency and sweetness. Orchestral sounds were generally rather congealed, with little sense of air and space, and with well recorded female vocals – a new

**Apparently great value is let down by the limited musicality.**

Alison Krauss and Union Station recording in one case – the sound became untidy and relentless. Echoing the lab report, there was nothing in the Technics performance that suggested special compatibility with DVD-Audio recordings, which lacked the pin-sharp clarity and air available from the best examples in other equipment combinations.

### CONCLUSION

Criticisms of this receiver must be tempered by the price, which is the lowest of the group at just £279, which seems low for the functionality on offer. But if the music fails to make its mark, it fails full stop.

### THE LAB REPORT

This is a capable enough AV receiver, but you do not want to rely too heavily on Technics' marketing guff. The DX-950 is, for example, no more "DVD-Audio Ready" than any other competing product with a six channel analogue input, while the claimed "5x100W" turns out to be closer to 5x52W/8ohm in practice. It's possible to squeeze 2x110W into 4ohm and 2x98W into 8ohm under dynamic conditions, but a realistic two-channel 8ohm rating is 70W. The reserve of current to manhandle five speakers is sufficient but not over-generous at 9.7A (95W) into 1ohm. However, as is often the case with these multi-channel amps, the *maximum*

current delivery is into a more realistic 2ohm load at 10.6A (225W).

Dolby decoding is very clean with typical A-wtd S/N ratios of 87.5dB (front, re 0dBW) and 85.3dB (surrounds) while midrange distortion is a low 0.003%, increasing to a relatively high 0.16% at 20kHz. All five channels are pretty well matched as regards distortion, though their responses are a little different at -0.1dB/20kHz (front) and -0.3dB/20kHz (surrounds) as are the respective output impedances of 0.04ohm and 0.15ohm. Simply put, this suggests the amplifier will be fussier about the choice of rear as opposed to front channel speakers.

### "CRITICISMS OF THIS RECEIVER MUST BE TEMPERED BY THE PRICE, WHICH IS THE LOWEST OF THE GROUP."



# CONCLUSIONS

AV RECEIVERS: HOW GOOD ARE THEY FOR MUSIC? ALVIN GOLD AND PAUL MILLER BRING IN THE VERDICT ON TEN OF THEM



## MULTICHANNEL AMPLIFIERS AT A GLANCE



MAKE MODEL	DENON AVR-1602	HARMAN KARDON AVR5000	JVC RX-8012R	KENWOOD KRF-X9050D	MARANTZ KRF-X9050D
PRICE	£349.99	£599.00	£400.00	£399.00	£399.00
SOUND VALUE	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
CONCLUSION	One of the lowest cost brand name receivers on the market includes Dolby Pro Logic II – a good move – but offers rather soft, low-res sound.	Very well-endowed receiver has enough inputs for the largest system, but sticks with 5.1 channel output. Excellent sound quality.	Straightforward model distinguished mainly by its USB input is unimpressive on audition compared to other similarly priced models.	Entry-level THX Select receiver with 6.1 channel THX Surround EX. Let down by a hard, grainy and tonally rather unbalanced presentation.	Good-looking, though laid-back sounding receiver includes Dolby Pro Logic II and 6.1 channel matrix extensions to Dolby Digital and dts.
GUARANTEE	2 years	2 years	1 year	1 year	2 years

### THE LAB REPORT

2 CHANNEL POWER OUTPUT					
5 CHANNEL POWER OUTPUT					
AUDIBLE DISTORTION					
NOISE					
OVERALL RATING					

**T**he all too obvious finding that emerged from this test at quite an early stage is that these AV receivers are not as good as you might expect. The issue of power output limitations is an important one that had clear consequences on audition – there seemed to be an inverse relationship between multichannel (not stereo) power output and sound quality. But it is not a straightforward correlation. The most powerful amplifier for example is not the best sounding, that is clearly the NAD, though the Harman/Kardon was hot on its heels. There's no real reason why sound quality should be linked to power output anyway. My informed (but certainly not infallible) guess is that it is the makers with less scruples about the honesty of their power output specifications – or those who care most about the headline specs, like 5x100 watts, without spelling out that this applies only under specific conditions, and usually when only two speakers are being driven together – that are also less interested in issues concerned with the quality of sound. One of the findings that supports this view is that the best sounding models were invariably the ones that auditioned best at low volume levels too.

The bottom line here (not my bottom line, you understand...) is that not one of the models on test gives good stereo amplifiers in the same price area a serious run for their money. The NAD comes close, close enough to make such a confusion possible, but certainly none of the others are in the same league.

Final tip: with budget receivers subwoofers are a good idea, even if you have large main speakers, as they help relieve the heavy burden imposed on the power amplifiers by the need to drive deep bass.

**CONCLUSIONS FROM THE LAB**






We have tested literally hundreds of integrated and power amplifiers over the years and though few have been without compromise, almost none (around one per cent) have failed to meet their basic power output specification. These have always been conventional two-channel stereo amps, of course, where a 70 or 80W/8ohm rating typically equated to a good 100W or so in practice. Typically, most manufacturers have had the good grace to quote as conservatively as possible.

But with multichannel amplifiers it seems as if good manners and protocol have given way to aggressive marketing. Many of the amplifiers in our test were specified in an ambiguous fashion such as "100W per channel" or "100W + 100W front", "100W centre" and "100W + 100W rear". Read quickly, this might seem to imply a full, simultaneous 5x100W with all channels driven. Which is precisely what you are supposed to think. In practice, while designers have grafted an extra three power amps into a two-channel chassis, the power supply has not been upgraded accordingly.

As a consequence, the increased load of three, four and five channels forces a steady reduction in the amplifier's simultaneous power output. The fact that the two best amps in our survey – the NAD and Harman – were also the least affected by multichannel loading, and the most powerful is no coincidence.

**"THE MOST POWERFUL AMPLIFIER FOR EXAMPLE IS NOT THE BEST SOUNDING, THAT IS CLEARLY THE NAD, THOUGH THE HARMAN/KARDON WAS HOT ON ITS HEELS."**

MULTICHANNEL AMPLIFIERS AT A GLANCE

					
<b>NAD</b> T761	<b>ONKYO</b> TX-D5595	<b>PIONEER</b> VSX-D810S	<b>SONY</b> STR-DB1070 QS	<b>TECHNICS</b> DX-950	<b>MAKE MODEL</b>
<b>£649.95</b>	<b>£450.00</b>	<b>£450.00</b>	<b>£600.00</b>	<b>£279.00</b>	<b>PRICE</b>
★★★★★	★★★★☆	★★★★☆	★★★★☆	★★★★☆	<b>SOUND VALUE</b>
Simple, elegant design and well-endowed power amplifiers give well above average sound quality at a reasonable price. The one to beat.	Novel, effective control system is married to a receiver that has a civilised if laid-back quality. But clearly above average at the price.	This model has a 7.1 channel input, but only a 6.1 output. There's a lack of depth in the sound, which is on the lean, coarse side.	Didn't live up to the promise of its sophisticated internal architecture, but remains a good performer, with the emphasis on subtlety.	Sound lacks sweetness and clarity, but this Technics entry level model is livelier than some, as well as being almost absurdly well priced.	<b>CONCLUSION</b>
2 years	3 years	1 year	1 year	1 year	<b>GUARANTEE</b>
					<b>THE LAB REPORT</b>
					2 CHANNEL POWER OUTPUT
					5 CHANNEL POWER OUTPUT
					AUDIBLE DISTORTION
					NOISE
					OVERALL RATING

# from analogue

PAUL MILLER GETS TO GRIPS WITH THE GENTLE ART OF OF ANALOGUE TO DIGITAL RECORDING WITH CD-R.

**A**s CD recorders have evolved to accommodate re-recordable media (CD-RW), it's easy to forget that the hardware has always had a second string to its digital bow – the ability to record from *analogue* sources. Day-to-day use might find the average CD recorder burning copies via its digital input, but there are occasions when you might like to record a special FM broadcast or archive a series of cherished LPs, if only for posterity. And that brings an additional set of do's, don'ts and compromises that we'll explore using three

popular CD recorders, the £400 Marantz DR6000, the £230 Philips CDR600 and Pioneer's evergreen PDR-609 at £250.

Line-level sources, including tuners, may be connected directly to the recorder's analogue inputs. Nevertheless, CD recorders neither include the RIAA equalisation nor provide sufficient 'boost' to accept the output from an LP turntable directly. Rather, the deck should be hooked into the MM/MC phono input of a preamp or integrated amp and its tape output wired to the CD recorder's analogue input.

Because the data burned onto CD is

digital and the signal entering the recorder is analogue, this adds an extra, internal step in the process of creating a CD-R or CD-RW copy. Analogue signals are converted to digital data via an ADC (analogue-to-digital converter) after the record level control (see boxout). Aside from giving the enthusiast something extra to worry about, the additional input buffering circuitry and choice of ADC all adds its own 'colour' to the sound before it's finally digitised and committed to disc.

## SPOT THE DIFFERENCE

The Philips CDR-600 and Marantz DR6000 recorders are based around the same CDR/RW writer and share the same microprocessor and display, which explains why they offer exactly the same range of facilities. The big difference lies elsewhere in the box, Marantz uses its own choice of AK5351 ADCs plus a pair of Philips TDA1305 DACs supported by two HDAM output modules and specifies a linear power supply, the Philips model uses a lighter and cheaper switch mode supply. Indeed, aside from this supply, Philips has integrated the entire ADC-record-DAC chain onto a single multi-layer PCB beneath its transport!

Pioneer's PDR-609 looks more like a conventional CD player, save for one or two extra controls. The centrally-mounted mechanism gets its juice from a switch-mode supply while the bitstream ADC and Legato-equipped DAC are on a separate motherboard, as they are in Marantz's recorder. But the fact that all three recorders play host to three different ADCs would be enough to influence their sound.

Execution also affects recording quality. The Philips and Marantz recorders use a digitally-controlled record

**“CD RECORDERS NEITHER INCLUDE THE RIAA EQUALISATION NOR PROVIDE SUFFICIENT ‘BOOST’ TO ACCEPT THE OUTPUT FROM AN LP TURNTABLE DIRECTLY.”**



# to DIGITAL

and balance adjustment even when the input source is analogue. This control guarantees precise 1dB steps over a 63dB range (the Philips collapsed below -53dB on the left channel), though you'd never guess it from the crude six-segment bar graph display. The Pioneer has a 14-segment display and combines 'continuous' adjustment from an analogue control with a digital balance facility. This is used to iron out any channel imbalance in the analogue record knob.

## RECORDING LEVEL

All of these recorders use an ADC to convert the analogue signal from a turntable or FM tuner to the digital data that's burned onto the CD-R. And, just like a tape deck, the analogue recording level must be adjusted to achieve the best possible dynamic range. But this comparison extends only so far. When analogue tape recorders are pushed momentarily into the red, the tape is saturated with signal causing an innocuous increase in distortion.

Digital recording is not so forgiving of such sloppiness – if the red light comes on then the recording is irrevocably overloaded. It's a further reflection of the differences between analogue and digital audio in general. So while distortion increases with increasing analogue levels, it *decreases* in the digital realm until all its (16) bits are exhausted. Beyond this digital ceiling, the signal is abruptly and horribly distorted.

Optimally set, distortion with the CDR600 or DR6000 is typically 0.004%, but increase the level control 1dB too far and it'll shoot up to 1.2%! So long as the red segments on Philips' display never light, then your recording will be free of this clipping distortion. Pioneer's PDR-609 overloads more abruptly, increasing from 0.0025% to 3.5% distortion the instant the 'over' indicator lights up.

The key with recording from vinyl is to establish the maximum signal level on a side and set the record input accordingly. Pretty much as you might have done with cassette tape back in the day. One point to bare in mind is that LPs can be cut at different levels on either side, so check record levels before you hit the red button.

Our sample suffered a 0.7dB error in this department, which was quickly defused by offsetting the digital balance control one segment to the left.

## REPLAY CHARACTER

The only way to really get an idea of the 'sound' of each recorder's ADC is to test each of their CDR/RW recordings on an entirely separate player (like the Sony SCD-XA777SE used here). Otherwise, the inherent replay character of the Marantz, Philips and Pioneer players tends to overwhelm the differences between their own recordings. With this in mind, 'analogue' recordings made on the Marantz typically sound cleaner and tidier than they do via the equivalent Philips machine and indeed, there is a slight improvement in both measured noise and distortion.

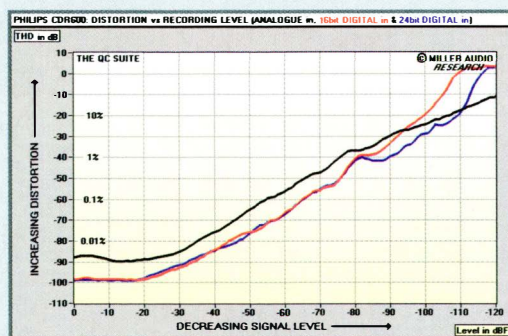
Bass detail is also a little fuller and richer via the Marantz, though both

machines impart a feeling of tension to the music that escapes the recordings made on Pioneer's PDR-609. There is slightly less weight or percussive attack to bass notes recorded on the Pioneer, but the music as a whole is uniformly less 'strained' and flows in a more natural manner. Ironically, I can imagine this sound being described as more organic or 'analogue'!

Analogue-input recordings made on any of these machines are significantly less coloured and most robust than that possible from a cassette deck. This puts the *relative* difference between all three into some perspective, though the slightly easier and smoother-sounding copies possible from Pioneer's PDR-609 still makes it the recorder of choice for the serious archivist.

When the hi-fi industry needs the truth about technology, Paul Miller is its first port of call.

## THE LAB REPORT



Top to bottom: Pioneer PDR-609, Philips CDR600, Marantz DR6000.

## DIGITAL VERSUS ANALOGUE RECORD QUALITY

Digital-to-digital copying is child's play. You simply connect the digital output of a CD player, for example, to the digital input of the recorder and hit the 'record' button. Typically, you are rewarded with a digital copy that is every 'bit' as good as the original. Analogue-to-digital copies are never so transparent, not least because the recorder's input circuitry and ADC

adds its own distortion. This is clearly demonstrated by the graphic above, which shows how noise and distortion increases as the (music) signal level decreases. The black trace indicates that, point-for-point, recordings made via the analogue input are up to 10dB noisier and more distorted than via the digital input (red = 16 bit data, blue = 24 bit data).

# DIGITAL AUDIO RECORDERS

THERE'S A WEALTH OF FORMATS OUT THERE IN THE MOST RAPIDLY EXPANDING AREA OF HI-FI. TIM BOWERN PRESENTS YOUR GUIDE TO THE BEST AND THE REST.

**T**he digital age has ushered in a new era for audio recording. Gone are clunky, hissy tape decks, replaced by crisp, clean recordable CD and MiniDisc's instant edits. Music recordings have never sounded better or been easier to make. And now there's a clutch of new storage formats waiting in the wings, each with its own particular set of virtues. Should you be tempted by the huge capacity of hard disc, or would you find tiny flash memory cards more useful? To find out more, read on...



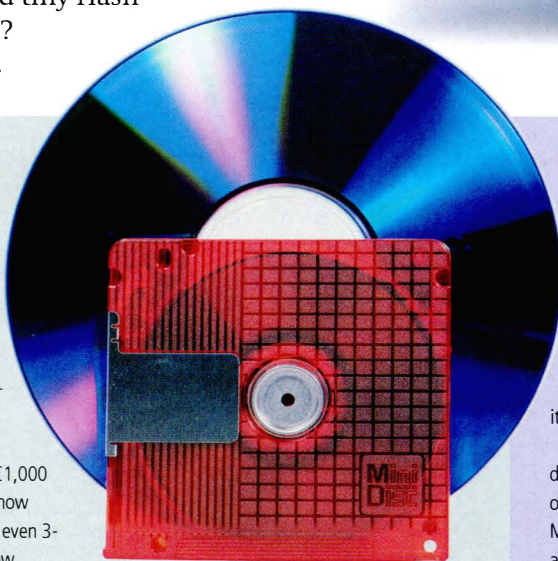
## RECORDABLE CD

When Philips first brought CD recording to consumers in the early 1990s it started a revolution. For the first time, you could create your own CD compilation at home, and, if you were recording from existing CDs you could make 'bit-for-bit' copies – theoretically identical to the original. The quality was a huge advance on previous formats, and subsequent rewritable CD-RW technology meant you could record and re-record, just like tape.

Consumers originally had to shell out over £1,000 to make their own CDs, but CD recorders are now under £200. You can get single or twin decks, even 3-to-1 autochangers. Some minis and micros now come with CD recorders, so it's truly become a mass-market option.

You might assume that all CD copies are identical to the original because you're simply copying bit-for-bit, but tests in *Hi-Fi Choice* have shown that some recorders create levels of jitter (digital distortion) that affect recordings. Even the type of recordable CD you choose can make a difference, albeit a small one. But the greatest distinction between different recorders tends to be playback performance and recording quality from analogue sources – see Paul Miller's technical feature on the preceding pages.

All current CD recorders work with both CD-R and CD-RW discs. CD-R discs are cheapest – shop around and you can pick them up for less than £1 – but recordings are not erasable. CD-RW discs are a little more expensive but you can re-write them hundreds of times. The catch is compatibility: most CD (and some recent DVD) players will play back CD-R discs, but many older machines have trouble with CD-RWs



because of their different reflectivity. If that's important to you, check compatibility. But you can play CD-R and CD-RW discs back on CD recorders, and an increasing number of disc players of all varieties are now compatible with both types of recordable CD.

## GETTING HOOKED

If you want to make good recordings you need decent interconnect cables. They're most critical if you're recording from an analogue source like vinyl or FM radio – make sure you buy a capable pair rather than relying on in-the-box freebies (see next month's issue for a complete test of analogue interconnects). If you're recording 'digital-to-digital', from a source like CD or digital radio, you only need a single interconnect. If you've got the choice of optical or coaxial (electrical) connection it's generally best to go for coaxial, and make sure the cable's specified as 75 ohms – any 'for digital' interconnect should be!

## MINIDISC

It took a while, but Sony's flexible little digital format finally took off in the 1990s as a popular alternative to cassette recording. It's easy to see the appeal: robust, compact and irrefutably funky blank media, perfect for portable use, rewritable and relatively inexpensive. And on grounds of flexibility nothing beats it – you can edit discs and shift tracks around after they've been recorded, so it's a boon for compilation builders.

Even so, you won't find many full-size 'separates' decks around these days, aside from Sony's. In terms of recording quality it's bettered by recordable CD – MiniDisc is a 'lossy' compressed digital format, using a data reduction system called ATRAC to squeeze on a full CD's-worth of music. A MiniDisc recording from CD generally sounds colder and drier than a direct CD-R copy, though improvements through successive generations mean results from today's machines are notably closer to the original than those of a few years ago.

But it's as a portable format that MiniDisc makes most sense. Its pocket-sized recorders aren't just natty little slabs of techno gadgetry; they're also hugely practical devices for music on the move. Making recordings is simple – hook the supplied digital cable to the optical audio output on the back of your CD or DVD player and you're off.

The logical successor to MiniDisc's portable, recordable crown is solid state memory – those tiny flash memory cards that use MP3 compression to store a useable amount of music data. But these cards are expensive, while MiniDisc's new-found PC connectivity means you can hook up your recorder and store all kinds of audio files, including stuff



you've downloaded from the internet, just as you can with an MP3 personal. And with a new high-capacity MiniDisc on the way from Sony, reportedly offering CD-rivalling storage space, it seems MiniDisc might be with us for a good while yet.

## RECORDABLE DVD

Philips won the race to UK shelves in 2001 with the £1,300 DVDR 1000, launched in late summer and based on the Dutch giant's DVD+RW format. Compared to your average VCR, picture and sound quality is stunning, while instant access to specific recordings and rudimentary editing facilities take it a world away from cumbersome video tape. But it's very much a video recorder, designed to replace the VCR – it records audio in Dolby Digital 2.0, and isn't intended for music use.

## NEW FORMATS

Spurred by the popularity of MP3, the last two years have seen an explosion of new digital audio storage formats. Like MiniDisc's ATRAC, MP3 is a coding method able to reduce CD data to a fraction of its original size. It does this by discarding information deemed unnecessary by recourse to a psycho-acoustical model of human perception.

MP3 and newer alternatives like AAC and MP3 Pro, make it possible to download music from the net without staying online for days and racking up a huge phone bill. They also open doors towards an exciting range of new music media, with the potential to affect not just the way we obtain our music in the future, but also how it is stored and heard.

## SOLID STATE MEMORY

MP3-style technology has made real the dream of carrying music around on a microchip. Solid state music players use rewritable 'flash' memory, either built-in or via tiny memory cards, on which data-reduced music may be recorded from a PC. It could be music downloaded from the net or tracks 'ripped' from your shop-bought CDs, transferred to a data-reduced file format like MP3 and committed to memory for portable use. They're great for music on the move, thanks to an absence of moving parts, but memory cards are limited in capacity and too expensive to build up a collection as you would CDs or MiniDiscs. Prices are falling and capacities increasing however, and solid state cards are surely the future for the transference of pockets of data from one piece of hardware to another.

Equally, if you combine data-reduced files with higher capacity storage formats you create the ability to hold far greater amounts of music in one place...

## HARD DISC

Following hard drive-based video products like TiVo, hard disc kit for music storage is now firmly on the agenda. Products come in various shapes and sizes: some are portable units, able to store and organise hundreds of albums in units not much larger than a chunky CD personal. Useful for travelling, but you need a PC to compress your CD files and transfer them across. Meanwhile, other hard disc products are designed for permanent installation – complete music storage and playback devices designed to hook to an amp and speakers, like Imerge's

SoundServers and Linn's forthcoming Kivor. These don't require a PC and give the option of no compression for improved sound quality.

## MICROSOFT XP

In case you haven't heard, the twin digital worlds of the PC and the home entertainment device are converging. You can now use your PC (or Macintosh) to play CDs and DVDs, or obtain, store and play back entertainment media from the net.

New generation audio features form a major part of Windows XP, the latest version of Microsoft's PC operating system. It comes with Windows Media Player, a software player that includes a host of music management and playback options. You can add your own lyrics and album art, create music CDs via a CD writer and transfer audio files to portable MP3-style music players. It supports Microsoft's own WMA data compressed audio format as well as MP3.

Like Apple's iTunes software, XP makes it that much more enticing to use your PC as a way of obtaining, storing and playing back digital music. It's easy to organise tracks, record your own CDs and transfer music to other storage media like hard disc or flash memory devices. It's not hi-fi, but it's happening...

Across the next six pages are reviews of 18 digital recorders split into three sections – CD, MiniDisc and New Formats. Each section contains a mix of our favourites pitched against a variety of newcomers, chosen to represent the range of kit available for each format. To find your ideal recorder, turn the page now...

## BUYER'S BIBLE CD RECORDERS



### Denon CDR-M30

**£299.99** Micro CD Recorder

CD recorders don't have to be big and bulky. Designers of minis and micros have embraced CD-R/RW too, and nowhere will you find a better example than Denon's dinky CDR-M30. It was created primarily as a recording option for buyers of the brand's £300 UD-M30 ultra-micro system, pictured with it here. Together they form a complete CD playback and recording system, replete with radio tuner, amp and optional

speakers – stylish and discrete yet sufficiently entertaining to earn a Best Buy in our recent 'lifestyle' systems Group Test.

But the CDR-M30 is sold separately so its appeal is broader. Maybe you own a mini-width system (it's 21cm wide) from another brand and you want a CD recorder to go with it, or maybe you're just attracted by its crafted, jewel-like

visage, a breath of fresh air alongside bulky, often flimsy full-size recorders.

True, judged from such a viewpoint there is an element of style over substance. It's a little fiddly to use thanks to its attractively frugal controls, and it lacks the features and performance of the best of its full-size peers. But if you own a UDM-30, or even if you don't, this gorgeous little CD copier is good enough to warrant close attention. *Previously reviewed HFC 220* ★★★★★



### Harman/Kardon CDR 30

**£589.99** Twin CD Recorder

Harman/Kardon products have always looked distinctive. Clock the current range and chances are you'll either take to it instantly or balk at its unusual attire. Here at *HFC* we rather like the way it dares to be different without overcooking the flamboyance, a trait exemplified by the CDR 30's twin-tray symmetry.

Recorders like these are the CD equivalent of twin cassette – one side plays, the other plays and records, ideal for CD-to-CD copying without a separate CD player. This H/K deck is one of considerable bulk and better than average build quality. It's a touch pricey compared to feature-strewn alternatives like Pioneer's PDR-W839, but the design quotient is high and you get a feeling of class unmatched by more flimsy alternatives. Neat touches include MP3 decoding, front-

mounted digital inputs, lots of analogue/digital socketry round the back and a nifty remote, though fascia-mounted controls are a bit fiddly.

There's no doubt this is a good quality one-box copier, but it's let down by indistinct playback quality – a serious consideration for anyone considering this sort of deck. Plenty of merit then, but overall, its performance falls somewhat short of its price. ★★★★★

### Marantz DR6000 **£399.90** CD Recorder

Unfortunately, a feature common to a lot of CD recorders is poor playback quality, even if they are capable of excellent recordings. That might not matter much if you already have a good quality CD (or DVD) player that works with CD-R/RW discs. But what if you want your recorder to play discs as well as it records them? Then Marantz's DR6000 is an obvious choice. Its playback circuitry is based on the excellent CD6000 player, an *HFC* Best Buy at £250, and the similarities encompass both looks and performance. Compared to most CD recorders its sound is both refined and agile, whether you're playing back a pre-recorded CD or one you've made yourself.

OK, so it's a little laid-back compared to a good £400 or £500 playback-only machine, but you're also getting a superb CD recorder, excellent at CD duplication and adept at recording from analogue

sources. Build quality is excellent, the display's informative and the controls are neatly laid out, all of which makes the DR6000 a joy to use – as does its performance. So if you want a CD recorder that plays as well as it records, look no further.

*Previously reviewed HFC 218* ★★★★★







## Philips CDR 600

**£229.99** CD Recorder

Philips invented CD, so it's no surprise to find the Dutch giant at the heart of the recordable version. It was the first to launch audio hardware compatible with rewritable CD-RW discs and the first to bring prices below £300 – not surprising when you consider Philips is in the enviable position of supplying mechanisms to competing brands.

The CDR 600 is the company's latest low-cost machine, a replacement for the CDR 770 it sports spruced-up, conspicuously Sony-esque aesthetics, even if the controls are a bit fiddly. The brand no longer sells playback-only machines, so this also serves as its entry-level CD player. Philips believes recordability is at the heart of CD's future – after all, you wouldn't buy a playback-only tape deck, would you?

Low cost it may be, but the CDR 600 is fully featured and simple to use. It makes great recordings from digital sources, its sample rate conversion bypass for 44.1kHz material helping to ensure CD copies are difficult to distinguish from originals. However, playback quality is soft-centred – if you want your recorder to play CDs as well as record them there are certainly better alternatives available. ★★★★★



## Pioneer PDR-609

**£279.99** CD Recorder

Pioneer has been one of recordable CD's most prolific protagonists. It was the first brand to introduce an affordable CD-R deck for consumers in the mid-1990s and has since been responsible for some of the most impressive recorders around.

The PDR-609 is a case in point. It's well built for a low-cost machine, though compared to Philips'

CDR 600 its business-like layout may take longer for first time CD burners to get to grips with. But after a couple of goes it becomes intuitive, whether making a one-touch CD copy or getting more involved with digital/analogue recording levels and CD text entry.

It's as well-featured as any CD recorder at the

price, but it's the PDR-609's performance that sets it apart: thoroughbred burning from digital sources and better than most with analogue – a top choice if you want to archive your vinyl or record from FM radio. Add a decent standard of playback and you've got a clear Best Buy. *Previously reviewed HFC 218* ★★★★★

## Pioneer PDR-W839 **£350.00** 3-CD Autochanger/Recorder

Here's an all-singing, all-dancing alternative to standard single and twin deck configurations. It's packed to the gunnels with gizmos: on the left is a three-disc CD autochanger, on the right a single disc CD recorder. Load up a selection of discs and you can play music for hours without ever shifting from the sofa. Or programme in a disc's worth of tracks from your three-CD selection, load up a CD-R (or CD-RW), allow to burn for around 74 minutes – half that if you're using double speed recording – and you've cooked yourself your own CD compilation. Tasty!

Controls are neatly laid out and impressively clear for such an internally complex beast, operation made even easier by touches like the "REC THIS" button – if you hear something you like, hit this and it'll re-cue and start recording automatically. Playback quality is below that of Pioneer's single disc PDR-609, as is recording quality – from analogue sources in particular. But

CD-to-CD copies are still hard to discern from the original and for fans of multiplay it's an exceptionally neat one-box solution. *Previously reviewed HFC 218* ★★★★★



**Panasonic SJ-MR220**

**£179.99 Personal MiniDisc Recorder**

The battle to produce the smallest recordable MiniDisc personal is an ongoing conflict between Panasonic, Sharp and Sony. At the time of writing this latest model has snatched the crown back for Panasonic, being just a slither smaller than Sharp's MD-MT888 and remarkably light to boot. But despite its size it packs in all the current gadgets, including MDLP – an 'extended play' mode which lets you double or quadruple the recording time, albeit with some loss of quality.

To our eyes this Panasonic lacks some of the designer appeal of the Sony and Sharp models, but though its in-line remote lacks a display its control system is well honed. Recording quality is good and playback is impressively detailed, though it lacks the weight and punch of the Sharp. It's actually at its best with classical or jazz, when its deft touch comes to the fore. If you're

more into rock or dance – and let's face it, that includes most MD users – you'll get greater satisfaction elsewhere. But at £180 it's undeniably good value...



**Sharp MD-MT888H**

**£229.99 Personal MiniDisc Recorder**

Sharp's always been nifty at making MiniDisc personals and this little beauty's got to be the best yet. It's small and light yet solid, with a straightforward control layout and arguably the best in-line remote of the three top-line personals included in this feature – especially if the thought of a little fish swimming across the display floats your boat. Sharp's comprehensive package also supplies a stereo cable for playback through a hi-fi system and an optical wire for recording digital sources, along with the usual in-ear headphones, carry bag, rechargeable battery, and a neat recharging stand.

As MD personals go, there's very little to criticise. The main four-way control pad is a touch creaky and, snazzy though the MT888H is, we reckon Sony's range-topper has the edge on looks. But you really can't fault the Sharp's performance – big and bold, somewhat forward but always entertaining, with effective bass boost to boot. Recording quality is well up to scratch and it supports MDLP (long play) too, but if you want to make the most of its sound, get some better headphones. ★★★★★

**Sony MDS-JE770 £259.99 MiniDisc Deck**

One of Sony's latest, this separates deck is the embodiment of all that's cool about MiniDisc. It's smartly attired, with enough buttons and dials to satisfy the avid control freak, yet it avoids the kind of front panel clutter that can make MD's facilities a daunting prospect for anyone used to the clunky world of the cassette deck. Consequently, the MDS-JE770's ocean of editing functions are a cinch to navigate, whether you're rearranging tracks on a compilation, altering pitch, splicing tracks together, naming track groups... The things you can do with a recording after it's been made are among MD's greatest assets.

And the facilities don't stop there. MDLP lets you fit more music on a disc, and with an optional kit you can hook a PC to a front-mounted PC-Link socket – then you can transfer audio files like MP3s to MiniDisc for playback on any MD player. Recordings from CD are punchy and articulate, lacking some of the original's air and detail yet closer to the quality of CD-R than MD's detractors might think. If you're an avid compilation builder and you're into MD, this is one home deck that's worth every penny.

Previously reviewed HFC 219 ★★★★★





**Sony MDS-JA333ES £599.99 MiniDisc Deck**

There are those among the hi-fi fraternity that don't take MiniDisc very seriously. It's a gimmick, they say. A toy best left to mini systems and personal stereos, not sharing rack space with serious hi-fi components.

Sony would beg to differ. Building a MiniDisc deck with a £650 price tag is a bold statement – after all, any component for that sort of money has really got to deliver the goods. Can MD mix it in that kind of territory? Well yes, on the evidence of the MDS-JA333ES it can. Along with the older MDS-JA555ES, it was built to show how much Sony could squeeze from its diminutive mass-market format if cost constraints were loosened. And the results might just send one or two dissenters reeling. For a start it looks and

feels the part, with the solidity and visage of serious kit. All the latest features are on board: the full gamut of editing facilities, MDLP, front-mounted PC-Link socketry and so on. But the really impressive thing is its recorded sound – it comes very close to the fidelity of a bit-for-bit CD-to-CD copy, and you get the flexibility of MD to boot. But the difference between this and the MDS-JE770 isn't *that* great, and you do pay a lot for the privilege... ★★★★★

**Sony MZ-R900 £229.99 MiniDisc Personal Recorder**

It may be a smidgen larger than slightly more recent models from Panasonic and Sharp, but to my mind Sony's current range-topper is still the most sexy. Its pocket-size design screams gorgeous gadget from each silky surface, its new generation Walkman script and carefully clustered controls adding to the effect.

In the tradition of Sony's MD personals, it's as well executed inside as it is out. It comes with a barrel-shaped in-line remote and a pair of in-ear headphones, along with the usual rechargeable battery, mains adapter and carry case. It's easy enough to use, though those natty controls are perhaps a mite fiddly, and recording tracks off CD is a cinch: hook to a CD player's optical output with the cable supplied, press a couple of buttons and you're away.

Recording quality is excellent for a personal; difficult to distinguish from those made on a decent low-cost MD separates deck. Playback quality is good – detailed and notably adept with vocals – but it lacks a bit of the Sharp's fulsome spirit. And as usual, you're best swapping those in-ear 'phones for something better. ★★★★★



**Sony MXD-D40 £329.99 MD/CD Deck**

Here's a box of tricks for those who fancy a MiniDisc recorder but don't already own a CD player to record from. It's a CD/MD hybrid – one half CD player, the other half a fully functioning MD deck. Just add amp and speakers!

It's a neat solution, especially if you're pushed for space and strapped for cash, but inevitably it's a bit of a compromise. There's a decent roster of facilities, including all the standard MD editing functions, but you don't get newer features like MDLP for extended recording time, track grouping, text entry or a front-mounted PC-link socket. It falls short on sound quality too, particularly from CD – though reasonably detailed, it sounds thin and shut-in alongside a good stand-alone player in the £200 region. MD recording and playback quality is pretty good, though, with a sprightly performance that should satisfy plenty of punters with general pop/dance fare.

In many ways it's a clever beast, with a nifty control system that makes it

easy to build MD compilation discs from CD. But if performance is an important part of your system-building aspirations you'll find this mutant a compromise too far. ★★★★★



## Philips eXpanium EXP401

**£149.99** Mini MP3-CD Personal

Remember those little 8cm discs some CD singles used in the 1980s? Now they're back courtesy of Philips, but this time in recordable CD-R/RW guise. They're two-thirds the diameter of regular CDs, cost around £5 for five and can store up to 185Mb of digital data, which equates to about 21 minutes of CD-quality music.

But the real potential here is for MP3 and internet downloads. Most MP3 personals use solid state memory (see Intel and Samsung), but flash memory cards are still expensive and limited in capacity. You can always burn your MP3s onto regular CD-Rs, but they're bulky for portable use. The 8cm variety is much more compact, and you can squeeze on several albums' worth of music using a compressed format like MP3. And they'll play back on any CD or DVD player with the requisite on-board decoding.

Philips' EXP401 is the first suitably dinky CD personal designed to play only these 8cm discs. It incorporates MP3 and AAC decoding, but there's no PC software for encoding and track management so you'll have to ensure you've got some. Then all you need is a reasonably up-to-date PC or Mac with a minimum 8x CD writer, so you can 'rip' tracks from your own CDs or download from the net, then transfer to 8cm disc. The EXP401 is smaller than an ordinary CD personal, aesthetically challenged and a bit dull-sounding, but pretty neat nonetheless. ★★☆☆☆☆



## Intel Pocket Concert

**US\$249.99 (£170 approx)** Solid State MP3 Personal

Like all solid state personals, this model from Intel's consumer electronics division relies on audio compression formats like MP3 so a useful amount of music can be stored in flash memory. That means tiny, unshakable personal stereos with no moving parts, but even with compressed files the amount of music you can store is usually quite limited. A lot of models only have a 32Mb memory, which means about 30 minutes at a decent quality 128Kbps bit rate, and even with 64Mb memory you can only hold about an hour's worth of music.

This Intel is different. As far as we know, it's the first model with a 128Mb memory, which means around two hours of music at 128Kbps, more if you can put up with lower bit rates. It also incorporates an FM radio and a better than usual amp – the trade-off is a little more bulk than some and a relatively high price tag.

Included in the pack is a pair of back-band headphones and a CD-ROM containing comprehensive support software for PCs. Whether you're ripping your own CDs or using tracks you've downloaded from the net, anything you transfer from your PC to the Intel sounds unusually solid and substantial. In fact, this may not be the prettiest solid state personal and its price is a touch high, but it's the best-sounding one we've heard to date. ★★☆☆☆☆

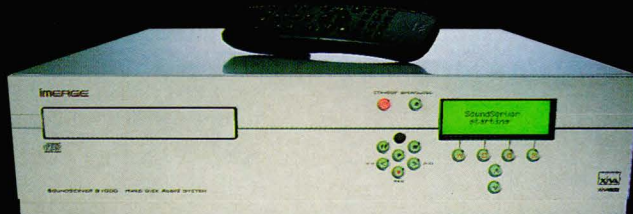
## Imerge M1000

**£2,987-£20,000** Hard Disc Sound Server

Of all the companies currently advocating hard disc storage as the future of home audio, Imerge is shouting loudest. Its multi-room M1000 SoundServer has been on the market since last November and was recently joined by a single room version, the £1,200 S1000. But it's in multi-room applications that the concept makes most sense, so we'll stick to the M1000 here.

Inside its metal box lies a computer with dedicated audio management software and a hard disc, the capacity of which depends on the specification you choose. Similarly dependent is the number of zones your model handles – the entry-level £3,300 unit will supply two zones and has a 45Gb hard disc.

Feed it your CD collection one by one and copy the contents to hard drive – it takes about one-sixth of real playback time. You can then lock away your CDs and pipe different music from the hard disc to separate zones in your house. You can choose whether or not to compress the data – uncompressed



means optimum sound but you can store many times more music if it's compressed. Uncompressed, you're talking around 80 hours on a 45Gb disc.

Connect the M1000 to the net and its web-driven XiVA interface downloads artist and track information and classifies by genre. XiVA is a fluid concept and its capabilities will grow, but right now the M1000's problem is sound quality – even uncompressed it can't match a decent sub-£500 CD player. But it's a heck of a lot more sophisticated. ★★☆☆☆☆

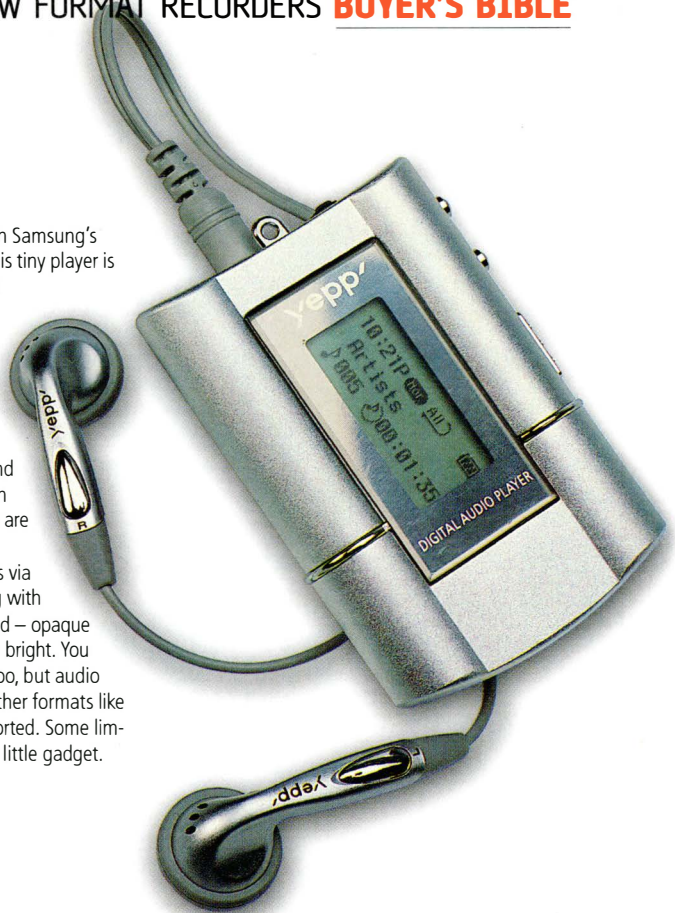
### Samsung Yepp YP-30S

**£199.99 Solid State MP3 Personal**

Packed in a natty transparent tube, the latest personal arrival in Samsung's solid state Yepp range is the embodiment of high-tech cool. This tiny player is smaller than a box of Swan Vestas and almost as light and will slip easily into a shirt pocket. Trouble is, if Samsung had its way you'd actually be wearing it strapped to your arm instead. Fashionable in Korea perhaps, but probably best ignored over here.

In the box, or rather tube, you'll find a pair of in-ear headphones, a USB cable for computer connection and software for PC and Macintosh (we'll forget the armband, neck strap and belt clip). It has a 64Mb built-in memory, so you can squeeze in an album and then some at a decent quality bit rate, but there are no card slots for future memory expansion.

The software includes a 'ripper' so you can convert CD tracks via your computer's CD drive and transfer them to the Yepp, along with tracks from the internet. Playback quality is good – opaque but punchy and not unpleasantly bright. You can use it as a voice recorder too, but audio files are restricted to MP3 – other formats like WMA and AAC are not supported. Some limitations, then, but still a nifty little gadget.



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### Thomson Lyra Personal Jukebox

**£299.99 Portable Hard Disc Jukebox**

The latest in a motley line of hard disc-based portable audio products to hit the market, this Lyra is perhaps the most polished to date. Its rectangular shape is reminiscent of a chunky '80s cassette personal, rather weighty but also reassuringly sturdy and still small enough to slip into a bag.

It's got one of the largest storage capacities of any such product with its 10Gb hard disc. That would normally mean something like 150-200 album-length CDs in MP3 form, at a decent quality 128Kbps bit rate. But this unit also supports MP3 Pro, a new version of MP3 created by French firm Thomson and original developer the Fraunhofer Institut. It's claimed to offer sound quality equivalent to MP3 from files that take up half the space – using MP3 Pro you should be able to store a whopping 300 hours of music on the Lyra!

In practice the controls are a little fiddly but reasonably logical, and after a little practice its menu system proves easy to navigate. Sound quality is very good for a portable – clear and substantial, helped by an effective graphic equaliser control and a half-decent set of back-band headphones; use a good hi-fi pair and it's even better. It comes complete with a protective case, a cassette adapter for in-car use, USB cable, rechargeable batteries, MusicMatch PC software and basic interconnect cables for hi-fi hook-up.



### Yamaha CDR-HD1000

**£699.95 CD-R/Hard Disc Dual Deck**

Here's a smart use for hard drive technology – a hybrid audio deck combining a recordable CD drive with a 20Gb hard disc. The result is a wealth of music recording options for the end-user. First, you can record a CD from an external source, as you can on a regular CD recorder. Second, you can slip a CD into the CD-RW tray and transfer it to hard disc. There's no option for data compression so you can only store around 30 full-length discs, but the pay-off (theoretically) is bit-for-bit cloning.

But it's the third option that really gives the CDR-HD1000 its USP as a hi-fi separate. Because hard disc is a flexible, non-linear, infinitely rewritable storage medium, it's possible to incorporate MiniDisc-style editing functions not available with conventional CD recorders. That means you can load up a bunch of CDs to hard disc, create a compilation, rearrange tracks and add text before transferring the whole thing to CD-R for permanent storage. Genius!

Despite the makeshift manual supplied with our sample, it's a doddle to use and



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it's quick too – transferring from CD to hard disc is ten times faster than normal playback, hard disc to CD-R is eight times faster and hard disc to CD-RW four times faster. Sound quality is OK rather than spectacular, with playback from both hard disc and CD a little thin and splashy compared to a good £200 or £300 CD player. It's expensive too, but Yamaha deserves credit for successfully implementing such complex PC technology in a well-executed audio recording product.



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# CONCLUSIONS

TIM BOWERN SUMS UP THE APPEAL OF DIGITAL RECORDING



**T**echnical advance breeds ever-increasing choice for the end-user – more formats, more applications, more decisions to be made. For the music fan wishing to make his own audio recordings the choice used to be simple – you used cassette, or if you were really serious and portability wasn't an issue you might plump for reel-to-reel tape. But the digital era has radically changed things and the choice can seem daunting.

You need to identify your priorities, then you can choose the format and the product that best suits your needs. For example, if your chief criterion is sound quality, particularly for making recordings from existing CDs, then you need a CD recorder. Equally, you might plump for a CD recorder because you want to play your recordings on other CD players, or just because you like the thought of creating a better CD compilation than the ones in the shops!

MiniDisc might be a lower priority for those who want the highest quality home recording, but there are those for whom

its unique list of attributes are spot on. Compilation builders may find its editing facilities a boon, and for portable use it stomps all over CD – it's much smaller and more robust, and its slightly inferior sound quality is less of an issue on the move than it is in a good system in the quiet of home. Personally, I use both recordable CD and MiniDisc for their own particular attributes – I make compilations to play at home on CD-R, and transfer things to MiniDisc via my personal recorder so I can take my music wherever I go.

As for the other, newer, digital audio recording formats their appeal is currently more specialised. If you're a PC/Mac user and you're into your MP3 and music downloads you may well want a 'portable music device' to 'save' them to, so you can carry them around. If so, solid state personals are the smallest and lightest music portables available. But for the average music fan they're not the

most convenient – you have to boot up your computer every time you want to record new music, and you can only fit on ten or 15 tracks at a time. If you want something new you'll have to return to the computer and wipe something off to fit more on.

You get no such storage limitations with hard disc, but the portable units still need a PC so you can transfer music across. If you like the idea of storing and playing hundreds of albums in a single baggable box then these are the devices for you, though sound quality isn't great for general domestic use through a hi-fi system. The same tends to be true of the full-size hard disc music servers available thus far, but this kind of device will become an increasingly important way of storing and distributing entertainment content around the home. And in particular, Yamaha's hybrid application points to some interesting products to come in future...

**"IF YOU LIKE THE IDEA OF STORING HUNDREDS OF ALBUMS IN A SINGLE BOX, HARD DISC IS FOR YOU."**

## DIGITAL RECORDERS AT A GLANCE

CD Recorders			MiniDisc Recorders			New Format Recorders		
MAKE/MODEL	PRICE	RATING	MAKE/MODEL	PRICE	RATING	MAKE/MODEL	PRICE	RATING
Denon CDR-M30	£299.99	★★★★☆	Panasonic SJ-MR220	£179.99	★★★★☆	Imerge M1000	£2,987.00 upwards	★★★★☆
Harman/Kardon CDR 30	£589.99	★★★★☆	Sharp MD-MT888H	£229.99	★★★★☆	Intel Pocket Concert	£170 approx	★★★★☆
Marantz DR6000	£399.90	★★★★☆	Sony MDS-JE770	£259.99	★★★★☆	Philips eXpanium EXP401	£149.99	★★★★☆
Philips CDR 600	£229.99	★★★★☆	Sony MDS-JA333ES	£599.99	★★★★☆	Samsung Yepp YP-30S	£199.99	★★★★☆
Pioneer PDR-609	£279.99	★★★★☆	Sony MXD-D40	£329.99	★★★★☆	Thomson Lyra Jukebox	£299.99	★★★★☆
Pioneer PDR-W839	£350.00	★★★★☆	Sony MZ-R900	£229.99	★★★★☆	Yamaha CDR-HD1000	£699.95	★★★★☆

**CONTACTS** DENON 01234 741200 HARMAN/KARDON 020 8731 4670 IMERGE 01954 783600 INTEL 01793 403000 MARANTZ 01753 680868 PANASONIC 01753 789500 PHILIPS 0208 665 6350 PIONEER 01753 789789 SAMSUNG 0800 521652 SHARP 0800 262958 SONY 08705 111999 THOMSON 01732 520920 YAMAHA 01923 233166

# PRO-JECT

## Debut II Turntable £109.95

"The original Debut turntable romped away with a Product of the Year Award in 1999, and the MKII version continues the extremely good work. It's a simple affair, that's easy to set up, but don't let the price fool you - it sounds a whole lot more expensive than that. This is a fine turntable, and it clearly reveals the benefits of listening to vinyl, with a rich and detailed soundstage, and a good dynamic response.



It's available in six funky colours, so you should find one to suit your decor, and at just a smidge over £100, you can have no excuse not to keep that old vinyl collection in employment for a good few years yet." ★★★★★ What Hi-Fi? | Awards 2000

## marantz® DR6000 CD Recorder £349.95

"Most CD recorders make excellent copiers but are less than brilliant as plain CD players. Not so this Marantz: the DR6000 is a recorder you can also use as your main CD player, using your existing machine as a source for recording, for unless you have a very good machine in the £400+ league, chances are the Marantz is going to outperform it.

Whether playing its own recording or standard CDs, the DR6000 sounds big, confident and highly detailed, delivering a sound with real presence and few sonic foibles. Fast rhythms are delivered with terrific conviction, and the way the Marantz digs out detail of percussion and brass instruments knows no rival at the price. What's more, recordings made on this machine have bags of punch and impact, sounding virtually identical to the original discs.

The work that has gone into making the Marantz a good CD player has resulted in a fine recorder that also earns its keep as a system upgrade. No, it's not the least expensive recorder around, but it's one of the best, and worth every penny." ★★★★★ What Hi-Fi? | Awards 2000



## Turntables, Tuners and Recorders

Denon TU260L MKII Tuner	£119.95
Linn LP12/Basik/Akito Turntable	£1749.95
Michell Gyro SE Turntable inc RB300	£974.95
Pioneer MJ-D508 MiniDisc	£179.95
Pioneer PDR609 CD Recorder	£199.95
Project Debut Phono Turntable	£139.95
Sony ST-D777ES AM/FM/DAB Tuner	£449.95
Sony MDS-JE770 Mini Disc	£229.95
Yamaha KX393 Cassette Deck	£119.95
Yamaha KX580SE Cassette Deck	£199.95
Videologic DRX-601E DAB Tuner	£299.95

Sevenoaks Pricing Policy  
see page six for details



## Videologic DRX-601ES Digital Tuner £349.95

"New name, new format, new winner: the Videologic story is as simple as that. The £299 DRX-601E digital tuner came out of nowhere to establish the firm as a major player in the digital tuner market. With this upgrade, Videologic goes one step further: it's still a DRX-601E at heart, but quite apart from the sleek silver styling and sexy blue LEDs it now has a better, white-on-blue display, and what the company calls 'Psycho-acoustic Compensation' - a form of signal processing designed to make the tuner sound less digital.

And it works: the DRX-601ES has a presentation that's rich, clean and extremely informative. Bass is big and powerful, while the midband and treble are well controlled. The style alone would justify the slight price rise; the sound quality makes it a Product of the Year."

★★★★★ What Hi-Fi? | Awards 2001



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### CD Selection

Arcam DIVA CD92T	£849.95
Arcam FMJ CD23	£1099.95
Linn Ikemi	£1949.95
Marantz CD5000	£149.95
Marantz CD6000 OSE LE	£299.95
Meridian 588	£1949.95
Musical Fidelity NuVista 3D	£2999.95
Marantz CD17Ki Signature MKII	£1199.95
Sony SCD-XA333ES SACD	£1099.95
Sony CDP-XE570	£119.95

0% Finance Option  
see page six for details



**DiVA CD72T CD Player** £399.95  
**DiVA A85 Integrated Amplifier** £749.95

**ARCAM** *DiVA CD72* "The CD72 will have you jumping out of your seat from the very first notes. Both powerful and punchy, it delivers every ounce of air and detail present from detailed midrange to smooth, singing treble. Sometimes a product comes along that sets new standards..." ★★★★★ What Hi-Fi? | Awards 2001

*DiVA A85* "You'll have realised by now that we rather like this amp. It took us completely by surprise, and further strengthens Arcam's already impressive product range... The A85 is superb, and we can't wait to put it up against its peer in a group test." ★★★★★ What Hi-Fi? | March 2001

## MISSION

### 78 Series

**782** bases its performance on a 165mm Nomex bass unit fitted to a reflex enclosure ensuring excellent low frequency extension from a graceful and compact cabinet. The **783** houses a larger 200mm bass unit with massive motor system, capable of floor shaking, yet tightly controlled low frequency extension. Both use Keraform midrange drivers for outstanding clarity and midrange detail coupled to superb dynamic range together with Mission's silk dome tweeter.

The **780** and **781** are the pinnacle of Mission's research into creating a three dimensional soundstage, extensive bandwidth and dynamic range from the smallest possible cabinet dimensions. The **780** is massive in its sonic capabilities. Its 130mm Keraform bass unit is carefully matched to a novel reflex enclosure for full bodied bass extension, the qualities of Keraform produce a dynamic and ultra detailed midrange. In the **781** a 165mm Keraform driver takes advantage of a larger cabinet to extend bass performance and increase efficiency whilst maintaining that superb midband transparency and finely detailed treble.

**780** "Versatile and with a sound that works well with a wide variety of hi-fi kit, these speakers were worthy of this title last year, and this year have achieved the tough task of making it the double." ★★★★★ What Hi-Fi? | Awards 2001

## marantz®

**CD6000 Ki Signature CD Player** £449.95  
**PM6010 Ki Signature Amplifier** £349.95



**CD6000 Ki Signature** "The result is a player of real power and grace, and one that sounds dynamic, exciting and fresh. Rhythms are tight and clean while the live atmosphere of discs is conveyed with a real 'you are there' feeling. Even massive scale and weight isn't beyond the Marantz: it delivers all the bass your amp and speakers can handle without ever drowning out the high stuff. The audiophile bargain of the Nineties is back, and it's even better!." ★★★★★ What Hi-Fi? | Awards 2000

**PM6010 Ki Signature** "Yes, this is the most expensive amplifier in this group, but provided you like its bright yet weighty, detailed yet wide-open sound, it's still something special." ★★★★★ What Hi-Fi? | September 2001

Please Note: Some products may not be available at all outlets.  
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**CD Players**  
Best Buy £501-£800

CYRUS

**CD7 CD Player** £799.95  
**7 Integrated Amplifier** £699.95

**Cyrus 7 CD** "This player is just as convincing with thundering orchestral strings and brass, making a great job of Bernstein's recording of *Mahler's Symphony No 5* and it has the definition to unravel the instrumental strands in the Kronos Quartet's disc of Phillip Glass string quartets... It's that that makes it special - and this is a very special player indeed." ★★★★★ What Hi-Fi? | November 1999

**Cyrus 7 Amplifier** "This is a fabulous amplifier. It's fast, punchy and has bags of power on tap but crucially delivers huge sackfuls of subtlety when the music requires. Some of the other amplifiers in this group may be better with particular genres of music but as an all-rounder it takes some beating." ★★★★★ What Hi-Fi? | November 1999



**LINN**  
**Genki CD Player** £994.95  
**Majik Line Amplifier** £694.95  
**Katan Speakers** Maple £634.95

**Genki** "Tempting though it is to think of Genki as a Glaswegian word, it's actually Japanese, and the nearest definitions we could find involve vitality, vigour and spirit. And used as adjectives, these words go a long way towards describing the sound of the Genki, which always manages to communicate the music first and foremost, and let the rest of the hi-fi thing look after itself.

It's a very well-thought-out player, too, from its clear and simple control layout to the provision of four sets of analogue outputs, two at fixed level, and two with level control. Completing the package is a 24-bit Burr-Brown DAC and Pacific Microsonics HDCD filter.

Few owners will worry about all that stuff, however, as they'll be too busy enjoying the way Genki plays music, its purity of tone and sense of drama on Mozart's *Don Giovanni* being a fine example of its talent.

By any standards this is a superb player, and not just one for the army of Linn enthusiasts." ★★★★★ What Hi-Fi? | March 2000

**Majik** The Linn Majik is a sophisticated control amplifier complete with on-board stereo power amplifiers. A core entry-level product for powerful and flexible control of hi-fi, video or multi-room installations. "Sneaky" add-on modules expand its functions. It can accommodate many source components. The Majik is available in two versions: The 'Phono' version has five line-level inputs and one Moving Magnet phono input and the 'Line-level' version has six line-level inputs.



The **Katan** loudspeaker is an attractive, compact, two-way bass reflex loudspeaker. The Katan offers pitch accurate sound quality with substantial power handling, and it outperforms the similarly-sized and award-winning Tukan.

**Speaker Selection**

<b>Acoustic Energy</b> Aesprit 300	<b>£399.95</b>
<b>B&amp;W</b> DM303	<b>£179.95</b>
<b>B&amp;W</b> DM601S3	<b>£249.95</b>
<b>Cyrus</b> CLS50 (Black)	<b>£449.95</b>
<b>KEF</b> Q3	<b>£399.95</b>
<b>Mission</b> M71	<b>£129.95</b>
<b>Monitor Audio</b> Silver 8i	<b>£699.95</b>
<b>Ruark</b> Epilogue II	<b>£344.95</b>
<b>Wharfedale</b> Diamond 8.1	<b>£119.95</b>

**Sevenoaks Pricing Policy**  
see page six for details



The CDM™NT series from B&W combines the unbeatable sound purity of their highly acclaimed Nautilus 800 Series and the classic looks of their predecessors, the CDM SE. Complete in both looks and sound quality, this is one of B&W's finest loudspeaker ranges to date. The CDM™NT Series is available in a choice of beautifully finished real wood veneers.

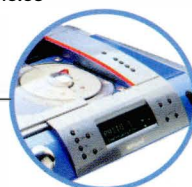


**Loudspeakers**  
Best Buy £601-£1000

**CDM™ 1NT** £749.95

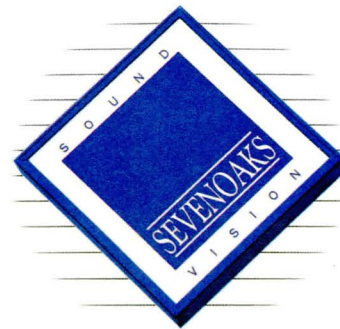
"Here's a great example of trickle-down engineering, in that all of the technology of B&W's £1400 Nautilus 805s has been transferred to the CDM 1NTs... The CDM 1NTs are superbly built for their class. Their insight and resolution are simply terrific, ensuring levels of precision and clarity no rival in their class can match." ★★★★★ What Hi-Fi? | Awards 2001

**CDM NT Series:**  
CDM 7NT £1249.95, CDM 9NT £1799.95  
CDM CNT Centre £399.95  
CDM SNT Surround £749.95



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### Amplifier Selection

Arcam DIVA A65 Plus Integrated Amplifier	£349.95
Arcam DIVA A75 Plus Integrated Amplifier	£449.95
Arcam FMJ A22 Integrated Amplifier	£999.95
Linn Kolektor Pre Amplifier	£494.95
Linn LK85 Power Amplifier	£494.95
Cyrus ACA7.5 Pre Amplifier	£699.95
Cyrus Smart Power Power Amplifier	£549.95
Marantz PM4200 Amplifier	£159.95
Musical Fidelity A3 Pre Amplifier	£999.95
Musical Fidelity A3 Power Amplifier	£999.95
Musical Fidelity NuVista M3 Integrated Amplifier	£2974.95

0% Finance Option see page six for details



### Caspian MKII CD Player £894.95

"If you can stretch to it, though, Roksan's Caspian the player to go for. Yes, it's the most expensive here, but no rival can touch it when it comes to bringing music to life - regardless of genre. And that's what hi-fi is all about." ★★★★★ What Hi-Fi? | May 2001



### A3 CD Player £799.95 Integrated Amplifier £849.95

#### MUSICAL FIDELITY

**A3 CD Player** "OK, so not everyone will be drawn to the styling, but when it comes to turning on the sonic fireworks, few players come even close at this price... A class act and a worthy winner." What Hi-Fi? | Awards 2000

**A3 Amplifier** "The A3 does a wonderful trick of conveying a great romantic sweep of music while at the same time delivering as much internal detail as anyone could possibly want... This is an amplifier capable of performing well beyond its price. We guarantee you won't be disappointed." What Hi-Fi? | Awards 2000



### MONITOR AUDIO

### Gold Reference Series

### GR10 Speakers Ex-Stands £799.95

"We like the GR10s a lot: Monitor Audio has long been making beautifully upmarket standmounters, and this new model is no disappointment." ★★★★★ What Hi-Fi? | August 2001

### GR20 Speakers £1499.95

"Monitor Audio has made an immensely accomplished pair of speakers in the Gold Reference 20. In sonic and physical terms there is little to criticise; even the price is highly competitive. We have no choice but to recommend them highly." ★★★★★ What Hi-Fi? | March 2001

### ROKSAN

Founded in 1985, Roksan's objective has always been to bring high-end specialist hi-fi to every home. Today with the Caspian range, that goal has been fully achieved.

### Caspian MKII Amplifier £794.95

"The Caspian has been around for a few years, but Roksan has developed it to a point where it now leads the class in all-round terms. In specific areas other amps equal it, but overall none can beat its combination of clarity, timing and dynamics. The Caspian is a worthy winner." ★★★★★ What Hi-Fi? | February 2001





## who are sevenoaks?

Founded as Sevenoaks Hi-Fi in the summer of 1972, the original shop, in the market town of Sevenoaks, Kent, quickly gained a reputation for offering a wide range of products at competitive prices, and providing excellent service.

Exciting new technologies like compact disc, meant that throughout the 1980's there was considerable interest in hi-fi and Sevenoaks were able to grow. By 1990, the company was established as one of the leading independent hi-fi specialists in the country.

More stores were opened and a number of the original shops were relocated. In 1995 the important decision was made to change the name to Sevenoaks Sound & Vision, reflecting the wide appeal of new audio visual products.

After twenty-nine years of trading, the company has more than forty outlets nationwide, and is for many of the UK's leading manufacturers of electronics and loudspeakers, their largest and most successful retailer.

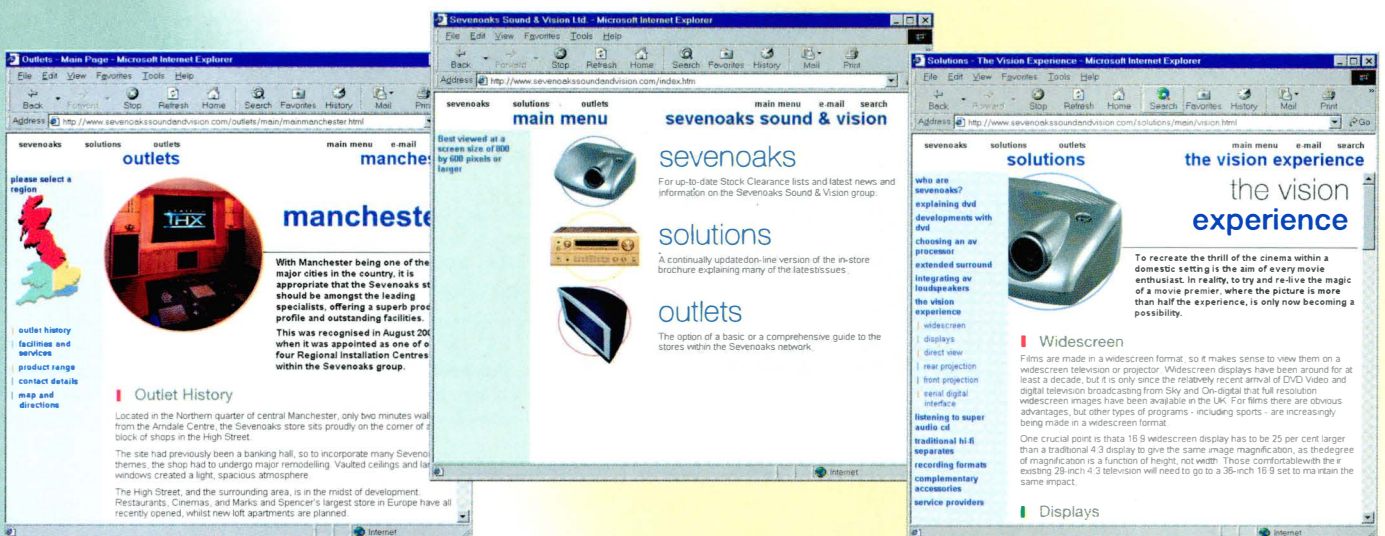
The people at Sevenoaks appreciate that customers have a choice. This appreciation has meant that over the years Sevenoaks have had to adapt. As new products and technologies have arrived, the staff have been trained to ensure that they can explain the issues, simply and informatively.

This orientation to customer service remains, and the implementation of a company charter is one example of this commitment.

By staying true to the original ideals of offering a wide range of the latest products, at competitive prices, and providing superb service in pleasant surroundings, Sevenoaks are able to listen, recommend, demonstrate and supply the products that best suit the needs of their many customers.

**As the world becomes a more complex place and people search for entertainment and relaxation, Sevenoaks Sound & Vision believe that whatever the requirement, they have the solution.**

# sevenoaks online



## www.sevenoakssoundandvision.com

The Sevenoaks Sound & Vision website has news and information on the Sevenoaks group and its 44 outlets nationwide. The website is designed to provide you with answers to the questions everyone has when buying new equipment.

The site has comprehensive guides to a range of products and technologies from vinyl, compact disc and audio accessories to all the latest formats, including DVD Audio, SACD, widescreen televisions and projectors.

There are regularly updated stock clearance lists with hundreds of products on offer and detailed pages to help you locate your nearest store.

For unbiased advice and information, just click on [sevenoakssoundandvision.com](http://www.sevenoakssoundandvision.com).



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- Watford** 478 St Albans Road **01923 213533**  
watford@sevenoakssoundandvision.com **Open Sunday**
- Witham** 1 The Grove Centre **01376 501733**  
witham@sevenoakssoundandvision.com

## stock clearance

With more than forty outlets nationwide, the Sevenoaks Sound & Vision group stock and display a wide range of products. As technology delivers improvements in performance, so individual models and product ranges are changed or superseded. The preceding models are made available at a reduced price, for clearance. Visit our Website for an up-to-date list of the clearance stock, listed by outlet, within the Sevenoaks Sound and Vision group.

## 0% finance option

Spread the cost of buying. 0% finance option is available on the vast majority of products we stock. Please ask in-store for details.

## sevenoaks pricing policy

Whilst we do not claim always to be the cheapest, we try to ensure our prices are highly competitive. Take into account the expert advice, unrivalled product selection, demonstration facilities and excellent pre, during and after sales service and the lower price might not look such good value.

In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention. We will always endeavour to offer you the best deal.

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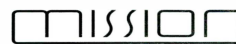
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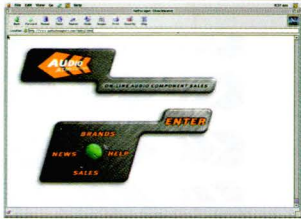
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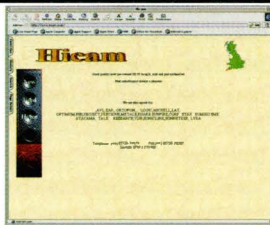
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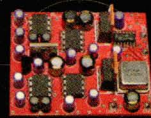
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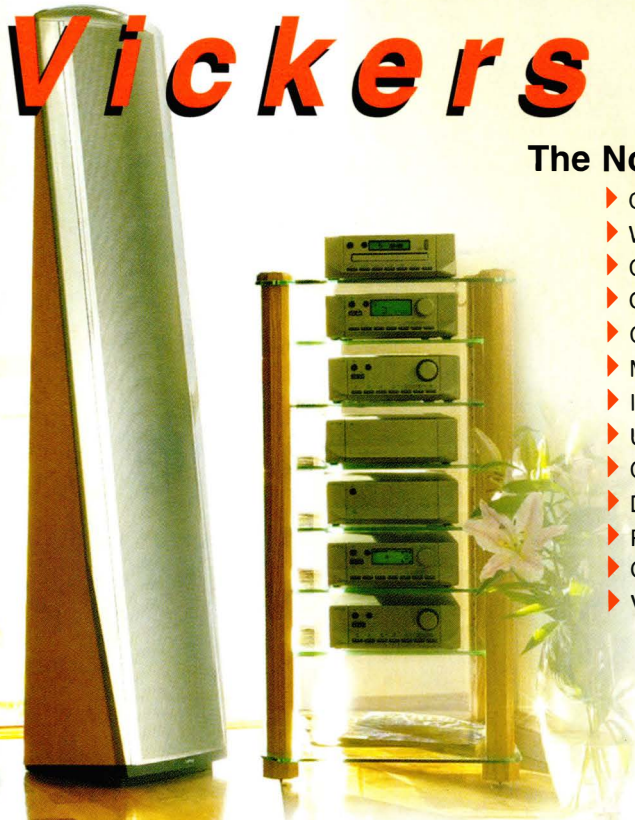
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## FOR SALE



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**TURNTABLES: PIONEER PL120**, £140. Technics 120DD SME 3MK ARM, £180. Power amp Creek A42, £70. After 3.30 01606 784 767.

**LEAK 3400 RECEIVER** in pristine condition. Wonderful analogue sound and excellent facilities. First to hear will buy, £100. Call 01992 572098.

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**MUSICAL FIDELITY A300 AMPLIFIER** – mint, £900 ono. Dynaudio Contour 1.3 MkII Birdseye Maple – mint, £850 ono. Yamamura M4000 speaker cables (3m) – vgc, £500 ono. Call 0208 543 5531 or email chris@marubeni.co.uk.

**LINN IKEMI CD**, little use, £1,450. No offers, no timewasters. Also Quad 34/306, serviced, £350 ono. Audiolab tuner 8000T tuner, £350. All items mint, boxed, one owner. Call 01482 842740.

**PAIR IMF TLS50 MK2** (transmission line) floorstanding speakers and stands. Excellent condition. Ash veneer. Best offer will secure. Buyer collects. Call 01787 269559 (East Anglia).

**THORENS 160BC TURNTABLE**, Haddock 228, hardly used Goldring 1042 (£120). Marked lid, but vgc, £140 ono. Call 01235 768606 (Oxfordshire)

**TAG MCLAREN 20 DAC**, as new £825. Pink Triangle Da Capo, £650, spare modules, £200. Mana 5-tier Reference plus soundstage, £550. Call 01363 83072.

**JAMO CONCERT 8 SPEAKERS**, Audiolab 8000 CD player, Audiolab 8000S and 8000PX amps. Will not split. £2,000. Call Tony 0208 598 9859 after 6pm or 07904 523340.

**AVI BIGGATRONS MONITOR** speakers, cherry finish, real wood veneer. Excellent condition, like new, only £390 (new £600). Move forces sale. Call 07812 157016 (Manchester).

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**SPEAKERS (2) BOSE STUДИOCRAFT** model 440, 100W rms 4ohm, 25hx15.5wx11.5d, £75. Also Beosystem 5500 radio, tape, CD, record, £450 or £500 to include speakers. Manuals for all. JVC CD35 portable tape player/recorder for collector, £15. Tel 01883 713898 (Oxted).

**NAIM NAIT 5 AMP**, upgraded with NAP 150 power amp and Flatcap 2 power supply. All connectors and cable receipts. Perfect condition, eight months old. Relocating. £1,600. 0207 924 5541 or 07775 893071.

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**KINSHAW OVERTURE** matched pre and power amps, rare and sought-after – can demo, £350. Tel 0207 284 2393 or 01494 762574.

**KEF KUBE** including A/C power adaptor or KEF 104/2 speakers. Call Alan 02892 663100 after 6pm.

**MICHELL ISO PHONO STAGE MC**, £150. Rotel Michi Passive Pre £350. 2 Caspian Power (Black), £300 each. JVC 3H Cass deck TD V662, £150. Call D Stevens, home: 0208 404 7610, mob: 07779 620247.

**CASTLE HARLECH SPEAKERS**, deluxe finish, mint, boxed, 15 months old, under warranty, cost £999, accept £395. Call 01904 708382 or 07762 360699.

**BURMESTER 785 PREAMP**, black, MC MM phono stage, superb quality, £395 ono. Call 01708 457691.

**RUSS ANDREWS SIX-WAY** Distribution Power Block. High current powerKord. Internally rewired with Kimber cable, the original BB winner. Will last a lifetime. Excellent condition, £190. Call 0208 200 0136.

**WILMSLOW AUDIO MICROBASS**, £100 ono. Call 0208 940 9397.

**LINN KEILIDH SPEAKERS**, walnut finish, excellent condition with granite plinths, £350. Tel Lee 01737 556760 or 07751 344348 (Sussex).

**SENNHEISER 565 OVATIONS**, mint, £75 ono. Musical Fidelity X10D, £65 ono. Sound Organisation turnable support £35, speaker stands, £30. Call 01572 771165 or 07941 838625.

## WANTED

**AUDAX HM170** carbon fibre drive units or similar HDA units, Audio Innovations P2 phono stage, Decca International arm, Newton valve pre-amp and power amps. 01642 594645 or email coffeolans@hotmail.com.

## 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 engineered down to a price. Do some research on which brands and products have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a second-hand hi-fi dealer, you're unlikely to get any warranty. So it's up to you to ensure the fitness of any gear that you buy. Products such as speakers should be less prone to breakdown than amplifiers, and amps should be more reliable than CD players. But any abused component could be troublesome – have a proper dem, and judge the seller as well as the goods!

# THE DIRECTORY

THE *HI-FI CHOICE* DIRECTORY ROUNDS UP OVER 1,000 PRODUCTS REVIEWED IN PAST ISSUES. HERE YOU'LL FIND OUR OPINIONS ON THE BEST HI-FI COMPONENTS, ALONG WITH GUIDANCE ON HOW TO ASSEMBLE THEM INTO FIRST-CLASS HI-FI SYSTEMS.

## THE ART OF SYSTEM BUILDING

HOW DO YOU GO ABOUT BRINGING TOGETHER AN IMPRESSIVE HI-FI SYSTEM? IT GOES A LITTLE LIKE THIS...

**W**hen it comes to putting together a great separates system, identifying decent individual components is fundamental, but it isn't the whole story. There is the business of system synergy to consider, which put simply means how well your components gel as a whole. The degree to which this can affect the end result tends to increase with price, thus budget components are relatively immune (a competitively priced Best Buy disc player, amp and loudspeaker pairing of almost any hue will combine to make a good system). When considering a purchase it's always good practice to listen to alternatives. It's the only way you can learn what different components sound like and find out which ones appeal to you.

So once you have shortlisted some components, the next step is to track down a knowledgeable dealer to take you through the options available. As well as getting the basic hardware right there is the question of which cables to use; should you stick with what comes in the box or pay extra for interconnects and speakers leads? We firmly believe that cables make a worthwhile difference, but if you are sceptical, any dealer should be able to demonstrate this for you.

And don't skimp on supports. The temptation is to use any old shelf or sideboard for system and speakers, but it's worth the outlay for speaker stands and proper system support.

## MAKING CONNECTIONS

WIRING UP A SYSTEM IS REALLY QUITE STRAIGHT-FORWARD IF YOU FOLLOW A FEW BASIC GUIDELINES.

- When bi-wiring (see glossary) with speaker cable you will sometimes need to connect two plugs to one socket on the amp. If the amp has a binding post connection you can usually put one plug through the hole that goes across the post and one in the end. If this is not possible you may need to use spade connectors or have both pairs of cables soldered into single plugs at the amp end.
- If a cable has an indication of directionality, ie if there are arrows on the casing, use these with regard to the way the signal travels. If there are no arrows you can try it both ways and see if you hear a difference or just route the signal in the direction of the writing on the cable jacket.
- In multichannel AV systems you may have the option of routing video signals via the amp, or bypassing it. The former option gives easiest functionality if you use several sources, but by bypassing you are removing a switch and connection which should improve quality.
- Try to avoid laying mains cables across or beside signal cables as the field they produce can have a negative effect.
- Try to keep all cable runs as short as possible (unless you use Naim, in which case refer to manufacturer's recommendations).

## AWARD TAGS

Whenever *HFC* reviews a group of like components we have the opportunity to give the best products a Best Buy or Recommended award. Best Buys are considered to offer an excellent standard of performance at an attractive price. Recommended products are first-class components losing out to Best Buy status only because of a higher price or less competitive overall sound quality.

A third award, the Editor's Choice, is reserved for those products reviewed solo, such as you see in the First Impressions or High Performance sections. An EC is awarded where the Editor is convinced that a product offers exceptional quality for the price.



# GLOSSARY

**5.1-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 (20-40Hz); 'mid-bass' the middle octave (40-80Hz); 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:** 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 give lower distortion.

**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.

**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.

**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 DD (AC3):** A compressed (10:1) digital audio format that typically contains five or more entirely discrete channels, eg 7.1 EX where discrete side 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, tweeter.

**DSP OR DIGITAL SIGNAL PROCESSOR:** Integrated circuit that handles the decoding of digital audio 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 4:1 compression ratio that, ostensibly, promises higher quality.

**DVD-A:** 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.

**FINALISE (CD-R):** The process of copying the Table of Contents from its temporary area on CD-R and CD-RW to

the final position where it will be recognised by ordinary CD players.

**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.

**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 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 psycho-acoustical 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.

**NETWORK:** see Crossover.

**OUTPUT IMPEDANCE:** A measure of resistance to alternating current, a source with low output impedance (say, below 100 ohms or so) helps ensure compatibility with most amplifiers, even when using long or unusual interconnect cables. A high impedance, especially in conjunction with an amplifier with a low input impedance (some are as low as eight kOhms, although the standard is 47 kOhms) can result in audible treble losses.

**PLL OR PHASE-LOCKED LOOP:** A technique by which a clock of defined characteristics is used to generate a new clock at a different frequency from the original, helping to stabilise the signal.

**PRESENCE:** 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:** High-resolution music-only format developed by Sony/Philips – offers 100kHz bandwidth without digital filtering and its associated ills.

**SAMPLE RATE:** The rate at which the musical waveform is sliced up into discrete chunks. For CD this is 44.1kHz or once every 0.023msec. 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, eg above 3kHz.

**TWEETER:** Treble driver.

**TWO/THREE-WAY:** Loudspeaker crossovers split the signal into two or three frequency bands, a 2-way 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.

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# AMPLIFIERS



## SPECIFICATIONS

### STEREO AMPLIFIERS – INTEGRATED

STATUS	PRODUCT	£	COMMENTS	LINE INPUTS	MM PHONO INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
	Affordable Valve Co. EL34	650	A real bargain on the face of it, but the sound is oh so soft, warm and old-valve. Too much of a good thing	4					40	202
	Arcam Alpha 7R	300	Decent, if slightly system fussy amplifier that no longer pulls all the right strings	5	●		●	●	45	196
	Arcam Alpha 8R	350	Workmanlike amplifier is well thought through, but is now beginning to show its age.	5	●		●	●	50	208
	Arcam Diva A65	380	Easy on the ear remote control amp, but not especially powerful.	5			●	●	40	217
BB	Arcam Diva A85	750	Much enhanced design topology give a more hard hitting, engaging sound than previous Arcams	7			●	●	85	214
R	Arcam Alpha 10	800	Although not the best sounding in its class, the Alpha 10's modular nature demands it be taken seriously	5			●	●	100	181
BB	Arcam FMJ A22	1,000	Powerful, articulate, and expandable into a home cinema or multiroom amp/controller	7			●	●	100	201
EC	ATC SIA2-150	1,984	An impressive sounding integrated amp with a dynamic, open and detailed sound	4			●		150	192
	Aria S2	1,000	Glamorously packaged valve amp produces a real eyes closed, feet up kind of sound	4					12	190
BB	Audio Analogue Puccini	450	Superbly finished, the entry-level Audio Analogue performs way out of its class	5	●	●			40	175
	Audio Analogue Puccini SE	595	Upgraded, more powerful Puccini is disappointingly sluggish and curiously lacking in musical vitality	5	●	●			40	181
R	AVI 52000MI	999	Fine, detailed amplifier with excellent timing and strong control of a wide range of loudspeaker loads	5			●		100	175
	Bryston B60R	1,249	Great build, but the lazy bass and opaque treble bracket an articulate midband. Comes with 20 year guarantee	5			●	●	60	175
R	Cambridge Audio A500RC	200	Solid value, decent build and a surfeit of watts make this an attractive proposition, but it can sound slightly loose	6			●		50	196
R	Canary Audio CA-608	1,495	If you value the grand scheme of things and appreciate a bit of dynamic vigour this could be the amp for you	4					24	202
	Chord CPM 3300	5,495	Very powerful yet compact amp with rather complex ergonomics and transparent sound. Oh, and a lovely blue glow	5			●		220	214
R	Copland CSA 28	1,249	Elegant Scandinavian cool, abundantly detailed if somewhat system dependant	5	●		●		60	189
	Copland CTA 402	1,698	A unusually flexible valve amp with an attractive and textured sound	5	●		●		35	193
	CR Developments CR324	569	Solid and capable on paper, this is a bit of a blunt instrument when let loose on the music	5					150	181
	Cymbal CA1	499	Lacklustre amplifier tends to underperform with complex material. Best with straightforward compact loudspeakers	6					40	178
R	Creek 4330	279	Diminutive but classy amp will drive anything, and can be specified in various configurations	4	●				40	192
	Creek 4330SE	499	Somewhat perplexing, though always interesting, miniature audiophile amplifier, needs careful system matching	5			●		50	208
	Creek 5350SE	799	Smooth, open and articulate sound and quality build, but bass is a tad heavy handed	6			●	●	85	214
R	Cyrus 5	500	A enjoyable amp that is assured and unflappable, although detail is unremarkable	7			●	●	45	205
R	Cyrus 7	700	Welcome return to form for the Cyrus stable: this is the best sounding audio brick around	6			●	●	60	196
BB	Denon PMA-255UK	140	Great beer-budget buy, with everything necessary for basic but decent high fidelity operation	5				●	30	208
	Denon PMA-355UK	230	Detailed, but rather inexpressive sound which doesn't quite live up to the claims.	5	●		●	●	50	217
R	Denon PMA-1500R	500	Recommended for its outrageous power, especially with problem speakers	5	●	●	●	●	70	181
R	Densen Beat B-100 MkII	650	High 'air guitar' factor, and can punch above its weight, but check it will complement your system	5					60	175
	Exposure 2010	599	Neatly turned out amplifier, with mainstream appeal but bland with it	6			●		50	214
	Electrocompanion EC1-3	1,000	Basically good, but too many rough edges to warrant recommendation	6			●		75	201
	Ezo Aria HE	449	Quick, detailed but aggressive and sometimes coarse sounding amp. Beautifully turned out, though	5				●	40	208
	Graaf Venticinque	1,790	Smart and practical, but it just never seems to shine sonically	6					25	202
	Hofli Audis Signature	750	A 'no-feedback' circuit giving outstanding resolution, but significant load dependency	4	●				65	181
	Kenwood KAF-3010R	180	Plenty of twiddly bits yet weak on inputs, and basically good, but somewhat uneven sound quality	4	●		●	●	70	186
R	Kenwood KAF-3030R	250	Kenwood's best amplifier for some years has a lean bass but excellent mid and treble.	5	●		●	●	50	217
	Krell KAV-500i	5,000	More at home in background listening/home cinema applications than out-and-out audio maniac set-ups	5			●	●	250	192
	Linn Majik	845	Slightly rough and ready power amp modules, but capable preamp that can be expanded into a multiroom system	5	●		●	●	33	214
	Lundahl Mag Amp	1,735	Unusual valve/magnetic amp hybrid with relaxed balance and good timbre	5					23	196
	Marantz PM-6010 OSE	229	Good starter amplifier, with characteristic smooth, low key delivery	5	●		●	●	50	196
	Marantz PM7000	300	Lots of power for the price, but detail and subtlety seem to have been sacrificed	6	●		●	●	115	205
	Marantz PM6010 OSE KI Sig	400	Well-made, but somewhat ill-balanced amplifier that doesn't slot into most systems comfortably	6	●		●	●	50	208
	Marantz PM-17 Mk II	999	Big, bold, but over-fruity balance – the 'fat uncontroller' as one put it	6	●		●	●	60	214
	Marantz PM-17 KI-Signature	1,300	Full feature audiophile amp where the end results don't quite justify the fantastic ingredients	6	●	●	●	●	60	189
	Mark Levinson No383	5,500	Extremely versatile design that thinks and acts like a serious pre/power. Sounds superb	5			●		100	212
	Monrio Asty	400	Engaging, but ill-disciplined, even OTT amplifier with unpredictable system compatibility	5					55	178
R	Musical Fidelity X-A2	500	A chip off the old block; sounds very similar to the X-A1 and XA-100R	6					75	208
	Musical Fidelity A3	849	Similar to the XA-100R internally, and a little too relaxed for some	5	●	●	●		85	196
	MVL A2	970	Curiously designed, and curious sounding amplifier with Sound Sentinel circuits to address perceived weaknesses	9				●	100	201
	Myryad T-40	400	T e T-40 is a well built and sensible, but needs more dynamics and finesse	6	●		●	●	50	192
R	Myryad MI120	600	Well styled, well built: a good, even tempered amplifier, although it can sound rather brittle	6			●	●	60	175
	Myryad MI 240	1,500	Big and powerful integrated amp sounds clean and neutral if a bit short on musical tautness and dynamic tension	8	OPT	OPT	●	●	120	216
BB	NAD C320	200	Excellent budget amp from the maker of the seminal 3020 offers better clarity and neutrality and good build	6			●	●	40	186
R	NAD C340	270	A classic NAD amplifier copes with any speaker, delivers plenty of power, and does so with calm decorum	6	●		●	●	50	192
BB	NAD C350	300	A typical NAD: refined, warm tonality, adequate detail, and a strong power yield	7			●	●	60	208
BB	NAD C370	450	Flexible, ultra-high power integrated amplifier delivers a real punch, but is not without finesse.	6	●		●	●	120	217
	NAD 5300	1,900	Substantial integrated with loads of power and no shortage of finesse, slightly bass-strong	5			●		100	189
R	Naim Nait 5	800	As always with the Nait, less is more, and the Nait 5's 30 watts seem to go a lot further with some sources	5	●	●	●		30	214
	Opera Aida	795	Low power (in practice) minimalist integrated amp, but the mahogany wings don't help it to fly	5	●				60	201
	Pathos Classic One	995	Unusual looks and even more unusual electronic design, but compromised musical potential	5			●		55	202
R	Pioneer A-407R	230	Clean, consistent, finely detailed sound, good finish and (mainly) good build	5	●			●	45	186
R	Pioneer A-607R	300	Lively, articulate amp with plenty of drive and a hint of brightness	5	●		●	●	60	192
	Plinius 8100	1,450	Slightly rough and ready, but plenty of balls from this stripped down antipodean.	6					100	214
R	Præcisa Acustica Sonoro	1,800	It is not often that transistor amplifiers are made to sound so palpably valve-like	5			●		100	189
R	Primare A10	500	Beautifully made, smooth and easy sounding, and though not overly detailed or dynamic, is well organised musically	5					50	208
R	Primare A20 MkII	799	Everything except packaging has changed in Mk II version: but ballsier model has lost none of its refinement	5					70	181
BB	Primare A30.1	1,500	Smooth, detailed singing quality, elegant appearance, and healthy power yield	6			●		100	214
	Red Rose Music M5	8,000	Sophisticated integrated valve amp with powerful, refined sound and beautiful build	4					45	219
	Restek Fantasy II	1,499	Muscular, but ultimately rather strident amplifier which needs careful system matching	6			●		100	189
R	Roksan Kandy KA-1	475	Power with control, barely compromised by a small degree of dryness	6	●		●	●	120	205
R	Roksan Caspian	795	Mainstream Roksan line level amp works well under most circumstances	6			●		70	201
BB	Rotel RA-931 MkII	189	Simple, non-remote amp majors on clarity and transparency, without sounding over-analytical	4	●		●	●	35	208
BB	Rotel RA-971 MkII	275	Improved RA971 is a chip off the old block: bags of power, but with added precision and clarity	6				●	60	196
	Rotel RA-972	400	Better in the treble than the bass, which is a little too rounded and woolly	6			●	●	90	205
	Sharp SM-SX1	3,300	Jewel like 1-bit digital amplifier with limited power reserves but offering glimpses of sonic magic	5					50	211
	Sharp SM-SX100	10,000	The world's first stable, 1-bit digital amplifier is a technological milestone that should go from strength to strength	n/a					110	200
W	Sony TA-FB740R	200	Very open and clear sound, comfortable with a wide range of musical styles	5	●		●	●	60	205
	Sony TA-FB940R	300	Technically innovative amplifier fails to cut the mustard with complex material	5	●	●	●	●	70	208



ISSUE NUMBER  
POWER OUTPUT (W)  
HEADPHONE SOCKET  
REMOTE CONTROL  
MC PHONO INPUTS  
MM PHONO INPUTS  
LINE INPUTS

## STEREO AMPLIFIERS – INTEGRATED (CONTINUED)

STATUS	PRODUCT	£	COMMENTS	LINE INPUTS	MM PHONO INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
	T+A PA-1220R	1,445	Unique presentation and feature set, but sometimes rather relentless sound quality	7			●	●	100	189
	Tact Millennium MkII	7,000	This digital class D amplifier represents a bold declaration on the future expansion of digital audio in the home	n/a			●		150	194
	TAG McLaren 60i	500	Clean, slightly antiseptic sound from this beautifully turned out entry level Audiolab 8000LX replacement	6				●	60	189
	TAG McLaren 60iRv	1,000	Looks, feels and sounds better than the Audiolab it supersedes. Smooth, open, refined but lacks body and drive	6			●	●	60	184
	Talk Electronics Cyclone 1	550	Much improved build quality and silver finish, but the sound lacks physicality and can sound strained	6			●		65	196
	Talk Electronics Storm 2	650	Crisp, clean, well defined sound, arguably lacking warmth, but a good midrange purchase overall	6			●		50	175
	Teac A-E2000	180	Has the potential to cause significant damage in the budget amp sector once the wrinkles are ironed out	6					50	195
	Technics SU-A660 Mk 3	200	Plenty of wellie for the price, but the sound can be a tad coarse and lacking in fine detail	5	●			●	37	186
	Technics SU-A808	300	Intriguing amplifier, with abundant detail but dynamically rather flat	6	●			●	55	196
	Thule IA60B	700	Dry, edgy and glassy sounding amplifier, though the balanced input may appeal to some.	6			●		60	214
	Token Audio K50	350	Stainless steel finish, others available. Sound is warm and attractive, though a little undynamic	5					50	186
	Tube Technology Unisis Sig	2,400	A very attractive product which combines many classic valve attributes to good effect	5	●				30	202
	Yamaha AX-496	240	Lacklustre, if well equipped and powerful, amplifier shows some improvements over previous amps, but not enough	6			●	●	85	208
	Yamaha AX-596	300	Clean, agile and lean this amplifier isn't. Bold and powerful, however, it certainly is.	5	●			●	100	217
	YBA Intégré	1,550	Careful system matching is essential, but this is definitely one of the good guys	6			●		50	214

## STEREO AMPLIFIERS – PRE/POWER AMPLIFIERS

STATUS	PRODUCT	£	COMMENTS	LINE INPUTS	MM PHONO INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
	Amp Flux System 2	3,000	Three-box affair with a clean, spacious sound and plenty of slam. A touch steely, but undeniably potent	5			●	●	50	187
	Alchemist Kraken APD7A/8A II	1,098	Unusual looks and unusual sound too, rather rough and lacking detail	6					55	187
	Arcam Alpha 9C/10P	1,000	Well specified and flexible preamp with sound only just lacking in greatness	6			●	●	100	187
	Arcam Alpha 9P	400	Clear, colourful and well-disciplined, the Arcam is a strong all-rounder that can compete with conviction	1					60	165
	ATC CA2	750	Stripped down version of ATC's range topper delivers considerable transparency and bandwidth, excellent value	5			●			221
	Audio Note M Zero/P Zero	998	Neat shoe box-size components. Able to impart music with real life and soul when partnered with P Zero power amps	5					8	191
	AudioNote M2Phono/P2SE	3,198	Wonderfully natural and inviting sound with great warmth and drama, but limited loudness capability	4	●				18	216
	Audio Research LS25/MT100	12,199	This is not so much a fine valve amp, as a fine amplifier, full stop (LS25 MkII/MT100 MkII)	6	●				100	216
	AVI S2000M	2,348	This preamp/monoblock pairing does most things very well and images better than most	5			●		150	221
	Border Patrol 300B SE	3,995	Single ended valve power amp with passion, grace and fire, and plenty of grunt to boot	1					8.5	186
	Bow Technologies Warlock/Walrus	6,490	Heavyweight dual mono pairing with superb build and rich, refined sound	5			●		150	216
	Bryston BP20/3B-ST	2,850	Recommended for pretty much any demanding application	8			●	●	120	212
	Cary CAD 2A3SE	1,575	Monoblock valve power amp. Low power but gives delightful speed, coherence and transparency	1					5	196
	Chord SPM-4000	8,500	Sound is as stylish as its appearance is bold. Probably one of the best amps you are likely to hear	1					410	202
	Creek P43R/A52SE	949	Excellent sound, remote control operation and upgrade options from fine valve preamp.	6			●	●	100	187
	Creek P43R/A43	1,050	Great value and a podium performance earning a best buy	6			●		140	212
	Crimson 620C	875	Not entirely satisfactory power amp which has dynamic strengths, but underachieves when the volume is raised	1					50	181
	Crimson CS610/CS630	1,250	Good, clear sound, including a decent phono stage, but flexibility is limited. Slimline monoblocks with grunt and finesse	3	●	●			100	187
	Croft Vitali/Series 5C	2,000	Oddball retro style and ergonomics, but truly magical voice coherence and projection, great transparency	3	●				30	216
	Cyrus Power	498	Detail and midband clarity and stand-out qualities. Smooth and refined with most types of music but bass-soft	1					50	183
	Cyrus aCA7.5/Smart Power	1,250	Great for classical, jazz, and existing Cyrus owners, recommended	7				●	60	212
	Cyrus aCA7/aPA7	2,694	Low feedback power amp design that's a positive departure from the transistor norm, preamp is functional but not as impressive	5			●	●	150	190
	Cyrus aCA7.5/PSX-R/aPA7	2,950	Very stylish 4-box modular system, slight forwardness delivers oodles of clarity and detail	7			●	●	150	216
	Densen Beat B-200	1,000	A versatile preamp with a high 'air-guitar' factor and Densen's characteristic styling	6	●	●				191
	Densen B-300	800	Natural sounding highly musical. Colourful and warm sound with strong timing and listener involvement	1					100	183
	Densen Beat 200/300	1,985	Classy jet black cast boxes pack plenty of punch with good total musical coherence (remote L300 extra)	6	OPT		OPT		100	216
	Electrocompaniet EC4.7/120DMB	3,448	Bulky Norwegian combo has wonderful broad-band transparency, wide dynamic range and fine musical tension	6			●		120	216
	Gamut D200	2,995	Single MOSFET pair per side gives tremendous resolution and timing (balanced only). Formerly Sirius	1					200	183
	Levinson No380/No334	9,490	Preamplifier combines precision and warmth with unusual configurability, power has refinement, authority and transparency to spare	6			●		125	195
	LFD Mistral Linstage/Power	898	Strong ergonomics, generally decent sound, but a little lacking in detail	6					60	165
	Linn Kolektor/LK85	990	Beautifully tuned out machine, yet slightly bland, aimed at an all Linn system	9	●	●			62	212
	Michell Orca/Alecto mono	3,600	Line-level design with a gorgeous remote and focused, spacious sound	6			●		100	187
	Moth 30 Series Monoblocks	879	Tested with Active Preamp. Demonstrated solid balance and proved adept at delivering vital musical qualities	1					100	155
	Moth 30 Active LS/60 Stereo	948	Excellent-sounding ultra-simple miniature preamp, power amp lacks finesse and control, however	4					60	165
	Muse Model Three	1,990	Natural sounding tranny preamp with useful audiophile features. Works beautifully with 160 power amp	5			●			166
	Musical Fidelity X-P100	800	Good long-term listening prospects; detailed and a little fruitiness (tested with X-A200 power amp)	6	●		●			200
	Musical Fidelity NuVista 300	3,300	Powerful smooth sound with tremendous bass extension. Capacity to fulfil the demands of the most dynamic material	1					350	199
	Myryad MA120	450	Based on M120 integrated – see latter for comments, but sounds significantly better when bi-amped with M120	1					60	165
	Myryad MP100/MA240	1,600	Smart finish and impeccable manners, smooth, clean performance	6			●	●	120	212
	NAD 114	270	Beer-budget preamp which sounds focused, detailed and consistent	6	●	●		●		165
	NAD Silverline S100/S200	2,000	Beautifully built kit that sounds as good as it looks with heaps of power	7			●		200	200
	Naim NAC12/NAP150	1,375	Clean, clever simplicity, plus a very well balanced sound that's much sweeter than earlier Naims	6			●		50	213
	Naim NAC112/NAP150/FLATCAP 2	1,850	Adding a FLATCAP 2 brings a very worthwhile sonic upgrade to the basic NAC112/NAP150 combo	6			●		50	213
	Naim NAC102/NAP180	2,122	More of a 'character act' than a neutral reproduction system, majors on excitement at the expense of subtlety	6			●		60	200
	Naim NAP500	10,000	Wonderful neutrality, bandwidth and dynamic range, plus Naim's traditional leading edge definition	1					140	208
	Quad QC-twenty four/II-forty	4,000	A classic valve amplifier in circuitry and sound, but with modern ingredients and gorgeous retro styling	7					40	213
	Rega Ha/Exon	2,194	Passive line stage dedicated to Exon monoblock power amps, bold outgoing, in-command sound	6	●	●	●		125	165
	Roksan Caspian Power	595	Excels musically and in conventional hi-fi terms. A power amp for people with long-term satisfaction in mind	1					70	183
	Rotel RC-971	150	Low price is offset by rather coarse sound quality with certain types of music. (Tested with RB-971 power amp)	5				●		178
	Rothwell Indus/Rubicon	1,488	Quirky valve combo with passive pre-amp has a lovely neutrality and consistency across a wide dynamic range	6					10	216
	Samuel Johnson pca100	1,800	Stylish wood and metal fascia - precise, clean sound with an emphasis on leading edges	6			●	●		201
	TAG McLaren PA20R/125M	1,500	Clean, detailed sound but limited thrill power	6			●	●	145	184
	Talk Hurricane 2L/Tornado 2	1,249	Design of integrity which gets to the heart, if not the soul, of the music	6					65	165
	Technics SU-C3000	2,997	Price includes SE-A3000. Supremely clean and even sounding combo, though it could be more musically involving	5	●					188
	Technics SU-C1010	300	Although the sound's basically all there, it's arguable that a good integrated offers more, for less	6	●		●			200
	Thule Spirit PA100	600	More successful than matching preamp: sound is gutsy and lively, and generally clean	1					100	187
	Thule Spirit PR150B/PA150B	1,600	The limitations in the sonic performance mean that the competition has more to offer	6					150	212
	Unison Research S8	2,950	Outrageous Italian styling and an equally melodramatic sound, with splendid voice projection and tension	5				VOL	24	216

PHONO STAGES

STATUS	PRODUCT	£	COMMENTS	LINE INPUTS	MM PHONO INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
	Clearaudio Symphono	740	Slightly inconsistent balance mars the performance of this lively performer			●				201
R	Creek OBH-9	160	A neat little unit with an essentially neutral and listenable character			●				189
	Cyrus aEQ7/PSX-R	826	Very hi-tech product which tends too much towards smoothness except at climaxes, which can be rough		●					189
	Densen DP-Drive/DP-02	350	Quite unusual design in many ways: sound is mostly good but never quite shakes off a 'synthetic' quality			●				189
R	Electrocompaniet ECP-1	495	An excellent phono amp that combines well-rounded balance with detail and low noise		●					189
BB	Moth 30 Series Phono	249	Fine sound all round, in any kind of music, from this bargain phono stage			●				189
	NAD PP-1	40	A basic phono stage that does its job rather coarsely: a bit bass-shy too		●					189
R	Pass Labs XOno	2,995	Not absolutely neutral, but the overall result is so beguiling it's hard to resist		●	●				201
R	Primare R-20	500	Fights a little shy of densely scored music, but generally an enjoyable and neutral performer		●	●				201
R	Pro-Ject Phono Box	40	Moving-coil compatibility is a dubious extra in a way, but MM performance is acceptable at this giveaway price			●				201
R	QED Discsaver DS-1	35	It's cheap, it's cheerful, it's OK – perfectly adequate for use with a phono-less integrated, though not very refined			●				189
	Roksan Artaxerxes X/DS1.5	1,150	Delicate and well balanced, slightly congested at climaxes. Power supply expensive, but runs two Roksan components		●	●				189
R	Tom Evans The Groove	1,800	Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for information retrieval off any LP			●				201

AMPLIFIERS



SPECIFICATIONS

MULTICHANNEL AMPLIFIERS

STATUS	PRODUCT	£	COMMENTS	LINE INPUTS	MM PHONO INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	ISSUE NUMBER
R	Arcam AVR100	800	A solid sounding and well-engineered AV amp with an affordable price tag. Good with music and well suited to smaller rooms	6			●	●	70	215
R	Arcam Alpha 10 DAVE/10P	2,500	Packed with a diversity of electronics that against engineering odds sounds extremely good	5			●	●	110	198
BB	Arcam FMJ A22 DAVE/P25	2,850	Powerful, authoritative, great stereo, excellent home cinema - what more can you want?	7			●	●	100	210
EC	Bryston SP1/9B THX	7,100	Stripped back 5.1 channel processor/amp combo reaches genuine audiophile heights. Currently lacks 5.1 input for DVD-A/SACD	6			●		120	219
	Cyrus AV5	1,000	Few processors are as adept with music. An effective multi-channel solution for music fans	4			●		N/A	201
	Cyrus AV5/SmartPower	2,650	Refined, detailed and attractive, but ultimately lacking in balls.	3			●		60	210
R	Denon AVR-3300	800	Not as powerful as Denon claims, but nonetheless capable of impressive high-fidelity multi-channel sound	4			●	●	75	198
R	Denon AVR-3801	800	Well-endowed, sharply priced receiver is also a musical high roller.	8	●		●	●	105	217
	Denon AVC-A10SE	1,300	State of the art sound quality, a strong feature set and reasonable pricing. What more could you want?	11	●		●	●	125	210
BB	Denon AVC-A15E	2,500	A powerful, articulate 7.1-channel integrated amp, loaded with features and equally at home with music and film soundtracks	12	●		●	●	170	215
	Kenwood KRF-V773D	800	Bold, detailed presentation, but there are some technical limitations and a slightly mannered quality, especially with music.	10	●		●	●	120	210
	Kenwood KRF-V9993D	1,300	Complex amp that rocks with home cinema but loses out with music	7	●		●	●	110	215
BB	Marantz SR-5000	500	Something of a rough diamond, but a powerful and entertaining package	5			●	●	105	198
BB	Marantz SR-7000	700	Excellent at the price, and almost equally effective with 2-channel music and multichannel AV.	9			●	●	100	210
	Marantz SR-14EX Mk2	3,250	A weighty beast, with 7.1 processing but only five channels of amplification as standard. Highly capable with both music and movies, but rather costly all-in-all	8			●	●	140	215
	Musical Fidelity HTP/HT600	3,998	A very well matched pairing with considerable musical talents	8			●	●	100	207
R	Myriad MDP500/MA240/MA360	3,799	Superb three-box, five-channel AV amplifier. Great with movies and beats most multichannel amps hands down with music	9			●		120	215
BB	NAD T760	650	More than adequate home cinema receiver that unusually doesn't muck up the music	7			●	●	60	210
	Nakamichi AV-10	1,000	A very powerful AV receiver that's easy to install and set-up with a civilised and subtle performance	4			●	●	140	198
	Onkyo TX-DS787	900	Obstructive ergonomics and messy sound undermine basically well-equipped receiver.	7	●		●	●	100	217
R	Onkyo TX-DS989	2,500	Authority personified, excellent AV signal processing, but sound quality a tad unsubtle.	9	●		●	●	160	210
	Pioneer VSA-E08	1,300	THX circuitry gives home cinema material a boost, but this is not an obvious first choice for music.	10	●		●	●	100	210
	Primare P30/A30.5	3,700	No 5.1 channel input for DVD-A/SACD but capable of almost uncomfortable realism with real solidity and drive	8			●	●	120	210
R	Roksan DSP/5 ch amp/VSU	2,440	Clean, powerful stereo expanded seamlessly, if without distinction, to 5.1 channels.	4			●		80	210
	Rotel RSX-972	1,000	Not the brightest tool in the Rotel toolbox, and pricing is surely rather optimistic too.	8			●	●	75	217
R	Rotel RSP-976/RMB-1075	1,700	A potent and enjoyable two-box beast that gets to the heart of both music and movie sound	8			●	●	120	215
R	Rotel RSP-985/RPB-985 MkII	2,400	The hugely versatile processor is the weaker subjective link in this otherwise impressive combo	3			●	●	130	198
	Sony TA-E9000ES/N9000ES	2,300	Big, gold, powerful and remarkably versatile but fails to cut the sonic mustard	5			●	●	110	198
R	Sony VA777ES	1,500	Smart circuitry gives this model unusual precision and transparency, and it is a fine all rounder	9			●	●	100	210
EC	TAG McLaren AV32R EX	2,749	A flexible AV processor, unusually good with music. Would form the heart of a top-class multichannel system in standard or 7-channel 'EX' form	6			●	●	215	215
	Technics SA-DA10	500	Lower mid-market AV amp has all the right ingredients, but fails to stir the soul	5	●		●	●	80	210
	Technics SE-A1010/SU-C1010 x3	1,350	A preamp plus three stereo amps provide a six-channel AV solution without complex processing. Visually stunning but low on grunt and detail	6			●	●	70	215
	Yamaha RX-V1000RDS	800	Solid mainstream performer is more convincing as home cinema amplifier than for multichannel music.	8			●	●	100	217
	Yamaha DSP-AX1	2,000	An anorak's delight, and one of the most flexible and effective soundfield creators ever conceived	11	●		●	●	110	210

CABLES



SPECIFICATIONS

ANALOGUE INTERCONNECTS (PRICES PER TERMINATED METRE PAIR)

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	ISSUE NUMBER
	Acoustic Precision Eikos	89	Not entirely neutral: probably best suited to upbeat music. Very stiff construction		●	●		●			188
	Audioquest Sidewinder	40	Suppresses the sound. At this price it's a disappointment		●		●				211
R	Audioquest Coral	99	Slightly forward imaging hardly detracts from its excellent tonal qualities and detail	●		●		●			200
R	Cable Talk Advanced 3	35	Good sound and great detail, but a slight brashness in the treble	●		●		●			211
	Cambridge Pacific	30	Lacks subtlety and bass impact but is otherwise quite serviceable for the price		●			●			176

**ANALOGUE INTERCONNECTS (CONTINUED)**

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG. CABLE TYPE	ISSUE NUMBER
	Cambridge Silver Spirit 60	100	Good bass but a lack of detail and differentiation of instruments	●		●		●			188
R	Chord Calypso	30	Informative, clear sound at a decent price	●		●		●			211
	Chord Cobra 2	50	Good, strong sound with full-bodied music, less happy with smaller forces			●		●			176
	Chord Chameleon 2	90	Deep bass is fine but despite that the sound can be a bit hard and lacking body and resonance	●		●		●			188
R	Connections Midas HD	39	Canary yellow cable with excellent plugs and an open sound. Slight treble glare	●		●		●			160
R	DNM Reson	40	Seemed a little harsh in the test system, but can work well and should be tried	●			●	●			200
BB	Cosce The Composer	51	A high degree of realism and delicacy, and a fantastic price		●	●		●			211
	Goertz M1 Interconnect	145	Soft sound lacking in bite, with excessive and plummy bass (NB sample used in review was only 0.5m)	●			●	●			176
	Insert Audio IC100 MkII	47	Mostly good sound is let down by pervasive dryness			●		●			176
R	Insert Audio Image 5.1	85	Very good detail and imaging: perhaps a touch bass-light		●	●		●			200
BB	Ixos Gamma Audition II	30	Detailed and neutral, with just a hint of pleasant mellowness	●		●		●			211
	Ixos Gamma 1002	39	Lumpy bass, grainy treble, and poor integration. Nice colour, though	●		●		●			176
	Ixos 1000	90	Nothing badly wrong, just a little bit bland and outshone by others at the price	●		●		●			200
BB	Kimber PBJ	68	Assured sound, solid and natural bass and clear treble — excellent performance all round	●		●		●			188
R	Kimber Hero	110	Slight roughness detracts from some music; seems well suited to rock and jazz. Lively and detailed	●		●		●			176
	Nordost Black Knight	60	Flat black cable that is distinctive but slightly coloured — but not in a wholly negative manner	●		●		●			160
R	Nordost Solar Wind	85	Good tone and dynamics, with just occasionally a touch of bass-lightness in busy music	●			●	●			188
R	Nordost Blue Heaven	145	Very good bass and only slightly grainy treble add up to a well integrated, natural-sounding cable	●			●	●			176
	Precious Metals SS35	50	Extended bass, but dry character suits electronic music better than acoustic		●	●		●			188
	Profigold PGA301 MkII	40	Mellow and well rounded, but can seem a little heavy		●	●		●			211
R	Prowire VHQ	10	This crisp cable lacks a little refinement, but it's great for the price		●	●		●			211
R	Prowire Silver	60	A good cable in every way, with just the occasional hint of coloration and coarseness			●		●	●		176
R	QED Qunex 1	20	Well balanced, and easily rivals more expensive cables		●	●		●			211
BB	QED Qnect 2	30	Very well balanced, refined and detailed, this is everything a good cable should be, and excellent value			●		●			176
R	QED Qnect 4S	70	Some coloration and roughness in the midrange and treble, but bass is gratifyingly solid	●		●		●			188
R	QED Qnex Silver Spiral	90	A great cable for lovers of big sounds	●		●		●			200
	Reference CS1	75	A moderate performer, with a little coloration and a tendency to lose bass at climaxes	●		●		●			188
	Silvertone Ex-Static	35	Pleasantly unfatiguing and competitively priced cable that lacks detail and insight		●	●		●			160
BB	SonicLink Whisper (Silver Pink)	45	Dynamically sensitive and muddle-free. We're unsure about the flesh-coloured finish, though...	●		●		●	●		160
R	SonicLink Black	49	Nickel-plated copper with a slight dryness in the bass and a hint of treble roll-off don't compromise integration	●		●		●			176
	SonicLink Message (Lilac)	60	Some dryness can affect transient sounds, though tone is generally good, especially in the bass	●		●		●			188
	SonicLink Violet	95	Better bass than treble — a little dry in the upper octaves	●		●		●			200
R	Straight Wire Chorus	40	A very confident cable with good bass, though perhaps a shade of treble loss		●	●		●			176
R	Straight Wire Sonata	80	Tonal balance favours lower frequencies but despite this it's a very listenable cable		●	●		●			188
	Straight Wire Encore II	100	Slightly variable bass performance is a weakness in this otherwise capable cable	●		●		●			200
BB	Supra EFF-ISL	80	Excellent sound in all areas — nothing to criticise	●		●		●			188
R	Tara Labs Prism 22	64	Mild tendency to plumminess offsets some hardness in complex music with mixed results		●		●	●			188
	Tara Labs Prism 55-i	195	Good with laid-back music, but seems lazy with more exciting material	●			●	●			200
BB	TCI Viper	55	Fine performance in all areas: just the smallest hint of sibilance. Very good value			●		●			200
BB	van den Hul PB5	50	A highly neutral cable with fine dynamic and rhythmic performance too — excellent		●	●		●			188
R	van den Hul Source HB	65	Price for 0.8m. Hybrid carbon-fibre/copper cable that is a paragon of naturalness		●	●		●			160
R	van den Hul D102 MkIII HB	80	A fine cable, but the competition has crept up and it no longer leads the pack	●		●		●			200

**DIGITAL INTERCONNECTS (PRICES PER TERMINATED METRE PAIR)**

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG. CABLE TYPE	ISSUE NUMBER
R	Audioquest Digital One	35	A neutral and capable cable that adds little or no character to the sound					●	●		E 207
	Chord Optilink	40	Beautifully made, but performance is practically indistinguishable from other, cheaper, Toslink leads					●	●		O 207
	Ixos 1051-100	39.95	Plenty of bass, and detail seems good, but there's a loss of involvement		●			●	●		E 207
BB	QED Qunex P75	25	A superbly capable interconnect that's highly detailed and well balanced		●			●	●		E 207
R	Ross OP004	19.99	Sounds much like most other Toslink leads: slightly lacking detail, but good value					●	●		O 207
	SonicLink Digital Optical	30	Possibly slightly more detailed than other opticals, but still no match for a decent electrical digital link					●	●		O 207



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 Fax: 020 8341 9368  
 Email: ConnectionCable@aol.com

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 ... in **YOUR** system  
 ... for **YOUR** ears  
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DIGITAL INTERCONNECTS (PRICES PER TERMINATED METRE PAIR)

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRAINED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	ISSUE NUMBER
	Straight Wire Info-Link	300	A good cable, but bass seems a little light and detail suffers a little at climaxes		●		●		●	E	207
R	van den Hul Optocoupler	49.95	Noticeably has the edge over other optical leads, but still second best to electrical types							O	207

LOUDSPEAKER CABLES (PRICES PER METRE LENGTH)

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRAINED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	ISSUE NUMBER
	ALR Jordan QMM	5	Generally neutral, if sometimes bass-shy, but not very communicative	●					●		183
R	Audio Note AN-B	16.50	Well suited to valve systems, elastic bass, methodical but unintrusive and musical				●	●			133
R	Audio Note AN-L	29.50	Fruity bass and expressive vocal rendition was appreciated by the panel, which was happy to accept its foibles	●				●	●		133
R	Audioquest Slate	15	Capable across the board, with just the smallest degree of dryness, but very listenable	●				●	●		203
R	Bandridge LC7409	4	Detailed and up-beat cable. A bit too steely for classical strings					●	●		157
R	Cable Talk Talk 3.1	2.25	Quite well-balanced but tends to lose bass lines in complex music				●	●			168
	Cable Talk Talk 4.1	4.25	Smooth and cultured sound that lacks fine detail and is a bit too restrained					●	●		157
	Cable Talk Flat 2	5	Rather unexciting sound, with variable bass and dry voices	●				●	●		203
	Cable Talk Concert 2.1	8	Can make stereo images recede, and favours the upper bass	●				●	●		192
	DNM LSC350	6.95	Majors on midband and lower treble lucidity at the expense of bass and extreme treble extension	●				●	●		168
R	Chord Company Odyssey	17	Relatively vice-free cable with good detail throughout the range and generally neutral bass	●				●	●		192
	Chord Company Rumour 2	10	Performance is listenable enough but fails to excel in any area	●				●	●		203
BB	DNM LSC8500	12	High impedance can influence the treble response, but this was a winner on sound per pound. Bi-wire	●				●	●		133
	Ecosse Reference CS-2.15	12	Stereo and rhythm are good, but persistent dryness detracts significantly	●				●	●		215
R	Electrofluidics Monolith 2020	45	Excellent bass extension and very fine performance elsewhere - one of the best cables available all round	●				●	●		203
	Gale XL189	1	Slightly bright and not too subtle, but a perfectly acceptable cable for any starter system	●				●	●		168
BB	Gale XL315	2	A little lacking in detail but plenty of life and excellent value	●				●	●		157
R	Gale XL160-2	2.50	Rhythmic and bouncy-sounding bi-wire cable. Can be slightly manipulative					●	●		157
R	Goertz M2	32	Remarkably detailed, smooth, neutral and with excellent bass; check amplifier compatibility	●				●	●		168
BB	Ixos Gamma 6003	2.99	A little midrange dryness, but bass is among the best at this price, strong and consistent	●				●	●		203
R	Ixos Gamma 6006	5	Bass is better than treble, which can become spitty and sibilant - though only slightly	●				●	●		192
BB	Kimber 4PR	4.90	Considering the price, this cable's very slight dryness is forgivable when everything else is so right	●	●			●	●		192
R	Kimber 4VS	8.50	A good mix of virtues including particularly fine bass	●				●	●		183
R	Kimber 4TC	18.80	A well-balanced cable with good performance in all areas	●				●	●		168
BB	Kimber 8TC	348	Very capable in all areas, particularly good at imaging and with firm bass. Price for 5m terminated pair	●				●	●		203
	Linn K20	4	Seems to work best with lively, unsubtle music - can be dry and edgy	●				●	●		183
	Monster Cable Z1	12.50	Slightly bass-rich balance, and could do with a bit more detail	●				●	●		215
	Nordost Flatline Gold II	9.50	Exciting sound but a bit too 'in-yr-face', and bass is not always even	●				●	●		192
	Ortofon SPK100	3	Grey-sounding - strips instruments of their natural richness and resonance. A bit bass-shy, too	●				●	●		133
R	Ortofon SPK200	4.99	Good strong bass and fair detail, only slightly marred by a little dryness	●				●	●		183
R	Ortofon SPK300	8	Tremendously open and atmospheric, with robust, full-blooded bass - if slightly bright at times	●				●	●		133
	Precious Metals SL102	10	Unusual construction gives rather strained sound, only really cheering up with simple musical textures	●				●	●		183
	Profigold Silverflex LC8258	4	A pretty-looking cable that does little to offend but is let down by some congestion	●				●	●		203
	Prowire Out of Sight	1.99	Special-purpose cable for laying under carpets etc. Fair sound across the board	●				●	●		203
	Puresonic 7845	1.95	Big, weighty sound - but too messy and bloated for its own good	●				●	●		183
	Puresonic 7891	2.85	Chunky cable design; shame about the sound quality	●				●	●		157
	QED Qudos	2.25	Despite high-tech design and excellent Air-Loc plugs, its music-making failed to gel	●				●	●		157
BB	QED Qudos Silver	5	A few minor flaws but overall performance is very assured for this price	●				●	●		192
	QED Profile 4x4	9	Good midrange and treble balance, but bass is rather slack and detail not outstanding	●				●	●		168
R	QED Profile Silver 12	15	Very slightly laid-back, but good tone and detail - wears its achievements lightly	●				●	●		215
	QED Genesis Silver Spiral	30	Commendable bass, with a little dryness and mildly compromised imaging: good, but not the best at its price	●				●	●		203
	SonicLink S300	18	Happiest with simple music; tends to smudge detail in complex pieces	●				●	●		168
R	SonicLink AST50	1.95	It may look like bell-wire, but AST50 sounds detailed, ordered and balanced	●				●	●		157
R	SonicLink AST75	2.95	Unusual materials and rather unusual performance too, strong on excitement and with plenty of bass	●				●	●		203
R	SonicLink AST150	3.95	Slightly plummy bass and a useful way of holding musical strands together	●				●	●		157
	SonicLink AST200x2	5.95	At its best with exciting music, this cable seems shy of subtler details	●				●	●		192
BB	SonicLink Rebel	7.50	Plenty of bass, but without sacrificing upper frequency clarity or dynamics	●				●	●		215
	Straight Wire Duo	3	Not so subtle and lacking some detail, but sound is consistent with level and musical style	●				●	●		203
	Straight Wire Rhythm	6	Its major flaw seems to be woolly and indistinct bass, which pervades most types of music	●				●	●		192
BB	Straight Wire Quartet	8	A good all-rounder with full tone, clear detail and natural ambience	●				●	●		183
	Supra Classic 6.0	4.95	It's all there, but a persistent lack of detail seriously mars the view	●				●	●		215
R	Supra Ply 3.4	6.95	Clean sound which stays together well at high levels, with full bass - perhaps a touch of treble restriction	●				●	●		183
R	Supra Ply 3.4/5	7.95	Good in all areas with rich bass and just a touch of treble roughness	●				●	●		203
R	Tara Labs Klara	2.95	A good budget cable with an even spread of virtues - and very minor vices - across the board	●				●	●		183
R	Tara Labs Prism Nexa	9.95	Slight tonal softness affects both bass and treble, but the overall sound is very listenable	●				●	●		215
	Tara Labs RSC Prime 500	36	More suited to melodious music than anything with bite and drive, with only moderate detail	●				●	●		203
	TCI Python	7.99	No single major sin, but detail is not outstanding and rhythm isn't always completely solid	●				●	●		203
R	Townshend Isolda	50	Superb sound all round, and amplifier compatibility enhanced by included stabilising inductor	●				●	●		203
R	van den Hul The Snowline	5.49	A hint of high-end civilisation with a few rough edges and a slightly warm balance	●				●	●		215
	van den Hul Royal Jade	10.99	Lots of technology, but sound suffers from dryness and woolly bass	●				●	●		203
	XLO Pro 600	16.50	Decent bass and good treble, but sounds confused with densely-scored music	●				●	●		215

MAINS CABLES AND CONDITIONERS

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRAINED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	ISSUE NUMBER
R	Audiolinx Blue Max	100	Expensive, but good value considering the improvement offered				●	●		PLT	218
	Audio Note AN-MP	99	A noticeable improvement on standard mains cable, but not as great as others				●	●			218
	Audiosource bbc	48	Very good value, extremely sharp detailing - maybe too sharp				●	●		PLT	218
BB	Audusa Eupen CSA	48	Reasonable cost, outstanding performance and a strong recommendation				●	●	●		218

## MAINS CABLES AND CONDITIONERS

STATUS	PRODUCT	£	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	ISSUE NUMBER
	<b>Clearaudio Accurate Power Gen</b>	1,090	Compact and beautifully finished unit that offers positive sonic benefits that justify the price								206
	<b>GTA PHY-HP board</b>	299	Oozing style and quality, the board generates an extremely natural and truthful sound								206
R	<b>LAT AC-2</b>	99	Excellent clarity, music sounds clean and easy to follow - enthusiastic recommendation		•	•		•			218
R	<b>Lynwood Electronics Mega Power</b>	295	Reasonable price model that improves focus while producing a sweet, tight and clean bass								206
	<b>Maplin Bowthorpe ASC 431</b>	50	Excellent mains purifying abilities - including other equipment used elsewhere in the house (Maplin code BJ84F)			•		•			218
	<b>Olson Sound Fantastic</b>	80	Reasonable price, superior build quality - all in all, a bit of a bargain			•		•			218
R	<b>PS Audio Power Plant</b>	1,200	Power Plant improves the cleanness and separation of individual voices and instruments, giving an impressive 3-D quality								206
R	<b>Russ Andrews Kimber Power Kord</b>	50	Impressively detailed and crisp, choice of connectors can make even more difference				•	•			218
SR	<b>Russ Andrews Kimber/Power Block</b>	350	Improved version that elevates music to a cleaner and more three-dimensional experience with greater stereo imagery								206
	<b>Russ Andrews The Purifier</b>	250	More ambitious version of the Silencer that gives a cleaner, quieter background, allowing more low level detail								206
SR	<b>Russ Andrews Silencer</b>	40	A cost effect solution to noise-free mains supply that reduces 'hash' without losing brilliance and immediacy								206
SR	<b>SonicLink SG Power</b>	80	Bright, open and detailed with sweet and natural treble frequencies			•		•	PLT		218
	<b>SonicLink S-Gold mains</b>	225	Delivers a clean incisive sound with excellent detail, clarity and with no increase in noise								206
R	<b>Synergistic Res. Master Coupler</b>	238	Absolutely outstanding performance, but extremely expensive				•	•			218
R	<b>Trichord Research Powerblock500</b>	300	Isolation transformer that bolsters clarity, openness and gives an increased refinement making for a purer and natural sound								206

## CASSETTE DECKS

### CASSETTE DECKS



ISSUE NUMBER	ADJUSTABLE BIAS	AUTO CALIBRATION	AUTO REVERSE	TWIN DECK	3-HEAD	DOLBY BX PRO	DOLBY S	DOLBY C
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STATUS	PRODUCT	£	COMMENTS	DOLBY C	DOLBY S	DOLBY BX PRO	3-HEAD	TWIN DECK	AUTO REVERSE	AUTO CALIBRATION	ADJUSTABLE BIAS	ISSUE NUMBER
SR	<b>JVC TD-R472</b>	200	Excellent auto-reverse deck which doesn't suffer the usual disadvantages and is very sharply priced	•	•	•			•		•	158
R	<b>Kenwood KX-W6080</b>	200	Modestly decent-sounding twin deck, with some transport instability and ragged bass	•	•	•		•			•	171
	<b>Marantz SD455</b>	170	Works well as a single deck, especially on replay, but dubbing at high/low speed compromises sound	•	•	•		•	•			184
	<b>NAD 613</b>	230	Rough and ready, but enjoyable sound, though marred by mechanical motor noise	•	•	•					•	158
	<b>NAD 616</b>	300	Twin deck with basic features. No Dolby setting memory, transport is too unstable for audiophile use	•	•	•		•	•			171
	<b>Nakamichi DR-10</b>	800	An ergonomic oddity, but one of the last of the great cassette decks. Worth considering against MD	•	•	•	•				•	195
R	<b>Onkyo K-611</b>	460	Cute drawer-loading mini-size component with 3 heads and dual capstan transport	•	•	•					•	146
R	<b>Pioneer CT-5550S</b>	250	Great features, good with cheap low bias tapes, but slightly synthetic sound quality	•	•	•					•	164
	<b>Pioneer CT-W806DR</b>	300	Had it not been for the iffy transport quality, this sophisticated twin would have been Recommended	•	•	•		•	•		•	171
	<b>Teac V-1050</b>	180	One of the cheapest 3-head machines around, but it shows in very 'thick' sound	•	•	•						184
SR	<b>Technics RS-AZ6</b>	200	For those who can't afford the RS-AZ7; clarity over the widest bandwidth thanks to AZ thin-film head	•	•	•					•	164
SR	<b>Technics RS-AZ7</b>	270	Thin-film head gives a solid, almost CD-like bass and midrange. A clear advance in state-of-the-art	•	•	•					•	158
R	<b>Yamaha KX-580SE</b>	250	Subtle, engaging and transparent deck, with a lightweight tonality, but stability and strong detail	•	•	•					•	171

## CD PLAYERS

### ONE-BOX CD PLAYERS



ISSUE NUMBER	SACD COMPATIBILITY	MULTI-DISC	VARIABLE OUTPUT	HEADPHONE SOCKET	BAL ANALOGUE OUT	ST OPT DIG OUT	OPT DIG OUTPUT	AES/EBU ELEC DIG OUT	ELEC DIG OUTPUT
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STATUS	PRODUCT	£	COMMENTS	ELEC DIG OUTPUT	AES/EBU ELEC DIG OUT	OPT DIG OUTPUT	ST OPT DIG OUT	BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTPUT	MULTI-DISC	SACD COMPATIBILITY	ISSUE NUMBER
	<b>Advantage CD15</b>	3,995	A CD player of some stature - what it lacks in dynamics it makes up for in subtlety and flow	•	•	•	•	•		•			193
	<b>Alchemist Kraken</b>	1,249	Distinctive looking player likely to suit a Alchemist system, but will result in variable results elsewhere										190
R	<b>Alchemist Nexus APD32A</b>	597	Refined treble, constrained yet capable bass and attractive all-round presentation	•	•	•	•	•					169
	<b>Anthem CD1</b>	1,595	Unusual combination of high-end player, complete with HDCD, and changer. Good, but noisy	•	•	•	•	•				•	178
SR	<b>Arcam Alpha 7SE</b>	300	Sharper, clearer Alpha 7 SE, and more affordable than before	•	•	•	•	•					207
	<b>Arcam CD72</b>	400	Easy going, slightly soft-centred reworking of Alpha 7 in new, svelte DIVA clothing	•	•	•	•	•					212
R	<b>Arcam Alpha MCD</b>	450	Excellent bass and natural midband, but just a touch of treble dryness, from this very listenable changer	•	•	•	•	•				•	178
SR	<b>Arcam Alpha 8SE</b>	600	Excellent (and very reasonably priced) HDCD-compatible player is a strong all-rounder	•	•	•	•	•					176
R	<b>Arcam Alpha 9</b>	800	Refined, articulate player which employs new DAC technology to great effect	•	•	•	•	•					188
R	<b>Arcam CD92</b>	850	High resolution player needs a touch of spit and polish to be completely convincing	•	•	•	•	•					212
R	<b>Arcam FMJ CD23</b>	1,100	World class presentation allied with innovative technology to deliver an engaging standard of music making	•	•	•	•	•					206
	<b>Audio Analogue Paganini</b>	750	Basically good, but sometimes heavy-handed player	•	•	•	•	•					191
	<b>Audio Note AN-CD1</b>	600	Easy on the ear, and for a valve player, easy on the pocket, but a bit Radio 2-flavoured	•	•	•	•	•					188
	<b>Audio Note AN-CD2</b>	999	High output impedance makes performance unduly system fussy	•	•	•	•	•					195
	<b>AVI S2000MC2</b>	899	A chip off the old block. This model's in-ye-face balance obstructs an otherwise finely detailed sound	•	•	•	•	•					176
R	<b>AVI S2000MC Reference</b>	1,399	Lean, dry, high resolution player, built to outlast most of us. A fine performer in a sympathetic system	•	•	•	•	•					169
	<b>Balanced Audio Tech VK-D5</b>	3,995	A valve-infused player with a big and engaging sound. Lacks a little subtlety	•	•	•	•	•				•	194
	<b>Cambridge Audio D100</b>	120	Hard, clangy and coloured sounding, and with suspect control logic	•	•	•	•	•					200
SR	<b>Cambridge Audio D500</b>	200	Clean and highly articulate player wears well in extended use	•	•	•	•	•					202
R	<b>Cambridge Audio D500 SE</b>	200	A really lively sounding player with good detail but just a int of dryness	•	•	•	•	•					217
R	<b>Copland CDA 266</b>	1,199	Simple yet elegant design is unexpectedly sophisticated under the skin, and effective in execution	•	•	•	•	•					176
	<b>Copland CDA 289</b>	1,898	Beautifully built and musically enjoyable. Lacks some precision, but still among the best below £2,000	•	•	•	•	•					194
R	<b>Symbol CDP12</b>	1,299	Clean, detailed and airy HDCD-equipped player with minimalist trappings	•	•	•	•	•				•	176
R	<b>Cyrus dAD1.5</b>	395	Improved dAD1 variant has improved digital filter for a more natural, easy on the ear quality	•	•	•	•	•					191
R	<b>Cyrus CD7</b>	800	New Cyrus player has strong all-round attributes to match its good looks	•	•	•	•	•					212
R	<b>Cyrus dAD3 Q24</b>	900	Bold, lean and lively player demands sympathetic system matching	•	•	•	•	•					200
R	<b>Denon DCD-435</b>	130	Good low cost player, and a step up from the DCD-425, its predecessor	•	•	•	•	•					191
R	<b>Denon DCD-655</b>	180	Fine, slightly soft-edged budget player, and a good ameliorative for aggressive, edgy systems	•	•	•	•	•				•	200

# CLOSING DOWN SALE

## Starts Saturday 8th December

### CROFT PRE-AMPLIFIERS

VITALE .....	<b>NORMAL PRICE</b> £425	<b>NOW</b> £225
VITALE SC .....	<b>NORMAL PRICE</b> £750	<b>NOW</b> £450
EPOCH ELITE .....	<b>NORMAL PRICE</b> £925	<b>NOW</b> £550
CHARISMA .....	<b>NORMAL PRICE</b> £1750	<b>NOW</b> £1050
ABSOLUTE 1 .....	<b>NORMAL PRICE</b> £3000	<b>NOW</b> £1750

### CROFT POWER AMPLIFIERS

TROUBADOR .....	<b>NORMAL PRICE</b> £750	<b>NOW</b> £450
SERIES VC .....	<b>NORMAL PRICE</b> £1250	<b>NOW</b> £750
APPARITION ELITE .....	<b>NORMAL PRICE</b> £1600	<b>NOW</b> £950
DAKSHINI .....	<b>NORMAL PRICE</b> £2500	<b>NOW</b> £1350
MESMERIS .....	<b>NORMAL PRICE</b> £8500	<b>NOW</b> £4950

### LOTH X TURNTABLES

OTHELLO & ARM .....	<b>NORMAL PRICE</b> £1200	<b>NOW</b> £795
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### GRADO CARTRIDGES

REFERENCE PLATINUM .....	<b>NORMAL PRICE</b> £350	<b>NOW</b> £275
MASTER REFERENCE .....	<b>NORMAL PRICE</b> £850	<b>NOW</b> £575

### LOTH X SPEAKERS

ION 1 94 db .....	<b>NORMAL PRICE</b> £375	<b>NOW</b> £275
ION 3 96 db .....	<b>NORMAL PRICE</b> £1200	<b>NOW</b> £750
ION 4 96 db .....	<b>NORMAL PRICE</b> £1800	<b>NOW</b> £1150
POLARIS 104 db .....	<b>NORMAL PRICE</b> £6000	<b>NOW</b> £3500

### PREVIOUSLY OWNED

STACKED QUAD ELS 57 ELECTROSTATICS .....	<b>£1750</b>
CROFT EPOCH ELITE PRE-AMP .....	<b>£450</b>
CROFT SERIES V POWER AMP .....	<b>£595</b>
MERIDIAN 105 POWER AMPS .....	<b>£450</b>
NAIM 12S PRE-AMP .....	<b>£150</b>
NOTTINGHAM ANALOGUE SPACE DECK, ARM & ORTOFON M20FL SUPER .....	<b>£550</b>
VINYL ? CLASSICAL MUSIC & OPERA .....	<b>P.O.A</b>



# CROFT



## Eminent Audio (South)

Tel: 01708 755100

or : 01708 726867

# ONE-BOX CD PLAYERS (CONTINUED)

STATUS	PRODUCT	£	COMMENTS	ELEC DIG OUTPUT	AS/FB/DIG OUT	OPT DIG OUTPUT	ST OPT DIG OUT	BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTPUT	MULTI-DISC	SACD COMPATIBILITY	ISSUE NUMBER
R	Denon DCD-835	230	Refined sound with terrific bass extension. Some slight coloration	•	•				•	•			217
	Denon DCD-1550AR	350	Disappointing bland and ploddy sound from an immaculately constructed, high-tech player	•	•	•			•	•			179
	Densen B-400	1,280	Bold, purposeful sound, but lacks subtlety, and has some ergonomic flaws	•									212
	EZO Fog Stage 3	1,170	Curious player is difficult to drive, and has sound quality that both enchants and sometimes confounds	•				•					212
R	Kenwood DVF-3030	180	Solid CD player with straightforward features		•				•	•			207
BB	Kenwood DP-4090	250	Focuses a clear, wide aperture lens on the music — and has CD Text too		•				•	•			172
	Kenwood DVF-R9030	800	Kenwood's first DVD-A player suffers from a mild compression of dynamics resulting in a polite yet matter of fact sound	•	•	•	•	•	•		•		206
R	Linn Genki	995	Explicit, rather bright sounding player with strong multi-room appeal								•		212
	Marantz CD5000	150	Well equipped budget player sounds thin and rough at times	•	•				•	•			202
	Marantz CC3000	150	Ragged sounding multidisc player, but it is cheap and well equipped	•						•	•		204
BB	Marantz CD6000	250	Great package with all mod cons, and eminently listenable too	•	•				•	•			207
BB	Marantz CD6000 OSE LE	300	Detailed, well rounded, at home in any musical context — a real bargain	•	•				•	•			217
BB	Marantz CD6000 KI Signature	500	Excellent all rounder, a well appointed good value package	•	•				•				212
R	Marantz CD-17 MkII	800	Sophisticated player with a short but attractive feature set, and a new found bounce in its step	•	•	•	•	•					206
R	Marantz CD-17KI Sig	1,100	Minor QC problems aside, this is a superbly turned-out machine, but ultimately a little bland	•	•						•		176
R	Marantz CD-7	3,500	A superbly designed CD player, both inside and out. Precise and dramatic in equal measure	•	•				•	•			194
EC	Marantz SA-1	5,000	The brand's first SACD player is a stunning machine that's equally as strong with conventional CD	•	•							•	208
R	Meracus Tanto	1,395	Believable tonal colours and textures, refinement takes preference over dynamics — but it's not cheap	•									169
BB	Meridian 506	1,100	Revised 506 includes MSR remote and a new D/A chip, which makes it livelier and more detailed	•	•			•					176
	Monrio Asty	695	Well built player has solid, propulsive sound quality that deteriorates towards HF	•									200
	Musical Fidelity X-RAY	799	Brilliantly packaged and clean but slightly antiseptic sounding player	•	•								184
BB	Musical Fidelity A3 CD	800	Excellent player has few faults apart from a slight loss of EHF detail	•	•								200
	Myryad T-10	400	Rather ordinary player fails to shine with good music recordings	•									184
	Myryad T-20	600	Matter of fact styling and sound quality, a tad bright for some systems	•									195
	Myryad MCD 600	1,299	Abundance of detail and resolution from this 'Super DAC' CD player	•									220
R	NAD C520	170	Significantly improved entry level NAD is smooth and dynamic, if slightly dull	•									202
	NAD C521	200	Good timing and excitement, but not good at holding the listener's attention	•									217
	NAD 523	250	Lacklustre musical presentation was disappointing on test; so was the absence of a digital output									•	204
	NAD C540	330	Not cheap, and disc handling is pedestrian at best, but the C540 is smooth & elegant with just a hint of aggression	•	•								200
R	NAD Silverline S500	1,100	It sounds as good as it looks, which is notably refined and easy on the ear	•	•	•		•					195
R	Naim Audio CD5	1,125	Recommended subject to audition, a dynamic machine, yet some physical minuses										212
EC	Naim NACDSII/XPS	5,625	Brings you the Naim sound, but for once doesn't have to rely on Naim ancillaries to get the results	•									188
R	Nakamichi MB-10	400	Jewel of a multi-disc player, with crisp sound and superb fuss-free compact packaging	•	•				•	•	•		204
R	Onkyo DX-7222	150	Competitive following recent price cut, and on the whole a strong performer musically	•		•			•				200
	Onkyo DX-7511	300	Earthbound mid-price CD player fails to excite	•	•				•	•			207
	Parasound C/DP-1000	499	Comes on like a high end player, but ultimately sounds a bit weak and soft-centred	•									184
	Philips CD751	150	Inconsistent and occasionally opaque and scrawny sounding cheapie	•					•				172
BB	Philips SACD-1000	1,300	Not quite a universal disc player, but it does SACD multi-channel, DVD-Video and CD to a universally high standard	•	•							•	220
	Pioneer PD-5507	200	Low cost Legato Link implementation sounds gentle but slightly muddled	•		•			•				191
	Primare D20	799	Well presented player doesn't quite cut the mustard, though it performs promisingly	•									188
	Revox Exception E426	2,250	Very stylish with a light, agile sound that extends superbly and has fine timing	•				•					182
	Roksan Kandy	475	Slightly old-fashioned sound quality player available in various colour schemes	•	•								200
	Roksan Caspian	895	Improved Caspian (retested for 2001) is still bold, dynamic player, but rather more subtle and expressive	•									212
	Rotel RCD-951	300	Disappointing chopped-down RCD-971 — buy the original	•									191
BB	Rotel RCD-971	450	Odd disc handling logic, but bold, detailed and refined sound make this a must	•									184
R	Rotel RCD-991	825	Strong midrange player with switchable dither levels to provide some system tweaking ability	•	•								212
	Sherwood CD 1	1,100	A very neutral, even handed sounding player with a rather flat, lifeless sound. Beautiful construction	•		•							163
	Sharp DX-SX1	2,700	Stylish player with a slightly forward but extremely nimble sound. Connects to matching digital amp via dedicated umbilical	•	•				•	•	•		211
R	Sony CDP-XE330	100	Unrefined, but lively, detailed and highly affordable			•							202
	Sony CDP-XE530	140	Well equipped, but raw, scrappy sounding player lacks depth and weight			•							200
BB	Sony CDP-XB930E	300	Yet another first rate UK optimised player with all the bells and whistles	•		•							195
R	Sony DVP-NS700V	400	Outrageously good value for money DVD-V/SA player, though SACD replay quality trails the audio only Sony SCD-XB770ES	•	•							•	220
BB	Sony SCD-XB770UK	400	Expressive and expansive player in the best SACD tradition, but CD replay is disappointingly lacklustre	•	•							•	220
BB	Sony SCD-555ES	1,200	Fabulously built with superb sound using both CD and Super Audio software, you'll be hard pressed to find a better CD player at the price	•	•							•	213
EC	Sony SCD-1	3,500	The first SACD player sounds fabulous but there's not much competition and limited software as yet	•	•			•				•	194
	T+A CD1210R	1,185	Intriguing player with rather pushy basic sound, but has switchable digital filters	•	•								188
	Talk Electronics Thunder 1	550	Entry level upgradeable Talk Electronics player sounds slightly muted										200
	Talk Electronics Thunder 2	699	Fine player, slightly lacking in dynamics, but readily, if expensively upgradeable in various ways										191
R	Talk Electronics Thunder 3	1,000	Clean, fast, and availability of a complete upgrade path make this a good long term proposition										95
R	TAG McLaren CD20R	1,249	Dry and unatmospheric, but plenty of presence — recommended with caution	•									188
	Teac VRDS-9	700	Well-presented. This Teac is crisp, yet shallow, and inconsistent in sound quality and partnering skills	•		•					•		176
	Teac VRDS-25x	1,000	Excellent, individualistic player with bold, colourful sound, but test sample had iffy CD-R compatibility	•		•			•		•		195
	Technics SL-PG390	90	It's very cheap. Very, very cheap			•							202
	Technics SL-PS7	200	Strong, but ultimately rather opaque and hard-sounding, high tech CD player			•				•			207
R	Technics SL-MC7	300	Maximum storage capacity for a minimum price, and presentable sound too (multidisc)			•				•		•	204
	Thule Spirit CD100	600	Definitely a try before you buy machine, but the bass and mid are excellent	•									188
	Trichord Genesis	549	Breathed-on Pioneer is warm and mellifluous, but ultimately lacks drive and authority	•							•		169
	Trichord Revelation	799	Well-ordered and clean sound that may be a little too refined for some, images well	•							•		166
	Tube Technology Fusion MkII	1,350	Improvements over the original model but still remains too inconsistent for its own good	•		•	•	•					206
	Tube Technology Fulcrum	2,800	An imaginative two-box player with a smooth sound that lacks some lustre	•	•	•							194
	Yamaha CDX-596	230	Well-priced and attractive-sounding, this player can read CD-RW	•		•							207
	Yamaha CDX-496	180	A rather splashy and approximate sound, further hampered by mechanical noise	•		•							217
	Yamaha CD-X993	400	A bit of a lush, though the sound is singularly free of grain, and equipment levels are strong	•	•								184
	YBA Spécial	695	There is nothing here to justify the pricing or the high-end parentage. Avoid										195





# DIGITAL RECORDERS



## SPECIFICATIONS

### MINIDISCS

STATUS	PRODUCT	£	COMMENTS	FORMAT	PORTABLE	OPTICAL IN/OUTPUTS	ELEC IN/OUTPUTS	ISSUE NUMBER
	<b>JVC XM-448</b>	220	An hidden keyboard is a great idea, but musically it sounds rather cool and strident	MD		●	●	205
	<b>Kenwood DMF-5020</b>	250	it may be high-tech but nothing conceals the caricatured sound	MD		●	●	205
R	<b>Kenwood DMF-9020</b>	500	One of the best MD decks yet for sound quality, and the first to make titling a practical proposition	MD		●	●	191
	<b>Onkyo MD-121</b>	450	Midi-sized deck that sounds slightly coloured at times, though immediate and lively	MD		●		177
R	<b>Pioneer MJ-D508</b>	200	Well equipped but musically sleep inducing player that deserves its recommendation due to price	MD		●	●	205
	<b>Sharp MDR3H</b>	300	Nifty machine combining a 3-disc CD changer with a MD recorder. Sound on both is rather below par, though	MD		●	●	184
R	<b>Sony MDS-JA555E5</b>	650	Powerful demonstration of Sony's proficiency, it delivers the best MD can offer	MD		●	●	205

### CD RECORDERS

STATUS	PRODUCT	£	COMMENTS	FORMAT	PORTABLE	OPTICAL IN/OUTPUTS	ELEC IN/OUTPUTS	ISSUE NUMBER
R	<b>Denon CDR-1000</b>	400	Straightforward but attractive single CD-R/RW deck is a respectable player and recorder, though some midband congestion was noted when recording	CD		●	●	218
	<b>Denon CDR-1500</b>	449	Ultra high jitter takes the sparkle out of an otherwise attractive dual disc CD-R/RW burner	CD		●	●	218
	<b>Harman/Kardon CDR-20</b>	499	High jitter player makes quite good recordings that sound less good when played back internally, especially when using the internal record capable transport	CD		●	●	218
	<b>Hitachi DV-W1E</b>	520	Combination CD-R/RW and DVD player has excellent ergonomics, but tends to sound rather opaque	CD		●	●	218
	<b>JVC XL-R5000</b>	450	Flexible, rattly build, and attractive sound, but it's a little expensive compared to other rivals	CD-R(W)		●		205
	<b>LG ADR-620</b>	350	A powerfully equipped machine with useful multi-room capabilities, but sound quality is rough and ready	CD-R(W)		●	●	205
BB	<b>Marantz DR6000</b>	400	Classy CD-R/RW recorder is also a classy CD player, in contrast to most CD recorders	CD		●	●	218
R	<b>Marantz DR-17</b>	1,500	Highly recommended, but with a jitter problem that, resolved, would improve sound quality	CD-R(W)		●	●	205
BB	<b>Philips CDR951</b>	380	An improvement on previous models, it delivers the musical goods in some style	CD-R(W)		●	●	205
R	<b>Philips CDR785</b>	350	Ragged play quality, but a good record performance from this well equipped, well priced CD-R/RW deck	CD		●	●	218
BB	<b>Pioneer PDR-609</b>	280	Classy single deck CD-R/RW burner is also a good if characterful player	CD		●	●	218
R	<b>Pioneer PDR-W839</b>	350	Good quality twin CD burner makes recordings that can be hard to distinguish from the original. Good value too	CD		●	●	218
R	<b>Pioneer PDR-W739</b>	400	Flexible multi-disc that has everything including respectable sound and pricing	CD-R(W)		●	●	205
	<b>TEAC RW-800</b>	350	Capable recording tool, but a little rough and ready as a player	CD-R(W)		●	●	205
	<b>Yamaha CDR-D561</b>	449	Twin CD-R/RW burner makes solid, believable discs, but is priced higher than equivalent models from elsewhere	CD		●	●	218

# HEADPHONES



## SPECIFICATIONS

STATUS	PRODUCT	£	COMMENTS	ELECTROSTATIC	SUPRA-AURAL	CIRCUM-AURAL	OPEN BACK	CLOSED BACK	MASS (g)	IMPEDANCE (Ω)	3.5mm JACK ADAPTOR	ISSUE NUMBER
BB	<b>AKG K44</b>	20	Lively, enjoyable and remarkably detailed: a bargain		●				190	32	●	219
R	<b>AKG K100</b>	36	Leather clad groove with bags of power and clarity, for a respectable asking price		●				190	100	●	205
	<b>AKG 301</b>	70	Big 'phones with even and detailed sound but lacks sufficient bass weight		●				230	100	●	194
	<b>AKG K 240 DF</b>	100	Inoffensive 'phones that are very laid back, if lacking in grunt		●				240	600	●	186
R	<b>Audio Technica ATH-D40fs</b>	100	Detailed and involving sound with a professional 'studio' quality appeal			●			250	66		194
R	<b>Audio Technica ATH-M40</b>	120	Incredible detail and honesty from these classically designed studio 'phone			●			250	60		186
	<b>Beyer DT331</b>	65	Clear and extremely detailed sound with rather thin bass			●	●		210	40		194
	<b>Beyer DT431</b>	81	Nice looking 'phones that may not be the best players on the field, but will always give 100 per cent			●	●		210	40		186
	<b>Beyer DT531</b>	105	Average performer from an established player. Lacks punch and bite			●	●		245	250		205
R	<b>Beyer DT511</b>	106	Superb midband clarity and speed slightly at odds with soft bass. Even so, high tingle factor			●	●		200	250		172
BB	<b>Beyer DT831</b>	140	These provide silky, smooth textures in abundance and we're not just talking about the velvet ear pads			●	1/2		295	250	●	186
	<b>Grado SR-40</b>	45	Cheap and nasty appearance largely redeemed by cheerful, up-beat sound. Very comfortable		●				120	32		172
BB	<b>Grado SR-60</b>	79	For sheer musical enjoyment these are hard to beat. Retro styling may not be to everyone's taste		●				200	32	●	194
R	<b>Grado SR-125</b>	150	What these 'phones lack in style they make up for ten-fold in musical quality		●				200	32		186
R	<b>Grado SR-225</b>	200	Warm, darkly-coloured tonally and ultimately lacking in clarity, but true to the spirit of the music		●				200	32		163
	<b>Grado SR-325</b>	300	Elegant sound across the frequency spectrum; let down by old fashioned ear-piece design		●				200	32	●	205
	<b>JVC HA-G77</b>	40	Too coloured for general recommendation, and lacking detail			●	●		260	32	●	219
	<b>JVC HA-W60</b>	49	Remarkable lack of interference and hiss ameliorates adequate sound of this cordless design					●	165	I/R	●	172
R	<b>JVC HA-W200RF</b>	75	Distinct lack of hiss from these FM cordless 'phones ensures that detail and depth are easily heard					●	280	20,000	●	186
R	<b>JVC HA-DX3</b>	200	Great headphone with a rich bass, careful mid-range and high comfort factor						340	90	●	205
	<b>Koss TD/80</b>	50	Oodles of bass but with a recessed midband; tiresome on the head with prolonged wearing						250	60	●	194
	<b>Koss R/200</b>	80	Basic sound is OK, but sensitivity is too low to be useful. Features stereo width control			●	●		210	60	●	219
	<b>Koss R/100</b>	100	Rather cheap looking 'phones that supply good detail but are severely lacking in midrange excitement						215	60	●	186
	<b>Precide Ergo Model 2</b>	140	Still has much of the spaciousness of the Float from which it is derived, but coarse mid/top						380	100		163
R	<b>Philips HP890</b>	66	A remarkably sophisticated and very comfortable headphone			●			330	32	●	219
	<b>Philips HP910</b>	80	Ergonomically good but suffers from a muffled mid-range and over excited bass			●	●		247	32	●	205
	<b>Sennheiser IS 380</b>	55	As close as you'll get to real hi-fi with infra-red phones at this price. Inevitable hiss spoils the illusion		●				192	I/R	●	172
	<b>Sennheiser HD570 Symphony</b>	90	A little lightweight in sound, and prone to sibilance - but detailed, and comfortable to wear						210	64	●	219
R	<b>Sennheiser HD 545</b>	125	Fine all-rounder that takes all styles of music in its stride. Ear-clamping headphone						255	150	●	172
BB	<b>Sennheiser HD 565 Ovation</b>	150	Wide bandwidth design which is refined, expressive and extremely comfortable						255	150	●	157
	<b>Sennheiser HD590</b>	160	Assured and confident player with very low colouration and great comfort						270	120	●	205
	<b>Sennheiser HE 60/HEV70/UK</b>	998	Very nearly a superb electrostatic, with a pure midband, but top end is sibilant and edgy	●					260	N/A		163

## HEADPHONES (CONTINUED)

STATUS	PRODUCT	€	COMMENTS	ELECTROSTATIC	SUPRA-AURAL	CIRCUM-AURAL	OPEN BACK	CLOSED BACK	MASS (g)	IMPEDANCE (Ω)	3.5mm JACK ADAPTOR		ISSUE NUMBER
											●	●	
R	Sony MDR-CD480	40	Generally neutral and nicely detailed: comfortable too		●	●		●	250	40	●	●	219
	Sony MDR-V700DJ	100	Great looking fold-away 'phones with exceptional build quality. Kickin' bass		●			●	300	24	●	●	194
	Sony MDR-CD 2000	200	Large pads make for sweaty listening. Pure mid-tones, but weightless bass				●		300	32	●	●	205
	Technics RP-F500	40	Just too bright for general recommendation, though they play along with gusto				●		225	40	●	●	219
BB	Technics RP-F800	50	Comfortable budget model that sounds sublime with great dynamics		●				160	40	●	●	205
	Technics RP-DJ1200	130	Functional design with head-pulping bass and muggy tonal balance. Good job they're sweat-proof		●				230	32	●	●	172
R	Stax System II	400	Luxury option at its price, but the sound delivery is five star quality all the way		●	●	●		295	50	●	●	205
BB	Stax Lambda Nova Basic	395	Refined, articulate, yet with real presence – and a notable bargain by electrostatic standards		●	●	●		347	N/A	●	●	163
	Vivanco SR322	30	Weak design and uncomfortable, but redeems itself with substantial sound quality		●				248	32	●	●	205
R	Vivanco SR2225	30	Not that subtle, but high fun factor compensates		●				250	32	●	●	219
	Vivanco Cyberwave FMH3000	40	The only cordless 'phone to offer genuine walkabout freedom, but sounds like a cheap FM tuner		●				210	FM	●	●	172
	Vivanco IR5800	50	Consistently musical infra-red design. Doesn't reach for sonic heights so hiss can be forgiven		●		1/2		226	IR	●	●	172
R	Vivanco SR950	80	Cuddly feel and sound make these an enjoyable pair of 'phones		●				252	32	●	●	194
	Vivanco FM7980	80	A fair amount of whine and crackle detracts from 'phones which are otherwise very listenable		●				280	9,000	●	●	186
	Vivanco FM8180	99	Well thought-out features and a better than average sound are, at times, marred by intrusive hiss			●			240	9,000	●	●	186

## LOUDSPEAKERS

## SPECIFICATIONS

## STEREO SPEAKERS

STATUS	PRODUCT	€	COMMENTS	SIZE (WxHxD) (cm)	SENSITIVITY (dB/W)	FLOORSTANDER	IMPEDANCE (Ω)	BASS FREQ (Hz)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
R	Acoustic Energy Aegis One	150	At a new low price, this has a very natural and transparent midband, erring a little on the dull side	19,36,5,24	87	6	40	●			187
R	Acoustic Energy Aegis Two	250	Floorstanding variation on the Aegis One theme, with a neutral, even and detailed if slightly shiny sound	19,87,24	●	89	8	40	●	●	201
	Acoustic Energy Aegis Three	350	Clean and capable 2.5-way budget floorstander with fine dynamic range but some mid-bass excess. Mass-loaded	19,5,93,25	●	90	5	25	●	●	215
	Acoustic Energy AE120SE	500	Attractive styling and good sonic headroom, but a heavy, uneven overall balance, and a difficult amp load	18,97,28	●	89.5	10	25	●	●	199
R	Acoustic Energy AE520	1,000	Could be more neutral, but high-class build is reflected in a high-class sound. Very elegant too	21,98,30	●	91	3	25	●	●	190
	ALR Entry 2	250	Metal cone stand-mount has a generous performance envelope, but sound quality was controversial	20,33,29	●	90	4	22	●	●	201
	ALR Jordan Note 3	1,000	Very substantial, with tuneable ABR for better room matching. Sounds good but could be more neutral	24,5,37,32	●	89	5	30	●	●	211
	ALR Jordan Note 7	2,500	A beguiling Anglo-German collaboration delivers metal-cone precision with fine dynamic range	25,107,32	●	92	4	25	●	●	196
R	AR S20	150	Classic stand-mount might not have the most dynamic sound around, but it's an honest and effective musical communicator	20,37,28	●	90	4	28	●	●	215
	AR 15	275	Neat and chunky wall/stand-mount certainly knows how to rock and roll, less convincing on the delicate stuff	22,37,22	●	90	4	45	●	●	201
R	Arcaydis Concept 2	1,199	Solid oak floorstander is a little lazy sounding, but is well balanced and smooth with modest coloration	19,90,26	●	86	7	25	●	●	211
	ATC SCM10	1,000	A compact speaker with good transparency but lightweight bass	18,38,25,5	●	80	8	65	●	●	192
	ATC T16	1,750	Compact active 'home studio monitor' in colourful cast box, with considerable loudness potential	27,45,33	A	A	45	●			214
R	ATC SCM20 SL	2,051	Not too transparent but has great dynamic grip and bass to die for. Needs a powerful amp	24,44,33	●	84	5	65	●	●	219
EC	ATC SCM10A	1,299	Stylish, active power houses with plenty of subtlety when required (balanced connection only)	23,39,31	A	A	45	●			221
EC	ATC SCM50A SL	7,020	350 Watts of power combine with superb drive units and a 48kg cabinet to provide alarming resolution	35,71,6,48	A	A	38	●			218
	ATC SCM70A SL	10,500	Stylish aluminium casework disguises dynamic grip, tracking and precision that equals the very best	127,40,46	●	A	A	20	●	●	205
R	Audio Gem Emerald	540	Pretty, compact floorstander with lively if lightweight sound	18,94,21	●	87	6	40	●	●	164
R	Audio Note AZ One	449	A fine partner for low power valve amps, it delivers music with great gusto and enthusiasm, but also more than its fair share of coloration	23,83,29	●	92	6	30	●	●	215
R	Audio Note AN-E/D	1,520	This classic large stand-mount might have throwback aesthetics, but it delivers an exceptional allround sound	36,79,28	●	92	4	20	●	●	204
R	Audio Note AN-J/5Pe	1,675	Retro styling but a vigorous and dynamic performer that creates fine musical tension	33,58,5,245	●	90	5	38	●	●	219
R	Audiovector C2	799	Elegant two-and-a-half-way has a big, full bandwidth sound, but midband seemed a little underdeveloped	19,106,27	●	90	4	20	●	●	190
R	Audiovector M2	1,399	High-class, smooth and slightly laid-back performer has driving bass. It's upgradable, too	20,102,30	●	89	4	22	●	●	180
R	AVI NuNeutron	500	A smooth and subtle though pricey sub-miniature, albeit with the inevitable limitations of the breed	14,27,23	●	86	4	50	●	●	190
R	AVI Biggatron Red Spot	559	Good bass coherence and timing, but the lean and decidedly forward balance won't be to every taste	19,5,37,30	●	88	7	30	●	●	211
R	AVI Positron	899	This 'mini-floorstander' is capable of great precision and delicacy, but in a rather small-scale way	17,5,74,24,5	●	85	6	40	●	●	174
R	B&W 601 S2	200	A smooth and sophisticated stand-mount combines good drive with fine neutrality	20,5,36,23	●	89	4	30	●	●	207
BB	B&W 602 S2	300	Large stand-mount has fine dynamic literacy and good communication skills at a very competitive price	23,5,49,29	●	90	5	28	●	●	201
R	B&W 603 S2	550	Capable of being driven seriously loud, but the cautious balance seems less happy playing at low levels	23,5,87,29	●	91	4	22	●	●	193
	B&W CDM-1NT	750	An uncommonly stylish and sonically self-effacing stand-mount that should be very easy to live with	22,40,29	●	89	7	30	●	●	208
	B&W CM4	900	Beautifully styled trend-setting floorstander has a big but rather dull sound	20,91,29	●	91	3	35	●	●	219
	B&W CDM-7NT	1,250	A very classy floorstander, in sound as well as looks, with fine bass drive, authority and overall neutrality	22,95,29	●	90	6	20	●	●	208
R	B&W Nautilus 805	1,400	A small-sounding loudspeaker dynamically, but very stylish, clean and 'unboxy', delivering loads of detail	24,42,31	●	89	12	28	●	●	199
	B&W Nautilus 803	3,500	Classy looking three-way with impressively deep bass, wide dynamic range and a laid-back balance	29,108,42	●	89	3	20	●	●	210
	B&W Nautilus 804	2,500	The prettiest Nautilus has tremendous clarity and imaging but lacks the welly of bigger models	24,101,5,245	●	89	8	38	●	●	200
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	●	91	8	34	●	●	183
R	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	●	91	8	34	●	●	186
BB	Blueroom Minipod	249	The Minipod can show its competitors a thing or two about freedom from boxiness and looks fab	18,34,17	●	91	4	50	●	●	193
R	BC Acoustique Araxe	1,300	Neat compact floorstander is a very lively communicator, if a little short of deep bass grunt	21,92,30	●	94	3	40	●	●	204
R	Cabasse Farella 400	950	Exciting but very upfront-and-in-yer-face sound. High sensitivity, fine build and good dynamic drive	26,92,32	●	92	5	28	●	●	180
	Carlsson OAS2.2	1,500	Ultra-discreet design integrates cleverly with the listening room. Impressively unboxy, but sounds a bit thin	41,54,37	●	90	8	20	●	●	195
R	Castle Richmond	250	Tiny real-wood miniature has a lightweight but very coherent sound, a bit in-yer-face but plenty of fun	17,33,20	●	90	5	50	●	●	201
	Castle Inversion 15	425	This striking looking standmount is a good all-rounder, commendably free from boxiness	22,42,25	●	91	4	30	●	●	193
R	Castle Severn 25E	700	Pretty little floorstander is lively and communicative, if a little coloured in the voice band	21,84,24	●	88	6	28	●	●	204
BB	Castle Harlech S2	1,000	Improved Harlech is slightly aggressive, but lots of fun, and very good looking too	20,96,33	●	89	6	50	●	●	219
	Castle Inversion 100	1,975	Large semi-omni design with gorgeous Art Deco styling, sounds open but bass alignment is ill-tuned	26,5,111,45	●	91	8	20	●	●	195
R	Celestion A Compact	600	Provided the room isn't too large and your tastes not too heavy, this is a charming little number	17,24,21	●	90	3	45	●	●	193
BB	Celestion A1	899	Rich, warm and laid-back, but a true quality sound; lovely build	24,41,35	●	88	6	25	●	●	164
R	Celestion A2	1,500	Full-scale, big sound from ultra-elegant floorstander. Smooth and slightly laid back presentation	24,93,39	●	89	6	22	●	●	180
	Chario Syntar 100	249	Pretty with a pleasantly easygoing balance, but not the most communicative or exciting sound around	18,32,27	●	87	6	45	●	●	170
R	Chario Hiper 1000	300	Classy looking standmount has a sweet, easygoing sound with fine midband voicing	18,35,28	●	87	4	45	●	●	187

**STEREO SPEAKERS (CONTINUED)**

STATUS	PRODUCT	£	COMMENTS	SIZE (WxHxD) (cm)	FLOORSTANDER	SENSITIVITY (dBW)	IMPEDANCE (Ω)	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
	<b>Chario Constellation Lynx</b>	550	Beautiful near-miniature is let down by a midband too laid back for its own good	20,36,26	●	87	3	40	●	●	190
	<b>Chario Academie Millennium 1</b>	1,399	Pretty but pricey, with a smooth even balance but limited dynamic expression	21,37,31	●	87	4	42	●	●	219
EC	<b>Chario Academie Millennium 2</b>	2,100	Price includes stands. A showy speaker that lives up to its own hype	22,53,35	●	90	4	55	●	●	190
	<b>Cyrus CLS70</b>	800	Wonderfully striking styling, but presence is very laid back; likes playing loud	22,33,32	●	87	8	40	●	●	211
	<b>Cyrus Icon</b>	2,500	First high end NKT speaker with huge omni-directional soundstage. But they have limited dynamics and unusual imaging	34,125,29	●	84	8	18	●	●	216
BR	<b>Dali 606</b>	400	A big bruiser at a tempting price. Sounds refined and polite, but also packs some punch	22,97,32	●	91	4	25	●	●	174
	<b>Dali Royal Menuet MkII</b>	429	Classy sub-miniature with a beautiful box and fine ingredients, but a little lacking in subtlety and excitement	16,26,18	●	87	3	50	●	●	190
R	<b>Dali Evidence 870</b>	1,249	A real heavyweight, sonically and physically, and good for movies as well as music	24,5,106,36	●	93	2.5	20	●	●	204
	<b>Dali Grand Coupe</b>	1,333	Big sounding stand-mount with laid back but clean and informative sound	23,41,29	●	85	5	45	●	●	219
BR	<b>Dynaudio Audience 42</b>	400	Expensive for a vinyl-covered miniature, but an aristocrat amongst the breed. Is there a better small speaker around for the price?	17,28,5,24	●	87	4	40	●	●	215
	<b>Dynaudio Audience 72</b>	1,100	Very competent in most respects, but doesn't quite grab the attention; could be more communicative	20,97,26	●	89	3	20	●	●	211
R	<b>Dynaudio Contour 1.3 MkII</b>	1,198	Stand-out performer amongst compact stand-mounts; neutral, with fine punch and dynamic range	20,38,29	●	88	3.5	45	●	●	219
R	<b>Dynaudio Contour 1.8 MkII</b>	1,842	Wonderful voice-band delicacy and loads of deep bass from a very elegant and compact box	21,95,29	●	85	4	20	●	●	167
	<b>Elac CL102 II</b>	599	Chunky floorstander with classy drivers has a neutral, slightly 'shiny' character, and could have more punch	20,95,28	●	88	9	23	●	●	199
	<b>Elac CL 310i Jet</b>	800	It's pricey, and you can buy better performance for the money. Small speaker, good sound	12,3,20,8,28	●	86	4	42	●	●	191
	<b>Eltax Liberty 3+</b>	150	Bright, bassy, laid back and attractively evenhanded, but dynamically challenged. Big box for your cash	25,50,34	●	86	4	25	●	●	187
	<b>Eltax Linear Response</b>	249	A curiously dumpy shape, but smooth, laid-back performer is easy on the ears, with fine tonal accuracy	25,35,32	●	85	4	40	●	●	177
	<b>Eltax Chroma Front</b>	300	Gorgeous shiny styling package at an ultra-competitive price, suffers from an excess of rather flabby bass	19,98,28	●	87	4	25	●	●	201
R	<b>Energy e:XL 25</b>	400	Neat slimline design delivers a fine all round performance for the price, but could sound smoother	15,87,31	●	90	4	25	●	●	201
R	<b>Excel 202A</b>	1,795	Very Pro-styling, a compact active monitor in BBC tradition - neutral, unboxy and laid-back	15,21,5,36	●	A	A	25	●	●	214
BR	<b>Epos M12</b>	499	Retains the beguiling midband coherence that made the ES12 such a favourite. A genuine class act, sonically and aesthetically	20,38,26	●	86	7	40	●	●	215
	<b>Gale 2i</b>	140	Unspectacular sound and appearance fail to help this solid little miniature stand out from the crowd	22,40,27	●	88	7	40	●	●	170
	<b>Genelec HT206</b>	1,400	Baby active monitor goes very loud for its size. Very neutral but a tad boxy	20,31,24	●	A	A	40	●	●	214
R	<b>Heybrook Prima 2</b>	159	Great openness, speed and timing. Sounds fresh and vital, though sometimes lacks scale and weight	20,29,18	●	87	6	50	●	●	179
	<b>Heybrook HB1</b>	180	Good value but an uneven performer, the HB1 provides plenty of fun with the volume turned well up	21,38,25	●	88	3	50	●	●	207
BR	<b>Heybrook Heylette</b>	200	Attractive traditional-style near-miniature with classy main driver now has fine overall balance to match	19,5,30,22	●	88	4	45	●	●	187
BR	<b>Heybrook Optima</b>	259	A dumpy ugly duckling with a heart of gold. Deserves a better tweeter, but communicates well	22,88,29	●	94	4	30	●	●	193
BR	<b>Heybrook Heylios</b>	269	Classically styled stand-mount has a fine balance of smoothness and dynamics, plus real wood veneer	23,5,36,27	●	89	6	25	●	●	201
	<b>Heybrook Ultima</b>	649	Has the bass wallop to justify its dual hi-fi/home cinema roles, but doesn't excite	22,97,29	●	89	6	45	●	●	174
R	<b>Heybrook Duet</b>	750	Looks slightly old-fashioned, sounds a bit coloured but its fine timing and liveness serve music well	23,43,30	●	88	11	27	●	●	199
	<b>Heybrook Octet</b>	1,800	Good-looking but pricey floorstander with novel drivers and a fine ceramic-enclosure midband	24,97,31	●	90	6	25	●	●	180
R	<b>Indigo Three</b>	500	Cute 'n' chunky standmount is an entertaining communicator. Great fun, despite some sonic weirdness	23,30,5,32	●	86	17	24	●	●	199
BR	<b>Infinity Alpha 30</b>	300	Some sharpness and nasality, but fine musical literacy plus a good measure of dynamic expression adds up to a great value floorstander	22,86,29	●	89	4	30	●	●	215
	<b>Jamo E800</b>	200	Nicely voiced, open midband but bottom end is a bit strong and amorphous	17,5,33,29	●	87	3	30	●	●	207
	<b>Jamo D830</b>	1,400	Dynamically exciting and communicative, but lacks both smoothness and neutrality. Pricey too	24,5,38,32	●	88	5	30	●	●	211
BR	<b>JBL LX2</b>	250	Invgorating, if a touch crude, this good-hearted speaker reproduces music with enthusiasm	22,40,27	●	87	8	40	●	●	170
	<b>JBL Ti200</b>	400	Very substantial standmount knows how to rock and roll, but can sound uncouth on more delicate material	21,41,30	●	92	5	40	●	●	193
	<b>JBL SVA1500</b>	700	A distinctive Pro-style bi-radial horn tweeter, with a fun sound, enlivened by a juicy bass thump	16,5,51,31	●	86	8	40	●	●	174
R	<b>JBL SVA 2100</b>	1,250	Monstrously large and brutish styling, goes very loud as well as deep. Fine focus but some boxiness	37,114,52	●	91	8	<20	●	●	180
	<b>JBL LX70</b>	550	Bassmeister supreme, shame the rest doesn't match up. Fine sensitivity but an itchy, scratchy treble	26,5,94,30	●	91	4	33	●	●	183
BR	<b>JBL Xt140</b>	500	Real wood and a cute shape, with a punchy diving bass, and a restrained overall balance	24,82,31	●	88	6	40	●	●	210
R	<b>JMLab Electra 905</b>	1,200	Compact but massively engineered, delivers a very classy sound with exceptional dynamic range	23,5,47,28	●	90	4	40	●	●	204
BR	<b>JBL JMLab Cobalt 826</b>	1,229	Big 3-way French floorstander is lively, informative and mostly neutral, if a tad bright	22,103,34	●	91	3	35	●	●	219
EC	<b>JMLab Micro Utopia</b>	2,749	Superb top-of-the-line stand-mount with magnificent powers of analysis and communication; no deep bass	26,43,41	●	89	3	50	●	●	220
R	<b>JMLab Mezzo Utopia</b>	7,250	Looks good and sounds even better. A genuinely big speaker with fantastic coherence	35,115,47	●	92	4	30	●	●	186
BR	<b>JPW ML510</b>	130	Lots of good quality speaker for the price, but not an ideal match for cheap budget components	20,34,22	●	88	5	50	●	●	169
	<b>JPW ML910</b>	330	Loads of speaker for the money, plenty of headroom and loudness capability, but sounds dull	23,104,30	●	91	4	43	●	●	183
R	<b>JPW ML1010</b>	400	A seriously substantial speaker for the price, and an obvious choice for those who like their music loud	22,5,115,40	●	91	6	25	●	●	170
	<b>KEF Cresta 2</b>	149	A good looking/value package but sonically disappointing, and no match for the Q15	20,5,37,24	●	91	4	40	●	●	195
R	<b>KEF Q15.2</b>	200	A vigorous and entertaining compact speaker that remains particularly well aligned for close-to-wall siting	20,5,31,27	●	89	3	30	●	●	207
	<b>KEF Q35.2</b>	350	A very decent and good looking compact floorstander; but a pair of stand-mounted Q15.2s is likely to have the performance edge	21,78,5,27	●	90	2.5	25	●	●	215
	<b>KEF Q55.2</b>	500	Beefy vinyl-finished UniQ delivers loads of bass, but might have more control	21,87,29	●	90	4	25	●	●	210
R	<b>KEF Reference One-Two</b>	1,200	Limited low bass but bags of headroom. Coherent and lively sound, but could be more transparent	22,5,87,35	●	89	3	40	●	●	211
	<b>KEF RDM Three</b>	1,500	Definitely a speaker aimed at long-term satisfaction rather than immediate impressiveness. Nice	24,100,27	●	90	4	40	●	●	189
	<b>KEF Reference Model 2</b>	1,599	Classy, large floorstander that has massive headroom and clean mid-to-treble, but limited deep bass	23,103,34	●	89	4	30	●	●	167
R	<b>Keswick Audio Torino</b>	999	Good value, lively contender with distinctive styling. Goes loud and deep but could be smoother	26,93,28	●	90	4	20	●	●	167
R	<b>Linn Kan</b>	295	Great bass discrimination from size, ensuring a very informative, if slightly shut-in experience	19,31,19	●	86	4	45	●	●	187
R	<b>Linn Katan Aktiv/LK140</b>	2,325	Too small to have much grunt or loudness, but bright top is very sweet, clean and detailed	17,34,23	●	A	A	40	●	●	214
BR	<b>Living Voice Auditorium</b>	1,500	Pretty, compact floorstander has wonderful coherence, high sensitivity and fine dynamic integrity	21,5,98,29	●	91	4	25	●	●	180
EC	<b>Living Voice Avatar</b>	2,500	Dynamic and highly resolved yet physically discreet design with a relaxed balance	21,5,104, 7	●	91	8	40	●	●	218
EC	<b>Living Voice Avatar OBX-R</b>	4,000	Discreet but extremely fine design with external crossover and an affinity with great amps and sources	21,5,104,27	●	89	8	45	●	●	196
	<b>Magnat Vintage 320</b>	350	Loads of speaker for your money, but the sound is thick, heavy and lacking in presence and authority	25,102,30	●	90	4	20	●	●	201
	<b>Magnat Vector 77</b>	450	Tall, dark and a lot of speaker for the money. Beautiful balance, but lacking in subtlety and transparency	22,115,29	●	89	5	30	●	●	183
	<b>Magnat Vintage 710</b>	800	Very competent but didn't particularly stand out; distinctive styling and slightly shiny sound	20,27,42,32	●	90	5	25	●	●	211
R	<b>Magnat Vintage 720</b>	1,200	Slightly crude in some respects but lots of heart, fine scale, decent dynamic coherence and integrity	29,113,32	●	88	4	20	●	●	180
	<b>Martin-Logan Prodigy</b>	8,967	Combines the finesse of an electrostatic with the grunt of cleverly engineered cone bass to good effect	42,179,71	●	91	4	28	●	●	204
BR	<b>Meridian M33</b>	1,495	Compact active wall-mount packs remarkable dynamic vigour into a very discreet package	15,38,22	●	A	A	45	●	●	214
	<b>Mirage FRX7</b>	550	Neat slim floorstander has a heavy, laid back balance, probably better suited to movie than music reproduction	17,5,95,32	●	90	4	25	●	●	204
	<b>Mirage OM-5</b>	3,000	A meaty model that goes loud without distortion, digs deep with aplomb and creates plenty of depth of image	23,103,42	●	90	6	22	●	●	206
	<b>Mirage OM-10-1</b>	2,000	Tall black omni-bi-pole has plenty of bounce and dynamic vigour; but is more room sensitive than most	23,118,30	●	88	4	20	●	●	210
R	<b>Mission 700</b>	130	A lot of speaker for the money. Good bass weight and extension and goes loud with ease	18,34,26	●	87	8	40	●	●	179
R	<b>Mission 771e</b>	200	Beautifully styled miniature has a delightfully voiced midband, and real wood finish too	17,31,22	●	86	6	45	●	●	207
BR	<b>Mission m73</b>	200	Sharply priced and good looking floorstander. Dynamics are a little limp, but it has a good overall balance. Excellent value for money	20,87,5,31	●	88	3	25	●	●	215
	<b>Mission 780</b>	299	Gorgeous miniature has a fine midband and clean, bright treble, slightly odd bottom end	16,5,28,27	●	86	6	40	●	●	201
R	<b>Mission 773e</b>	400	Beautifully designed slim floorstander could be more neutral but still delivers an all-round entertaining sound	17,5,88,26	●	92	4	30	●	●	193
R	<b>Mission 774</b>	500	Gorgeous floorstander is an entertaining communicator, despite some balance oddities (bright treble)	18,95,31	●	90	4	40	●	●	183



**SUBWOOFERS**

STATUS	PRODUCT	£	COMMENTS	SIZE (WxHxD) (cm)	FLOORSTANDER	SENSITIVITY (dB/W/M)	IMPEDANCE (Ω)	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
R	B&W ASW1000	499	Bulky heavyweight is a high quality item, able to generate more bass output than music is likely to need	54,47,50	●	A	A20	●			198
	Jamo D8SUB	950	Pretty but pricey, the D8SUB packs plenty of punch (for movie fans), but doesn't delve deep enough for music replay	45,5,41,45,5		A	30	●			210
	M&K MX70	795	Cutely compact and entertaining too, but lacks the ultimate extension to justify its high price	37,32,30	●	A	25				210
	Mission 7AS2	399	Ugly if very effective at supplying very low bass, but filter could do with more flexibility higher up	56,30,31	●		<20	●			198
R	Paradigm PDR-10	150	Not much grip, drive or authority, but it doesn't get in the way and it is very cheap	34,5,36,42	●	A	25				210
	Polk PSW430	400	A lot of subwoofer for your money, but lacks deep grunt and is more movie than music oriented	38,5,45,46	●	A	25				210
	REL Q400E	1,000	A class system, and good for movies, but has a tendency to thicken textures and add a bit too much 'thump' to music	39,42,43		A	16				217
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		A	16				217
R	REL Strata III	800	A little more bottom octave might have been preferable, but in terms of agility and coherence this is a fine hi-fi subwoofer	42,52,39		A	20				210
R	REL Q50	375	This good looking if bulky sub does the business with impressive flexibility and sonic self-effacement	42,53,31		A	20				210
R	Ruark Log-Rhythm	775	Adds weight and scale with commendable discretion, making a positive contribution to the whole musical exposition	43,43,43	●	A	<20				210
R	Soliloquy S10	1,050	(Active) Pretty subwoofer, cosmetically matching SM 2A3 speakers, pricey and mid-bass a bit strong	51,30,5,46	●	A	25	●			196

**SATELLITE & SUBWOOFER SYSTEMS**

STATUS	PRODUCT	£	COMMENTS	SIZE (WxHxD) (cm)	FLOORSTANDER	SENSITIVITY (dB/W/M)	IMPEDANCE (Ω)	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
R	AE Aego2	300	Not quite a serious hi-fi speaker system, but a seriously fun type product for all that (19x35x27cm sub)	7,10,9		A	n/a	45	●		218
R	Bandor Trident II	776	Loudness is limited, but overall sound is impressively homogeneous and coherent. (31x46x31cm sub)	12,13,10-12		83	6	25	●		218
R	Boston Micro 90	650	Lacks warmth but the midband is smooth and impressively evenhanded (37x36x39cm sub)	10,17,14		88	4	28	●		218
R	Cabasse Jupiter/lo	1,230	A sub/sat combo that really competes with proper stereo speakers. Striking styling and stereo imaging (40x43x41cm sub)	15 diam		94	2	30	●		218
	KEF KMS2002	499	Looks the business, but lacks deep bass and the presence/treble is also too restrained (32x36x32cm sub)	13,23,14		85	3	45	●		218
	Mission FS2	450	Intriguing NXT speaker technology has minimal visual impact, but lacks dynamic precision (32x47x25cm sub)	13,5,28,4,5		86	6	40	●		218
	MHT Super Zero/Sub One	1,000	Decent enough, but not the prettiest nor the best value around for music replay - one for movie fans (40x41x42cm sub)	14,23,14		84	8	30	●		218
R	Ruark Vita 100	900	Not the cheapest sub/sat, but certainly one of the most accomplished, sonically and visually (30x42x30cm sub)	11,20,17		86	6	40	●		218

**LOUDSPEAKERS**

**MULTICHANNEL SPEAKERS & PACKAGES**

STATUS	PRODUCT	£	COMMENTS	SIZE (WxHxD) (cm)	FLOORSTANDER	SENSITIVITY (dB/W/M)	IMPEDANCE (Ω)	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
BB	Acoustic Energy Aegis Three	350	High value floorstander has deep and even bass and a smooth neutrality thereafter	19,90,25	●	90	5	22	●		198
R	B&W LCR6	349	Large, gutsy standmount intended for all-round AV use delivers fine performance as a stereo pair too	20,5,55,32		90	5	20	●		198
	B&W Nautilus package	6,500	This classy, laid-back package is arguably too good for current programming. Very bulky centre speaker	var	var	n/a	3	20	●		210
	Definitive Technology BP2X	595	Pricey but effective bi-polar surround speaker, with unusually high sensitivity	23,37,15		94	4	120	●		198
	Definitive Technology BP2004	1,700	Pricey bi-polar floorstander has a fine midband, let down by its built-in powered subwoofer	19,104,31	●	91	5	28	●		198
	Dynaudio LIRC 120	439	Slim centre and front standmount, has an evenhanded but rather laid back balance but lacks drive	16,5,57,31		89	5	25	●		198
	Jamo Concert package	2,500	Lovely main speakers sonically overshadow the centre, while surrounds are a bit obvious too	var	var	n/a	5	30	●		210
BB	JBL Xti-series package	1,190	Hexagonal boxes all round, this package has decent authority and all round tension	var	var	n/a	5	40	●		210
	KEF Q-series package	880	Cleverly designed, vinyl-finished UniQ package packs a goodly thump but centre and surrounds stand out	var	var	n/a	3	25	●		210
	Mirage OM-series package	2,000	Big black and bouncy package with omni fronts has plenty of vigour but some coloration var	var	var	n/a	4	20	●		210
R	Mission 77DS	2,999	Neat flush-mount surround speaker has no bass but a smooth midband and nicely restrained treble	34,26,12		92	4	120	●		198
	Mission Cinema 8 package	1,400	Beautifully styled and cleverly designed package, but could have more grunt and drive for the price	var	var	n/a	4	30	●		210
	Polk RTE 1000p	1,300	Tall elegant tower with built-in powered bass 'subwoofer' that needs using with discretion. Bright but engaging	20,110,35	●	91	4	25	●		198
	Monitor Audio Silver series	1,000	Great looking conventionally styled package lacks something in dynamic drive and tension	var	var	n/a	4	30	●		210
R	Mordaunt-Short Declaration 500	1,600	Good value vinyl THX Select package with Power Towers. Good authority but must be 5.1-connected var	var	var	n/a	3	25	●		210
R	PMC FB1/TB2 package	2,485	Cliffy if bulky and pricey package has good transparency, coherence and weight	var	var	n/a	6	20	●		210
R	Rega Jura/Ara/Senta	938	Classy real wood package does a good all round job, but sounds bright and might have more surround weight	var	var	n/a	4	25	●		210
BB	Tannoy mXAV4 package	500	Lacks grunt, grip and authority, but smooth and refined with seamless surround coherence	var	var	n/a	4	20	●		210
BB	Tannoy Saturn S6LCR	400	A punchy compact standmount based on a serious cast-frame, pro-style dual-concentric driver	21,38,29		89	6	25	●		198
BB	Tannoy Saturn S6	500	Fine value vinyl floorstander offers plenty of genuine grunt and real dynamic tension	21,89,29	●	91	4	20	●		198

**CENTRE CHANNEL SPEAKERS**

STATUS	PRODUCT	£	COMMENTS	SIZE (WxHxD) (cm)	FLOORSTANDER	SENSITIVITY (dB/W/M)	IMPEDANCE (Ω)	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
R	Acoustic Energy Aegis Centre	140	Good value centre-front speaker but a tad shut in and with a slightly obvious top end (price per speaker)	46,17,20		89	5	50	●		198
	B&W Nautilus HTM1	1,500	Very bulky for a centre speaker, though very capable too - a little less laid back than its siblings	76,37,30		89	4	30	●		210
	Castle Keep	250	Substantial centre-front speaker based on Harlequin drivers but with rather brighter voicing	48,17,29		88	8	45	●		198
R	Definitive Technology CLR2002	595	Pricey, but undoubtedly one of the better centre-front speakers around, with fine timing and open voicing	55,5,17,5,31		90	4	40	●		198
	Jamo Concert Center	550	A decent balance match but lacks the class and grip of the Concert 8s, and is bulky and pricey too	55,22,30		87	5	100	●		210
BB	JBL Xti10C	200	An elegant, cleverly designed centre and a good match for the 40s. Better value than most too	51,19,5,27		88	5	50	●		210
	KEF Q95C	200	This artfully designed UniQ centre looks much better than most on top of the TV set	40,17,17		89	3	120	●		210
	Mirage OM-C2	600	Large but discreet omni-bi-pole matches OM-10-1 well but lacks tight focus, and seems expensive	64,18,5,31		88	4	50	●		210
R	Mission 77C	199	A good centre-front match for 77-series, the triple tweeter might be a curiosity, but voicing is very good	42,17,21		91	4	100	●		198
	Mission 78C	350	Makes a good visual and sonic match for the 782, but quite pricey by comparison, given the ingredients	45,17,19		86	3	100	●		210
	Monitor Audio Silver Centre 10i	300	Neat and good looking partner to the Silver 5is, but a little more forward, and quite expensive too	50,17,21		87	4	100	●		210
R	Mordaunt-Short MS 504	200	Smart yet discreet and a good match for the 502. Sounds clean and expressive, and is well priced	50,19,20		88	3	120	●		210
R	PMC TB2M/C	325	This bulky centre speaker is quite pricey, but it combines good transparency with some authority	40,20,31		87	6	50	●		210
	Polk CS 1000p	999	Monstrously large and heavy centre-front speaker, presumably for those with monstrous intentions	87,22,35		92	4	25	●		198
R	Rega Senta	185	The very compact Senta is sensibly priced, a bit bright maybe, but articulate and expressive	32,16,21		89	4	120	●		210
BB	Tannoy mXC	100	Could be more exciting, but a very impressive centre speaker at an unusually reasonable price	42,16,21		88	4	120	●		210
BB	Tannoy Saturn S6C	200	A punchy compact standmount based on a serious cast-frame, pro-style dual-concentric driver	38,21,29		89	6	25	●		198

# PERSONAL / INTERNET

## SPECIFICATIONS

### PERSONAL STEREO

STATUS	PRODUCT	£	COMMENTS	STORAGE FORMAT	RECORDING	IN-LINE REMOTE	CODEC	PC CONNECTION	STANDARD CAPACITY	ISSUE NUMBER
	Aiwa HS-PX307	30	So-so sound but an impressive features roster. Decent value overall	Cassette		●				204
R	Aiwa AM-HX50	180	Neat play-back only personal with an impressively full-bodied sound, though short on detail	MiniDisc		●				204
	JVC XL-PG31	60	"Challenging" looks and frankly unpleasant sound add up to a player that's best avoided.	CD						216
	JVC XM-R700SL	250	The most expensive player here, but its in-er-face sound and slab-like, heavy design make its value questionable	MiniDisc	●	●				216
R	Kenwood DPC-X517	100	Clean, funky bass makes for an exciting sound; an attractive proposition, if you can stomach the looks	CD						216
R	Panasonic RQ-SX71	70	A sleek aluminium body, decent sound and superb features	Cassette		●				204
	Panasonic RQ-SX91	80	A super-slick personal for well-heeled cassette users. Sound is rather bright	Cassette		●				204
	Panasonic SJ-MR100	250	Well built and nicely appointed, though performance is unremarkable at the price	MiniDisc		●	●			204
R	Philips ACT7582	115	A splash-proof body and an entertaining sound – the perfect CD personal for holiday japes	CD						204
R	Sharp MD-MT877H	230	Pleasantly up-front sounding player in a sexy little package, well worth your attention if you like that kind of thing	MiniDisc	●	●				216
	Sony WM-EX404	35	Super-stylish but sonically flawed, with particularly uncomfortable earphones	Cassette						204
BB	Sony D-EJ925	150	Beautiful design matched with a beguiling sound – a clear Best Buy	CD		●				216
BB	Sony MZ-G750	200	Light, simple to use, and with a relaxed and enjoyable sound, and with a tuner too!	MiniDisc	●	●				216
BB	Sony MZ-R91	250	A petite and sexy beast with good sound and excellent facilities	MiniDisc	●	●				204

### INTERNET AUDIO

STATUS	PRODUCT	£	COMMENTS	STORAGE FORMAT	RECORDING	IN-LINE REMOTE	CODEC	PC CONNECTION	STANDARD CAPACITY	ISSUE NUMBER
	Aiwa MM-VX100	130	Aiwa's expertise in the personal stereo field is visible, but performance is only average	Solid State	●	●	MP3	PRL	32MB	204
	Audio ReQuestARQ1	568	Full size separate containing CD player, hard drive and PC connection. Sign of things to come?	CD/H/D			MP3/WMA	APR/USB	17GB	208
BB	Creative Labs Digital Jukebox	349	Smartly designed high-capacity portable with storage for over 1,000 tracks	Hard Drive	●		Agnostic	USB	5.7GB	208
R	DigMedia Music Store	350	Innovative CD/hard drive combo with optional solid state portable. MP3 with or without a computer	CD/H/D	●		MP3	USB	5.4GB	208
	JazPiper MV32P	125	First wave player that looks good but sounds bright. Includes voice recording and phone book features	Solid State	●		MP3	PRL	32MB	195
	LG MF-PD360	130	Good looking and temptingly affordable, but features and performance are nothing special	Solid State	●		MP3	USB	32MB	208
	LG AHA-FD770	200	Cassette and solid state personal in one – novel idea, poor execution	SS/Cass	●	●	MP3	PRL	32MB	204
	Logix Evzone	219	Novell MP3 player that uses Omega Click! discs for storage. Chunky but quite effective, and discs are much cheaper than memory cards	Click! Discs	●		MP3/WMA	USB	40MB	213
R	Neo-25	420	Sparsely equipped but efficient hard drive portable with an exceptionally high potential capacity. Average in the sound department	Hard Drive	●		MP3	USB	10GB	213
R	Philips eXpanium EXP103	190	The best MP3-CD personal, at least at the time of writing... An effective solution for MP3 on the move	CD			MP3			213
	Philips Rush SA126	250	Sound is a little thin and wishy-washy, and the fiddly controls and lack of remote make it difficult to use	Solid State	●		MP3	USB/PRL	64MB	216
R	Pine D'Music	120	Good build, solid sound and a voice recording mode make this a good first-time buy	Solid State	●		MP3	PRL	32MB	195
	Pontis SP504	158	Not the best aesthetically, but exceptionally good MP3 sound	Solid State	●		MP3	USB	32MB	204
R	Rio 500	190	Well featured and a strong performer, though new generation Rios have now arrived	Solid State	●		MP3	USB	64MB	195
R	Rio 600	169	Neat design, strong future-proofing, good features and sound. Only its memory lets it down	Solid State	●		Agnostic	USB	32MB	208
R	Rio 800	300	If you're interested in solid state, this player's great sound and ease of use make it worth a look	Solid State	●	●	Agnostic	USB	64MB	216
	Sanyo SSP-PD7	250	Cute but pricey with limited supplied memory, but sound is good and it's one of the first to employ AAC coding	Solid State	●		MP3/AAC	USB	32MB	213
	Schneider MPMan F20	99	The world's first MP3 personal. Basic but still good value	Solid State	●		MP3	PRL	32MB	195
	Smart Portable MP3 Disc Player	119	CD personal that also plays MP3 tracks burnt onto CD-R discs	CD			MP3			208
	Sony NW-M57	249	A gorgeous little personal using Sony's Memory Stick storage. Good but pricey	Solid State	●		MP3/ATRAC-3	USB	64MB	208
	Sony NW-M59	300	It's got size and simplicity on its side, but it's up-front, boomy sound is significantly below par	Solid State	●		MP3/ATRAC-3	USB	64MB	216
R	Sony MDC-PC3	350	A MiniDisc deck which hooks to a PC. Introduces cheap and flexible MD media to the world of MP3	MiniDisc	●		MP3/ATRAC	USB		213

# RECORD PLAYERS

## SPECIFICATIONS

### TURNTABLES

STATUS	PRODUCT	£	COMMENTS	MANUAL	AUTO	SEMI-AUTO	SPEEDS	SUSP SUBGRASSIS	EXTERNAL PSU	SUPPLIED WITH ARM	SUPPLIED WITH CART	ISSUE NUMBER
BB	Audio Note TT1/ARM1	594	Simple and unpretentious, it delivers a real taste of true high end performance at an affordable price	●			33/45	●	●	●		203
	Avid Acutus	4,995	Extremely capable design with no apparent shortcomings, don't sell your vinyl 'til you've heard it on this!	●			33/45	●	●			194
	Clearaudio Reference	3,990	Opulent beast tested with Souther TQ-1 arm. Tends to gloss over detail, but can sound bold	●			33/45					144
R	DNM Rota 2	5,600	Tonally slightly bleached, but extracts detail like few others. Works well on its own table	●			33/45	●	●	●	●	144
R	Dual CS415-2	160	No denying it's cheap and cheerful, but it does what it's paid for happily enough		●		33/45			●	●	214
	Dual CS 455.1	220	Neat record player with automatic convenience (and 78rpm), but doesn't match simpler manual rivals sonically		●		33/45/78	●	●	●	●	203
R	Dual 505-4 UK	250	Consistent sounding and well isolated turntable. It is slightly lacking in oomph			●	33/45	●	●	●	●	103
R	Kuzma Stabi/PS	1,950	(Tested with Stogi Reference) Solid oak plinth, sound is very clear, detailed and extended	●			33/45	●	●	●		91
R	Linn LP12 Basik	1,100	Trails the full LP12 significantly, but pace, rhythm, timing etc. still top rank	●			33	●	●			103
R	Linn LP12 Lingo	1,750	The classic reference is improved by the Lingo, but charming character remains	●			33/45	●	●			91
R	Michell Gyrodec	875	Sweet and natural-sounding player, well matched to Rega RB300 arm	●			33/45	●	●			55
	Moth Alamo	285	Basically a Rega P2 with a Perspex platter: doesn't seem to justify the price difference				33/45			●		214
BB	Michell Orbe SE	1,725	A Superb turntable, able to mix it with the best at virtually any price	●			33/45	●				192
BB	NAD 533	220	Sonically a little crude, but musically satisfying results at a very modest price	●			33/45		●	●	●	203
BB	Notts Analogue Spacedeck/Arm	750	No frills, just a first-rate, outstandingly natural-sounding deck that will last forever	●			33/45	●	●	●		159
BB	Pro-ject 2	300	Remarkably effective at the price, with decent timing and a generally well defined sound	●			33/45			●	●	164
	Pro-ject Classic Cherry	450	A great looking turntable with a generous and dynamic sound, but lacks something in overall coherence	●			33/45		●	●		203
	Pro-ject Perspective	750	Flexible facilities and competitive package, but performance of turntable alone is behind the best	●			33/45	●		●		192

## TURNTABLES (CONTINUED)

STATUS	PRODUCT	£	COMMENTS	MANUAL	AUTO	SEMI-AUTO	SPEEDS	SUSP SUBCHASSIS	EXTERNAL PSU	SUPPLIED WITH ARM	SUPPLIED WITH CART	ISSUE NUMBER
R	Pro-ject 6/Sumiko	850	Don't think of this as a deck with a good arm, but as a scaled-down Oracle Delphi — it's that good	●			33/45		●			138
BB	Rega P2	198	Updated Planar 2: just as much fun as ever and now even better value as the competition falls away	●			33/45			●		214
R	Rega P3	298	Updated Planar 3, building on the strengths of the P2 with added subtlety and detail	●			33/45			●		214
BB	Rega Planar 25	619	Great looking turntable has a silky smooth sound with exceptional midband coherence	●			33/45		●			203
BB	Reson RS1	600	Supplied set-up and ready-tuned, this unconventional deck is packed with mid-band detail	●			33/45		●	●		159
R	Roksan Radius 3/Tabriz zi	890	Elegant-looking turntable with a tidy, ordered sound. Bright and breezy if a shade lightweight	●			33/45	●	●			159
EC	SME Model 10A	3,333	Elegant and extremely capable design with Series V/309 hybrid arm, superbly built	●			33/45	●	●	●		195
EC	SME Model 20.2A	4,863	Beautifully built, extremely neutral damped and suspended deck with superb sound. Inc V arm	●			33/45/78	●	●	●		186
BB	Thorens TD166 VI/UK/RB	400	Refined, solid sound with well-focused imagery; suitable for use with good MM/MC budget cartridges	●			33/45	●	●	●	●	103
R	Thorens TD146 VI	550	Tonearm not quite up to turntable's potential; this semi-auto is much pricier than manual TD166	●			33/45	●	●	●		203
R	Thorens TD2001	700	Balances convenience and sound well, but deck lacks detail and bass could be better controlled	●			33/45	●	●	●		159
R	VPI HW19 Junior	650	A notably large and handsome turntable with good sound quality and considerable upgrade potential	●			33/45	●	●	●		203
R	Well Tempered Record Player	850	Intriguing and challenging. Musically not ideal, but its limp quality and lack of artificiality set standards	●			33/45	●	●	●		136
EC	Well Tempered Reference	5,500	Superb mechanical stability and unflappability result in a clean reproduction	●			33/45	●	●	●		205

## CARTRIDGES

STATUS	PRODUCT	£	COMMENTS	MM	MC	REPLACEABLE STYLUS	OUTPUT (mV)	MASS (g)	ISSUE NUMBER
EC	Allaerts MC1B	1,295	Highly capable and entertaining Belgian cartridge that warrants the finest turntable and phono stage you can afford	●	●	●	0.5		203
BB	Audio Technica AT110E	28	Excellent performance for the price, with little more than some mild coloration and a touch of hardness at high levels	●	●	●	4.5	6	214
R	Audio Technica AT-OC9ML	330	A well-finished cartridge with a sound that's smoothly detailed, but also rather unexciting	●	●	●	0.4	8	192
BB	Clearaudio Signature	1,495	A great all-round performer with fine dynamic vitality and a seductive midband intimacy	●	●	●	0.55	11.5	175
R	Denon DL103	100	Good performance in bass and good 'life'. Is seriously let down by its spherical stylus which kills subtle detail	●	●	●	0.1	6	103
BB	Denon DL304	200	Uncoloured, detailed, tracks superbly. Top notch altogether, and a bargain at the price	●	●	●			103
R	Dynavector DV-20X L	299	Articulate-sounding, with impressive treble resolve, though lightweight at times. Needs a high quality turntable and arm	●	●	●	0.25	8.6	192
R	Dynavector Karat 17D2 mk2	450	Clean and controlled sound with taut, tuneful bass. Detailed and musically cogent	●	●	●	0.15	5.3	158
R	Dynavector XX-1L	998	Very clear, very detailed; a response lift around 20kHz seems to do no harm	●	●	●	0.25	12	84
R	Dynavector Te-Kaitora	1,698	A real smoothie, but pricey. Worth checking out for its delicate laid-back transparency and low needle-talk	●	●	●	0.25	8.5	175
EC	Dynavector DRT XV-1	2,500	Capable of conjuring one of the most tactile, three dimensional sound stages on the vinyl planet. Extremely entertaining	●	●	●	0.3	13	208
R	Goldring Elan	19	A lightweight and frisky-sounding MM apparently based on Nagaoka MM4 body	●		●	5.0	7	67
R	Goldring 1006	70	Disappointing sound, marred chiefly by persistent harshness which affects all but very quiet music	●		●	6.5	7	214
R	Goldring 1012GX	79	Slightly harsh but plenty of life and detail. Some high frequency coloration apparent	●		●	6.5	7	85
R	Goldring 1022GX	99	As with 1012, a touch harsh; detail and transient purity improved	●		●	6.5	7	85
R	Goldring Eroica LX	110	Not the most subtle cartridge in the world: can sound edgy at times, but lively and informative	●	●	●	0.5	8	84
R	Goldring 1042	120	Not terribly subtle, and not such good value alongside 1012 and 1022. Quite lively, though	●		●	6.5	6	91
R	Goldring Elite	220	The basics are right, and it will cheerfully tackle any source material, but its sound is not the cleanest	●	●	●	0.5	8	103
R	Goldring Excel VX	525	Good bass drive but dull and imprecise higher up. An old-fashioned sound that falls short of the true high end	●	●	●	0.45	8	175
R	Grado Prestige Black	49	Capable of admirable detail and treble extension, with good bass and ambience too	●		●	4	6	214
BB	Grado Prestige Gold	149	Rich sounding with an unusually refined top-end for a moving magnet-type cartridge	●		●	4	6	158
R	Grado Reference	995	Loads of tracking headroom but treble is limited. A prospect for mid-oriented valve amp users	●		●	1.7	6.5	175
R	London Decca Maroon	259	Now manufactured under the London brand name, this Decca cartridge is as iconoclastic as ever	●		●	5.0	6	67
R	London Decca 5 Gold	399	Immediate and detailed, but coloured and nonlinear, with a questionable effect on records	●		●	5.0	6	84
R	Lyra Lydian Beta	599	A thoroughly enjoyable cartridge — smooth, agile and dynamic in character	●	●	●	0.5	8	192
R	Lyra Lydian	649	Superbly capable all-round musical performer that improves markedly when its body cover is removed	●	●	●	0.3	7	158
EC	Lyra Helikon	1095	Highly capable and highly neutral, this is a cartridge for all seasons. Albeit fussy about vinyl quality	●		●	0.5	8	215
R	Lyra Parnassus D.C.t	1,895	A real little jewel of a cartridge, with many good qualities, but handicapped by a rather too obvious treble peak	●	●	●	0.22	10.5	175
BB	Ortofon 510/P	38	For the price, a good blend of virtues — weight, clarity and neutrality	●		●	3.0	5	85
R	Ortofon 520/P	65	Sensitive to load capacitance, but the 520/P has a lively, effervescent sound	●		●	3.0	5	67
R	Ortofon MC3 Turbo	130	The 3 Turbo is bright, cheerful and bouncy, but unsubtle — take it as it comes	●		●	3.3	4	103
BB	Ortofon MC15 Super II	130	A good all-rounder, with outstanding resolution, if slightly bright and close up	●		●	0.35	7	103
R	Ortofon MC25E	180	An excellent upgrade for a mid-price turntable	●		●	0.5	11	139
R	Ortofon MC25FL	250	A bit too stark and honest, but faithful to what's on the LP	●		●	0.5	11	139
BB	Ortofon MC 10 Supreme	300	A full and cultured-sounding cartridge, with collective attributes far outweighing its shortcomings	●		●	0.5	10.7	192
R	Ortofon MC30 Supreme	525	Highly detailed and even-sounding cartridge that has a special affinity with female vocal recordings	●		●	0.5	10.7	158
BB	Ortofon Rohmann	1,000	A class act in nearly every respect, with fine groove security and a very smooth and even-handed sound	●		●	0.25	8.5	175
R	Ortofon MC3000II	1,100	A real ear-opener. Nothing to criticise anywhere — one of the very best	●		●	0.12	10	84
R	Ortofon MCS000	1,500	Limited tracking ability, bright and forward sound, but good stereo	●		●	0.12	10	91
R	Rega Bias	42	Can sound a little hard and lacking bloom, though often exciting	●		●	5	4	214
R	Rega Elys	85	Clearly superior to the Bias, the Elys is more detailed, accurate and convincing	●		●	5.0	5	67
R	Reson Recca	250	If you're after a high quality moving magnet cartridge, they don't get much better than this	●		●	6.5	6.3	192
R	Roksan Corus Black	130	Recognisably related to the Corus Blue, but smoother and more civilised	●		●	6.5	5	91
BB	Sumiko Blue Point Special	250	A no-nonsense performer with engaging musical properties — one of the best around for less than £300	●		●	2.5	9	192
R	van den Hul MM-1	250	If woody midrange could be tamed, imaging and security would pull it through	●		●	5.5	6	103
R	van den Hul DDT-II	600	Outstanding stereo imaging and neutral balance are appealing, but rhythmically the DDT-II is a bit lazy	●		●	0.35	7.6	158
R	van den Hul MC-10	750	A neutral, balanced performer, gives fine depth and focus and a firm, extended bass	●		●	0.4	6	60
R	van den Hul MC-One	900	This extends all the positive qualities of the 10, but adds greater authority and scale — worth all the extra money	●		●	0.4	6	60
R	van den Hul MC-Two	1,200	MC-Two rewards with a highly detailed yet fluid and musically convincing portrayal	●		●	0.4	6	72
R	van den Hul Frog	1,500	Seems to control/suppress surface noise better than its rivals. This delicate and subtle performer has great charm	●		●	0.65	7	175
R	van den Hul G' hopper IIIGLA	2,800	Undoubtedly one of the finest cartridges available. It has tremendous bandwidth, energy and finesse	●		●	0.4	6	122
R	Wilson benesch Matrix	786	Extraordinarily well balanced cartridge: neutral and detailed yet lively and rhythmically assertive	●		●	0.58	6	158
R	Wilson benesch Carbon	1,573	Carbon fibre body contributes to a delightfully clean and open midrange, and a quick, lively and coherent sound	●		●	0.45	7	175

## TONEARMS

STATUS	PRODUCT	£	COMMENTS	EFFECTIVE MASS	PARALLEL TRACKING	PIVOTED	UNI-PIVOT	EFFECTIVE LENGTH (cm)	ISSUE NUMBER
R	Kuzma Stogi Ref	1,250	Large, solid and well made arm, gives exceptionally clear sound with just a hint of brightness	High		●			79
R	Linn Ekos	1,500	Superb, state-of-the-art design which builds significantly on predecessor's strengths	Med		●		229	67
BT	Rega RB250	109	The ultimate budget arm? Refined, sweet, detailed and natural	Low		●		237	60
BT	Rega RB300	174	Despite its modest price it sets exceptional standards and could be used on many high-end turntables	Low		●		237	60
R	Roksan Tabriz Basic	350	Targeted at the Xerxes, this is a good alternative to the Rega arm in many cases – a touch bright though	Low		●		240	91
R	SME Series IV	983	Superb engineering and finish with a finely balanced sound, impressive stereo focus and low coloration	Low		●		233	60
R	SME Series V	1,461	Excellent in all respects, this arm arguably sets the standards for pivoted arms, regardless of price	Low		●		233	60

# STANDS & SUPPORTS



## SPECIFICATIONS

## EQUIPMENT SUPPORTS

STATUS	PRODUCT	£	COMMENTS	HEIGHT	TOP PLATE SIZE (cm)	FILLABLE	WELDED	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER
	Aavik C4	200	Attractive wood finish stand with a very large footprint but sound is a little coloured	77	47			4	MDF	206
R	Aavik Furniture A4	350	Good sound and stylish Scandinavian looks at an affordable price	80.5	47			4	Wood	193
	Apollo Symphony	245	Simple steel and glass stand which majors in excitement factor but lacks precision	73	46.5		●	4	Glass	206
	Apollo Soprano	275	Uninspiring looks and sonic performance that can be beaten at this price	68.5	45.5			4	Glass	193
	Apollo Mezzo Soprano	340	Heavyweight contender packing a big sonic punch. Looks cool, but can contribute a bit of character	68.5	53.5,44			4	Glass	217
R	Atacama Europa	240	Stylish, expandable modular design with agreeable full-bodied sound – great value	67	48.6			4	Wood	193
R	Atacama Equinox	280	Stable, modular design with style. Excellent bass transients and a fresh design concept	81	50,50		●	4	Glass	217
BT	Audiophile Furniture Base	615	Price is justified by its earth-shattering sonic abilities – a worthy upgrade	82	43			4	MDF	193
R	Avid Isoshelf	1,100	An enthusiasts equipment support stand free from coloration if a little fiddly to set up	87.5	48			5	MDF	193
BT	Clearlight Audio RDC Aspekt	550	Stunning neutrality and detail from a well damped design. Its performance makes the price tag seem rather good value	75	53.5,45			4	MDF	217
	Custom design E'lite E4	250	Fairly laid back for a glass/steel rack. Just loses out sonically to the competition	51	62,51			4	Glass	217
	Custom Design Aspect650	270	Smart looks and practical thanks to adjustable shelves. Sound is fair with some loss of detail	66	46		●	4	Glass	206
R	Elemental Audio Isotube X4	849	A hefty stand that demonstrates just how much difference a good support can make	90	49		●	4	Glass	193
	Kestrel Furniture Nightingale	495	Well engineered furniture quality rack with thoughtful extras. Large with pleasing but not winning performance	91	62.5,53.5			5	wood	217
	Mana 4-tier	500	The ultimate statement in steel and glass; adds resonance in a way you'll love or hate	87	45		●	4	Glass	206
	Projekt Furniture A4	215	An elegant support stand that blends in to any home environment with a laid-back sound	56	48			4	Wood	193
R	Quadraspire Q4	280	Simple but modestly effective and very attractive	52	49			4	MDF	206
R	Quadraspire Q4 Reference	480	Excellent performance from the school of wobbly racks. Natural sounding and plenty of detail	51.5	49,39.5			4	Wood	217
	Sonus System Elite	330	Rather ugly and seems to offer little over and above cheaper steel and glass stands	68	50		●	4	Glass	206
	Sound Organisation Z545	160	Budget price and great looks make this a great value stand	73	46		●	4	Glass	193
R	Sound Organisation Z560	195	Excellent value rack, 5 shelves too! Well balanced and under £200	92	50,40			5	Glass	217
	Soundstyle XS100	270	Less character than other similar stands, but sound is somewhat short on transparency	72.5	49.5		●	4	Glass	206
	Soundstyle RADIUS SR100	280	Stylish looks and a smooth sound	63.5	49.5		●	4	Glass	193
BT	Standesign Design 4	190	An all-in-one support at a budget price with good sonic performance	88.5	50.8		●	4	Glass	193
BT	Towshend Seismic Sink Stand	900	Serious resolution and stunning isolation from air decoupled self levelling design. If you have the cash, buy one	61	53,39.5			4	MDF	217

## SPEAKER STANDS

STATUS	PRODUCT	£	COMMENTS	HEIGHT	TOP PLATE SIZE (cm)	FILLABLE	WELDED	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER
	Alphason Akros II 60D	79	Good looking, well equipped with decent ingredients. Evenhanded but lacks dynamic enthusiasm	62	16.5		●			220
	Alphason HDS	85	A reasonable stand with a smooth but rather bland sound balance. Good finish options	45-60	15.5,15.5		●			189
	Apollo Olympus	75	A popular stand and a decent performer, but unremarkable by today's standards	40-60	15,12.5		●			189
	Apollo A4/6	82	A pretty and robust design that sonically fails to stand out from the crowd	51,40,51	18		●			202
BT	Atacama Nexus 6	50	An excellent all round performer and a genuine hi-fi bargain	60,50	14.5,18		●			202
R	Atacama R724	150	Atacama uses its market strength to deliver a superbly appointed product at a very reasonable price	60	15,17		●			189
	Atacama R724/Atabite	250	Good basic engineering plus plenty of mass results in a fine sounding stand at its price	61	16,21.5		●			220
R	Cyrus CL550 stand	200	Unusual combination of style and performance, and a definite contender in the right environment	64	17,19					220
R	Custom Design R/5300 Mkl	100	A solid stand improving on the original with better focus and detail	61,56,51	16.5,18		●			202
R	Elemental Isotube SZse	599	Stands of distinction, able to free the speaker's sound from its box in a way budget stands simply can't	61	23,27		●			189
	Gale t60	70	Neither the least expensive nor the prettiest, and the sound is undistinguished too	63	16.5		●			220
	Green Apple Diamond Bevel	225	Sounds soft, gentle and somewhat dulled at the top, but takes top honours for style	61	15					220
R	hne Cableway	399	Looks great, sounds great, so start saving! Clean, sweet and neutrality is exceptional with orchestral material	63	17, 20		●			220
R	JPW HS1	120	A purposeful stand, a touch dry-sounding but particularly strong with bass. Great for rock and dance music	61	19,21		●			189
BT	Kudos 550	115	Formidable bass with real authority, and a wide dynamic range across a broad bandwidth	61	15, 20		●			220
R	Mana Sound Base	175	The Sound Base plinth simply improves the sound of every speaker placed on it	8	29,32					202
	Mission Stance	100	Detailed and open but needs a firm foundation to give its best	60	19,15		●			202
	Mission Stancette	60	Smart styling and finish combined with a very low price. Sounds OK considering	60	16.5, 22		●			220
	Mordaunt-Short Atlas	90	Shiny silver Atlas looks great, but sound doesn't transcend the very basic engineering	53	17.5		●			220
BT	Partington A-4	119	An oddball stand with a sound that's sheer class. More open and focused than most of the competition	50-100	19,22		●			189
BT	Partington Dreadnought	100	Fully welded high class engineering gives a very clean, open sound at a sharp price	61	17, 15		●			220
R	Partington Dreadnought Ult.	299	Super heavyweight stand that is an open window to the speaker placed on it	63	20.5,23.5		●			202
	Quadraspire QS speaker stand	150	Styled to match the company's equipment racks, a very decent sounding stand at a fair price	62	14					220
	Russ Andrews Torlyte	599	Subtle and musical-sounding stands, though a touch more 'pizzazz' is need for Recommendation at this price	61	33.5,24					189
	Sonus Systems Excel	110	Strong performance when filled with sand but design flaws let it down	65,45	20,22.5		●			202
R	Sound Organisation Z522	95	Very hefty build for the price helps deliver a solid sound with good authority and drive	60	16		●			220
	Sound Organisation Z524	69	A coherent-sounding stand with particular strengths in the midband, though quality drops at the frequency extremes	61	16,17					189
	Sound Style Select	95	OK but not as good as its cheaper brother the Z522	59	16,17		●			202



## SPEAKER STANDS

STATUS	PRODUCT	£	COMMENTS	HEIGHT	TOP PLATE SIZE (cm)	FILLABLE	WELDED	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER
	Target HM60	106	A solid and well-built stand laid-back to the point of coma	40-70	16.5,19	●				202
R	Townshend Seismic Sink	499	Unique inflatable plinth that works well with decent floorstanders as well as standmounted speakers	4	38,48					202

# TUNERS

## ANALOGUE TUNERS

STATUS	PRODUCT	£	COMMENTS	WAVEBANDS	PRESETS	RDS	REMOTE CONTROL	SIG STRENGTH METER	ROT. TUNING KNOB	ISSUE NUMBER
R	Cambridge T500	180	Very capable tuner suited to good and less good reception conditions	FM,M,L	64			●	●	193
R	Creek T43	399	Quality UK-made tuner offering classy sound in all areas at a very fair price	FM,M,L	64		●	●	●	193
R	Cyrus FM7.5	400	Beautifully made and presented, with sound that's a small but worthwhile advance over budget models	FM	7			●	●	211
BB	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	●			●	193
R	Denon TU-1500RD	250	A well balanced and clean sound with good bass and treble extension	FM,M	40	●			●	184
	Magnum Dynalab FT11	499	All-analogue tuner: receives weak or tightly packed stations but loses out on noise and sonic neutrality	FM	3			●	●	184
BB	Harman Kardon TU940	179	Good sound and particularly good signal recovery under tricky reception conditions	FM, M	30	●		●	●	221
	Leak Trough Line - GTA	300	A renovated classic with a style all of its own coupled with an emotive and gutsy performance	FM	0			●	●	206
	Linn Pekin	545	Smart and high-tech tuner which integrates well with Linn systems but offers less appealing performance out of that context	FM, M	80		●			211
R	Linn Kremlin	2,600	Controversially good sound at a very high price	FM	80		●	●		142
	Marantz ST-17	600	Great looks, but sound let down by opaqueness due to pilot-tone breakthrough	FM, M, L	60	●			●	221
BB	Marantz ST-48	120	A classic budget model which manages a performance only just behind much more expensive models	FM,M	60	●				184
BB	Marantz ST6000	180	Another budget killer from Marantz, with sound well above its class and useful features	FM, M, L	90	●		●		211
R	Myryad T-30	400	Attractive product that produces attractive sounds too: capable of very musical performance with a good aerial	FM	29		●	●		193
	Myryad T-10	530	A very smart unit which works well and offers good rhythmic drive and vitality, albeit at a price	FM	20			●	●	184
	NAD C440	200	Rather polite sound, a little vague at times, that seldom offends but never excites	FM,M	30	●				193
	Pioneer F-504RDS	250	Cable-friendly with advanced RDS and excellent RF performance; slightly disappointing sound	FM,M	40	●		●	●	166
	Roksan Caspian	595	Neat facia with great ergonomics, but sound is not really any better than models at half the price	FM	50		●	●	●	184
	Sony ST-SE500	140	A lot of features for the money, but sound lacks detail and has some coloration	FM,M,L	30	●		●	●	193
	Roksan Kandy KT-1	375	Well made but sound is a bit lacklustre and lags behind some budget models	FM, M, L		●				211
	Rotel RT-935AX	160	Good ergonomics and sound quality at a realistic price, but limited features and RF selectivity	FM,M	20					166
R	Sony ST-SE570	130	Good honest budget tuner: loads of features, just a trifle bland	FM, M, L	30	●		●	●	221
	Sony ST-SA3ES	250	Clean, lean presentation but needs a quality aerial to perform at its best	FM,M,L	30	●		●	●	157
R	Sony STS-B920S	180	A little hiss and image compression don't detract from the clean performance of this feature-packed tuner	FM,M,L	30	●		●	●	184
	Thorens TRT2000	499	Not exactly neutral sounding, but nonetheless makes listening fun	FM,M	59	●	●	●	●	157

## DIGITAL TUNERS

STATUS	PRODUCT	£	COMMENTS	WAVEBANDS	PRESETS	RDS	REMOTE CONTROL	SIG STRENGTH METER	ROT. TUNING KNOB	ISSUE NUMBER
R	Arcam Alpha 10 DRT	800	The first DAB tuner and arguably still the best, but the system's still not perfect	DAB	7	●	●	●	●	199
R	Arcam DT-81	650	A very smart and polished DAB performer	DAB	16	●	●	●	●	221
	Arcam FMJ DT26	1,000	Metal-cased version of the Alpha 10 DAB, not so competitive now DAB prices are dropping	DAB	7	●	●	●	●	211
	Symbol C-DAB 1	1,000	The first 'high-end' DAB tuner, although format is the ultimate limitation. Gorgeous finish	DAB	8	●	●	●		199
	Psion Wavefinder	299	Bizarre-looking DAB tuner that requires a powerful PC to operate - great gadget, sound variable	DAB		●		●		211
	Radi DAB-606	199	Nice price, odd product. Awful to use and sounds rather gutless	DAB	30	●		●	●	221
	Sony ST-D777ES	550	Smart and useful with DAB and FM in one box, but neither band really shines	DAB, FM, M, L	99	●	●	●	●	211
R	Technics ST-GT1000	500	Handy tuner that combines DAB, FM and AM in one unit and substantially lowers the price bar for DAB entry	DAB,FM,M	97	●	●	●	●	199
BB	VideoLogic DRX-601E	300	Cheapest DAB tuner to date, and concedes little if anything to dearer models	DAB	10	●		●	●	211
	VideoLogic DRX-601ES	349	Tweaked version of 601E with modified frequency response: a matter of taste	DAB	10	●	●	●	●	221

### Russ' Free Tip

All cables - yes, all cables - have signal directionality, meaning that in one direction the sound is better than in the other. If a cable isn't labelled as to its directionality it is very simple to directionalise it with a listening test. This is easier done with one channel at a time.

Choose a piece of vocal music that has a bright edginess to the voice. Listen to a short passage (about 5 seconds), reverse the cable under test and repeat the passage. You will hear that in one direction the sound is brighter, nastier, edgier etc., whilst the other way it is smoother, sweeter, cleaner and with better bass.

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# NEXT MONTH...

## LOUDSPEAKERS: STEREO & MULTICHANNEL

Next month we'll be testing affordable stereo speaker pairings and then combining them with their respective centre and surround channels to create complete multichannel speaker systems. We've rounded up all the important players on the market and will be telling you how to plan your next speaker upgrade.

## TWO-CHANNEL AMPS

The aficionado's choice of amp is becoming an increasingly rare beast these days, but for some, nothing else will do. We'll be testing and rating the best new models that dare to defy the multichannel universe.

## ESSENTIAL ANALOGUE CABLES ROUND-UP

What a shame your £1,000s system sounds like a Woolworths budget special – just because you skimmed on decent cables. Our comprehensive round-up sorts the smoothie snakes from the grubby worms.

## PLUS

**Sony SCD-333ES:** Find out if Sony's latest audio-only SACD player the highest of fi. **Chord DAC64:** Can an external digital/audio converters really be worthwhile? Our test results may surprise you. **ES Labs DXS4:** A new brand has built a very promising digital power amplifier based on Tripath technology, find out if it defines the cutting edge. All this and the sure and certain knowledge that you won't find a better range of hi-fi kit, analysis and opinion anywhere else on the planet.

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PLEASE PHOTOCOPY

# The limiting factor

JIMMY HUGHES CONSIDERS A DAC THAT OFFERS A NEW LEASE OF HIGH FIDELITY LIFE TO THE HUMBLE COMPACT DISC.

**W**hen I started collecting CDs nearly twenty years ago, what really concerned me was not exorbitant prices, zero availability, or crap sound quality. It was whether any sonic flaws and limitations were due to the discs themselves or the machines that played them. As time went on it became clear that, although disc quality varied, most CDs sounded better and better as players improved. It was the hardware that needed sorting out...

But how good can CD get? Ultimately, isn't the limitation its 16-bit 44.1kHz red book specification? With higher resolution formats like DVD-A and SACD in the offing, CD would appear to be fighting a losing battle for quality audio. Surely, with current players and discs, CD has gone about as far as it can performance-wise. Certainly, I'd have said so. Then I heard Chord's DAC 64. Now I'm not so sure.

Every stand-up knows the secret of effective comedy: timing. Don't laugh; digital audio is exactly the same. It's no joke, though. Clocking inaccuracies which lead to time domain errors (jitter) must be eliminated. Only when the spacing between each sampling pulse is precisely equal can an accurate reconstruction of the original analogue signal be achieved. But this is just the beginning...

The ears are fantastically sensitive to changes in comparative phase response, with differences of just a few microseconds being detectable. Assuming we wanted to accurately resolve transient timing errors down to one microsecond, an impossibly high sampling rate of 1MHz is required. Seen in this light, DVD's 96kHz sampling rate is only a little more adequate than CD's 44.1kHz – twice as good, but well below the theoretical 'perfection' of 1MHz.

## CRACKING THE CODE

With this in mind, Chord developed its Watts Transient Aligned filter (WTA), using a new type of algorithm designed to reduce transient timing errors. Chord believed

that even a 'low' sampling rate of 44.1kHz would be capable of resolving transients, given appropriate digital filtering. But easier said than done! The filter proved very difficult to develop (the company claims to have spent 20 years on it), but finally Chord cracked it.

Certainly, the £1,900 DAC 64 goes a long way towards answering the criticisms many of us have about digital in general and CD in particular. First off, the sound is highly detailed and focussed. But not in a forward, garish sense. Tonally well-balanced and exceptionally clean, the edgy burr that afflicts female vocals and massed violins is largely absent.

Middle and low frequencies are very clearly defined, giving the music a solid, focussed quality. As a result, the sound has impressive substance and weight – you no longer have to play loudly to achieve a sense of presence and projection. Voices and instruments feel more powerful and dynamic. The range of tone colours is wider and more subtly shaded. Solo violin, for example, has that feathery sweetness you hear live. Yet there's no loss of bite or attack.

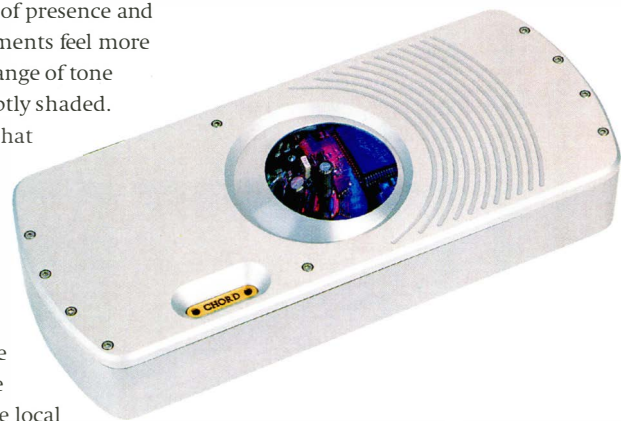
To control jitter, the DAC 64 has a RAM buffer circuit (switchable to either one or four seconds) which stores the signal for reconditioning. The RAM buffer provides jitter-free local clock operation without the need to send back a clock signal to the data source. It also means that the quality of the CD or DVD transport used is less crucial to the final sound – providing the full four-second buffer is used.

Having tried the DAC 64 on a wide range of musical material, what impresses above all is its completeness. Harsh congested recordings become clean and focussed, while those that sound closed-in and compressed are opened up. Bass is very deep and powerful. Best of all, the stereo imaging is exceptionally vivid and three-dimensional. It's like upgrading your entire CD collection at a stroke!

**Jimmy Hughes** has more CDs than you can shake a stick at and he knows them like the back of his DAC.



**“HAVING TRIED THE DAC 64 ON A WIDE RANGE OF MUSICAL MATERIAL, WHAT IMPRESSES ABOVE ALL IS ITS COMPLETENESS.”**



Chord's neat-looking DAC 64 offers nothing less than a total upgrade for your CD collection.

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