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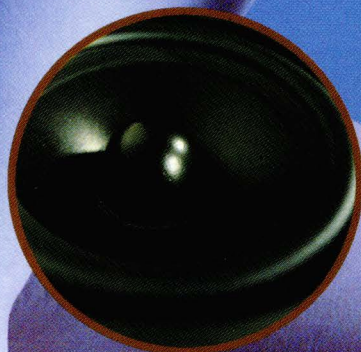
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HI-FI CHOICE

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ISSUE 200 • MARCH 2000**EDITORIAL**

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**THE
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NETWORK**

Media with passion



Hi-Fi Choice is the UK hi-fi magazine representative of the European Imaging & Sound Association (EISA). Every year EISA honours the finest hi-fi and home cinema products throughout Europe.

EDITOR'S NOTEBOOK**Jason Kennedy** kicks of the discreet celebrations for *Hi-Fi Choice's* 200th issue & 25 years of great kit.

Our first issue at Future Publishing has been a pretty mad state of affairs. You really can't beat moving offices, being inducted and trying to figure out how things work all over again for disrupting the smooth flow of your monthly schedule.

Nevertheless, the magazine looks remarkably good and is, as usual, choc full of rockin' new kit. I finally got round to reviewing the eminently capable Nautilus 804 speaker, and Paul Messenger managed to get to grips with Naim's latest boogie box the NBL, albeit absorbing three precious pages in the process, while Paul Miller has found out what makes Sharp's new 1-bit digital amp tick.

In the real world, Alvin has done sterling work sorting the men from the boys in a group of cooking new CD players. With a price range from £120 to £900, there's something for just about everyone. Richard Black, meanwhile, has had his hands – not to mention his living room – full, with not only a huge group of interconnects but half a dozen pre/power amp combos to boot. He's unearthed gems in both bunches, some from unexpected sources.

BIRTHDAY BOYS

I spent far too long working on our 200th issue spread. The idea of a list of great products from the past 25 years seemed like a good idea back at the start of the schedule, but that list must have taken more man hours to put together than any other page in print! I went through our back issues, and got Paul Messenger to dig out his early copies, but neither of us has issue 1! Still, we found some great kit – and had we not lost our black and white picture files back in the dark days of the Bolsover Street basement, we could have shown you some. As it is, the names will tell the story for those of you who were into the game back in the late '70s and early '80s, classic years that saw the introduction of some great products, some of which are still made today.

I started on the mag in late 1987, when the A5 books were expanded into A4 magazines with a monthly frequency, features and listings. It all seemed a lot easier then, but that was probably because someone else was doing all the work!

DOMESTIC HARMONY

On the home front, I've been adjusting to the disappearance of a two fabulous components. The Wadia 860x CD player (as seen in the February issue) was reluctantly given up, and dynamics from CDs along with it. However, now that I've got used to the Eikos once more the loss is less painful, and I can hear its qualities more clearly. It's funny how you have to live with something else

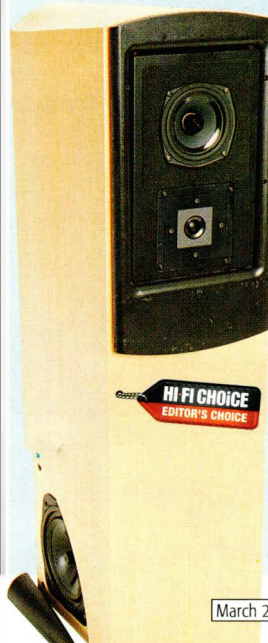
for some time for the pros and cons of what you're 'used to' to become more apparent.

The other temporary loss is of the Groove, Tom Evans' expensive but apparently all-revealing phono stage. I've had to give it up for Richard Black to assess along with five other such units in next month's group test both of affordable and excessive vinyl pre-amplifiers. It's almost as nerve-wracking an experience for me as it is for manufacturers – what if he doesn't like it? It wouldn't be the first time.

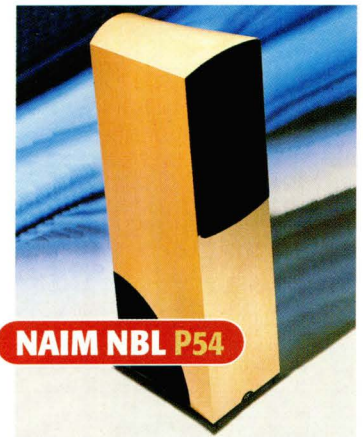
My temporary replacement for the Groove is its predecessor, the Lithos-upgraded Michell Iso HR – a great unit in its time, but one which sounds rather weak in comparison. Still, it's only a few weeks and the contrast should be almost worth the pain of displacement. And it's the music that counts, so carry on listening.

*Jason Kennedy***EDITOR'S CHOICE****ARCAM FMJ CD23**

We got the first of Arcam's saucy FMJ range in this month, and it's turned out to be a cracker. Based on the impressive Alpha 9, the FMJ CD23 takes that machine's innards, tweaks them up and encloses them in a more solid chassis. The result impressed Tim Bownen so much that to not 'EC' it would have been churlish.

**NAIM NBL**

The Naim NBL looks like a very serious newcomer to the upper echelons of high-end speakers. It manages to pack Naim's ideas about box and driver decoupling into an elegant package that's capable of producing some special sounds and, as Paul is keen to point out, it'll keep your parties thumping till the early hours as well.



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NEWS & VIEWS

And now let's go straight over to Tim Bown & Lee Dunkley in our hi-fidelity newsroom.

NEWS IN BRIEF



MUSICAL FIDELITY has replaced its X-LP phono stage with a new version – the X-LPS (above). The changes are all internal, including a custom-made IC. The X-CANS headphone amp has also been upgraded to the X-CAN² and promises equally significant improvements. Both products cost £149. MF-watchers should check next month's issue for a review of the XL-P² monoblock phono stage.

☎ (020) 8900 2866

TOWNSHEND AUDIO is set to launch a modular version of its Seismic Sink isolation system. Users will be able to build a complete Seismic rack to suit their own hi-fi or A/V system, using air to isolate components from ground-born vibrations.

☎ (020) 8979 2155

NAD has announced substantial price reductions for its SilverLine Series. All components are now available with up to 25 per cent off the original prices. For example, the S500 CD player, Recommended in *HFC* 195, now retails for £1,000 with the S100/S200 pre/power amp combo (see page 64) now at £2,000.

☎ (01296) 482017

SOUTH COAST SPEAKERS (SCS) has become the latest company to launch an add-on super tweeter. It uses a Visaton TL 16H aluminium alloy horn tweeter with a switched crossover and attenuation box, and is claimed to integrate easily with any full-range horn speaker system. Price is £350 for a pair.

☎ (023) 8070 3221

GOLDRING has reintroduced the Milly Zerostat anti-static gun. Popular back in the '70s, it is claimed to effectively neutralise static on vinyl and CD via an ionised air discharge. It costs £30.

☎ (01284) 701101

MISSION has parted from its parent company, Centralforce Limited, a wholly owned subsidiary of NXT. The loudspeaker brand has been subject to a management buy-out, fronted by three directors from its finance, sales and operations departments. Mission was founded in the 1970s by Farad Azima, currently Chairman and CEO

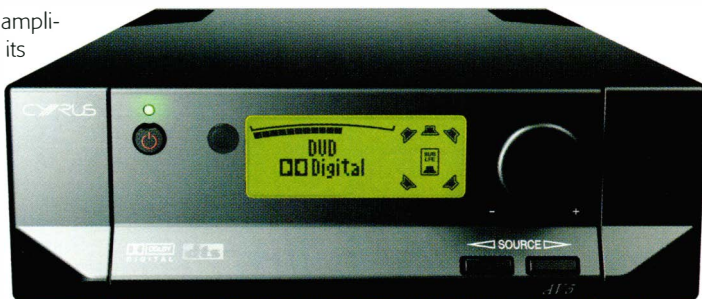
Cyrus takes five



Cyrus is set to launch a new stereo amplifier, representing the entry point for its new line-up. The Cyrus 5, priced at £500, is based on the Cyrus 7 (£700), which was well-received when launched last year. The trade-off for the £200 saving comes in the form of a reduced power output of 40 Watts per channel and the omission of a PSX-R port – used for upgrading with an external power supply. Essential circuit topology remains the same, however, and Cyrus claims the result is powerful, affordable and supremely musical.

In line with its manufacturer's modular philosophy, the Cyrus 5 can expand to suit its user's aspirations via a number of routes. You can upgrade to full Cyrus 7 specification for £259, add the matching MR3 unit to make your system multi-room, or convert to multi-channel surround sound with the aid of the forthcoming AV 5 processor (see next month's *Choice* for details).

The amp's digital control supplies a number of sophisticated facilities: for example, an 'intelligent headphone output' smoothly mutes the speakers while fading up your headphones. Its die-cast enclosure is neat,



Cyrus 5 – the entry point for a new amp line-up.

compact and hand-finished to the usual Cyrus standard, and its front panel is intentionally clean and uncluttered.

This is the third product to arrive since Cyrus restructured last year, distancing itself from other activities within its parent NXT group. With Mission's recent sale by NXT paving the way (see separate news story), a Cyrus buy-out would appear to be a logical progression at some point in the future. In the meantime, look out for reviews of the Cyrus 5, AV 5 and the brand's forthcoming speaker in the next few issues of *HFC*.
Cyrus ☎ (01480) 451777

AR's New Status

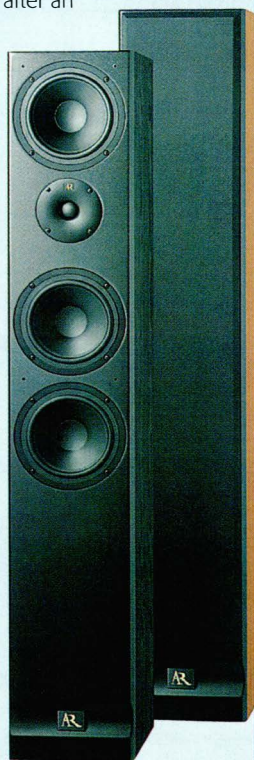


Acoustic Research is continuing its relaunch into the UK market after an eight-year absence. The Status S40 and S50 are the latest to join the ranks, hot on the heels of the S10 (tested last month) and S20.

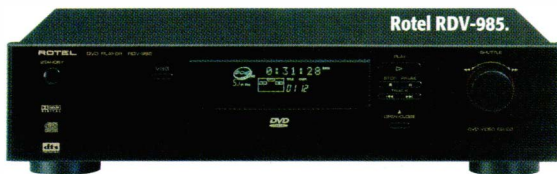
Both models are three-way floorstanders, priced at £300 and £400 respectively. The S40 stands almost a metre tall and sports a 25mm silk dome tweeter and twin 16.5cm main drivers with cellulose cones – one for bass, the other for midrange. The S50 incorporates an extra bass driver into its slightly taller frame.

Cabinets are fashioned from chipboard and finished in black or cherry, with black gloss MDF front baffles. Both are magnetically shielded to allow placement close to a TV, and they're available now.

Recoton ☎ (0161) 702 5000



AR Status S50.



Rotel's DVD debut



Rotel's first DVD-Video player has hit the streets. The RDV-985 is priced at £600, and the manufacturer claims that sonic performance was a priority in its design. To that end, sensitive audio circuitry has been isolated to minimise interference; the power supply is situated on its own circuit board, high current voltage regulators supply power to individual circuit stages and three critical blocks – digital processing, analogue video and audio – are contained in physically separate areas.

The player's digital audio specification includes one-bit DACs with 24-bit/96kHz resolution, and the analogue output stage is apparently made to Rotel's usual high standard. However, Dolby Digital (DD) processing is not included, as is often the case with the best-sounding DVD-Video players – a separate processor is required to accept a DD or dts data stream from the optical digital output.

The launch follows hot on the heels of Rotel's new multi-channel processors and power amps, such as the RSP-985/RB-985 combo reviewed in *HFC* 198. An increasing number of specialist hi-fi companies are now entering this market with a 'music first' policy. Expect further announcements over the coming months.
Gamepath ☎ (01908) 317707

Recordable DVD here at last



The world's first domestic DVD recorder is now on sale in Japan. Pioneer's DVR-1000 hit the shelves last December, priced at ¥250,000 (£1,439); a US launch is expected this autumn, with Europe pencilled in for the end of the year.

Pioneer has produced a re-recordable DVD disc, useable a thousand times over and priced at ¥3,000 (£17). TDK has also announced its first disc for the format.

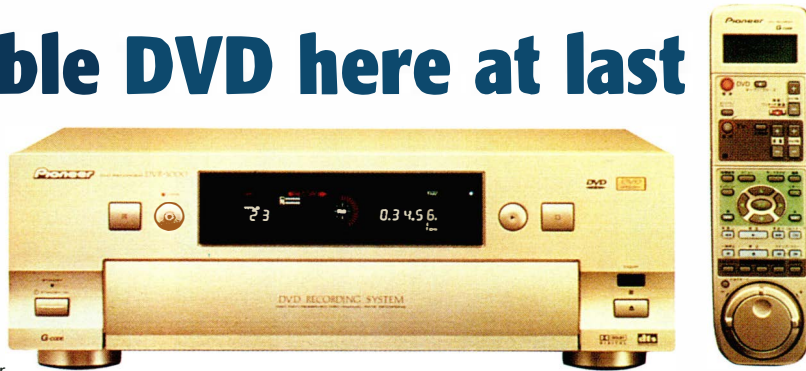
The DVD recorder is primarily intended as a replacement for the VCR, enabling consumers to record TV programmes and digital camcorder footage onto DVD. You can also play back pre-recorded DVD-Video discs; the DVR-1000 won't play CDs, but Pioneer promises the machines that hit the UK will have that ability too.

The recorders use DVD-RW discs. Each has a 4.7Gb capacity and you can squeeze on up to two hours at maximum quality or six hours at minimum, with variable levels in between. Maximum setting is said to give a performance similar to that of a pre-recorded DVD-V.

DVD-RW employs the DVD Video Recording Format standard, which differs from that of DVD-V. The specification doesn't include the ability to add multi-lingual subtitles, for example, but adds disc navigation and editing facilities similar to those of MiniDisc. It's highly flexible – you can duplicate scenes, alter their position, even make the recorder recognise a disc – your *EastEnders* disc, say – and set the timer accordingly. This means discs using the DVD Video Recording Format won't play on current DVD-V players (although compatible players will soon emerge at higher prices). Players launched in Europe will offer a choice: use DVD Video Recording mode with its extra editing facilities, or record in DVD-V mode – fewer gizmos, but backwards-compatible.

A further complication is DVD-RAM, a recordable alternative to DVD-RW, which encases the disc in a plastic caddy and is favoured by a few manufacturers. But Pioneer sees this as strictly for computer applications, and widespread use outside that sphere seems unlikely.

The arrival of DVD-RW goes a long way to clarify what we'll be watching and listening to in years to come. It is



Pioneer DVR-1000: the world's first domestic DVD recorder.

seen as the replacement for VHS and looks set to be the mass-market home entertainment format of the future, alongside digital distribution via the Internet. For many, it will be the only player/recorder needed in the home. For those who demand the highest quality sound for music, 'universal' players will cater for the new and forthcoming SACD/DVD-Audio formats (in addition to DVD-V and CD), while standard DVD-V players look likely to continue at entry-level for movie and CD playback only. It remains to be seen whether 'universal' recorders will eventually emerge, supporting SACD, DVD-A and DVD-RW for recording purposes.

Since launching the DVR-1000 in Japan, Pioneer claims to have sold more than 10,000 units and its share value has increased by 50 per cent. Now it is the first to answer a question on people's lips since DVD was launched: "When will you be able to record?"

Pioneer ☎ (01753) 789789

Chord's Cable frenzy



The Chord Company has unleashed five new hi-fi cables, starting with new versions of its Codac and Prodac digital interconnects. The Codac Silver Plus (£42/1m pair) upgrades the original's conductor to silver-plated, oxygen-free copper, switches to gas foamed polyethylene for the internal dielectric and adds silver plating to the external braid. Meanwhile, the Prodac Silver Plus (£65) sticks to the same conductor and dielectric as the standard version but uses an additional silver-plated wire and foil screen.

The Chord Company has also released bi-wire versions of its Rumour and Odyssey cables, costing £20/m and £34/m respectively. Both feature two twisted conductor pairings housed in a white silicon jacket; their spec is otherwise unchanged. This represents something of a direction change – the company's traditional stance hasn't favoured bi-wiring.

Finally, the Anthem is a high-end analogue interconnect featuring a woven tri-conductor format and 'floating screen' – the external shield is connected at one end only. It costs £275 terminated with RCA plugs, with silver-plated shield and signal pin. It's also out in balanced XLR form (£300) and din-to-din (£225).
The Chord Co. ☎ (01722) 331674



Chord Company Codac Silver Plus.

NEWS IN BRIEF

of NXT. His decision to concentrate time and resources on NXT 'flat speaker' technology, with its huge growth potential and numerous business applications, has led to an amicable parting of ways, allowing Mission's new owners to focus solely on the brand's development.

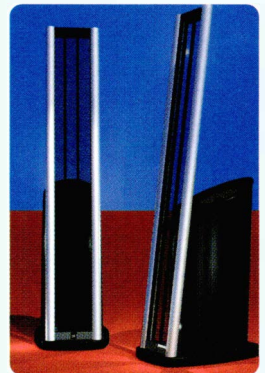


SOUNDSTYLE has expanded its Radius range of modular equipment supports, with the addition of extra-height uprights to house larger components. Prices start from £250.

☎ (01284) 701101

LENBROOK UK, distributor of NAD, Tact and Dali, has revealed plans to introduce Canadian loudspeaker brand PSB to the UK. The initial line-up will include a range of four active subwoofers priced between £200 and £650. At the same time, the company's CustomSound in-wall speaker range will be unveiled.

☎ (01296) 482017



UKD is set to distribute Dutch electrostatic loudspeaker brand Final in the UK. The Final 0.3 (pictured) is the first model to hit these shores – the smallest hybrid electrostatic in the range. It costs £1,495 and comes finished in satin silver, beech or cherry.

☎ (01753) 652669

POLICE have raided the home of the Norwegian hacker believed to be responsible for exposing DVD's encryption system, so delaying the launch of DVD-A. The self-proclaimed Master of Reverse Engineering is just 16, and is being investigated by Norway's Department of Economic Crime for cracking regional codes.

TITAN has introduced a speaker called the Orbital, priced at £300. Its unusual cylindrical design features a 12.5cm mid/bass driver and a 12mm soft-dome tweeter, from which its maker claims 360 degree sound dispersion. A matching sub will be available soon.

☎ (01702) 206870

NAD puts music first



NAD has announced details of its first foray into DVD, and true to form its design puts musicality first. The company claims to have used audiophile components throughout, culled from the firm's respected range of amplifiers and CD players.

The T550 costs £500 and comes with Dolby Digital decoding onboard. It is also dts-compatible, with audio DAC equipped to 24-bit/96kHz standard and 20-bit video DAC. Coaxial and optical digital outputs are supplied around the back.

Lenbrook UK ☎ (01296) 482017



NAD T550.

CES 2000 SHOW REPORT

Las Vegas isn't all dreary old casinos and shows, you know. Every January it caters to legions of gadget nutballs, too...

The world's largest and most important consumer electronics trade showcase, CES 2000, took place in the crisp January air of Las Vegas, and according to the official statistics notched up record attendance figures. On the ground, however, it didn't seem quite that way. By common consent, specialist audio had thinned out a little since last year's get-together, and much of the action centred around home cinema, and the various flavours of DVD in particular. There was also a lot of interest in MP3, Memory Stick and other solid state devices for downloading music from the Internet, but it is far from clear that this interest will translate into a true mass market.

This year's bash was a sometimes contradictory mishmash of trends, with added confusion because the show took place at a difficult time for the industry, with DVD-Audio on hold following the hacking of its core copy-protection mechanism, although prototype DVD-A players were shown and demonstrated by Denon, Rotel, Pioneer and others. DVD in its various forms was nevertheless very much the focus of attention, with rival versions of the recordable version (DVD-RW, DVD+RW, DVD-RAM etc) generating more heat than light from their various protagonists – although some (Panasonic for example) were promoting the improbable idea of a hard disc personal video player.

Back with DVD-Video, Pioneer had a 300 disc – sorry, 301 disc DVD/CD changer, the US\$1,100 (£683) DV-F727, with a slightly higher spec Elite version (not officially available in the UK) also on show. Pioneer describes these models as 'media servers', a phrase reminiscent to one used by Linn about a much more sophisticated device, the Kivor, which is a multi-

media music storage device that integrates into Linn's multi-room systems. Meanwhile, the specialist audio industry is just beginning to produce its own DVD-Video players rather than rebadged OEM models. Arcam, for example, chose CES to launch its first DVD-V player in an extension to the FMJ range, and as a precursor to the DVD-A player it will certainly make in due course.

The US has never taken to MiniDisc (MD) in a big way, so the field has been left open to CD-R/RW, which are enjoying strong sales growth in the US, just as in Europe. New models included the first from Denon, a name that has resolutely backed MD so far. Its CDR-1000 is the



first recorder to include CD Text, which is editable when recording. But Denon had a number of new and interesting introductions which will find their way to the UK in the near future, including the first AV receiver with THX-Surround EX. Yamaha had a similar, proprietary solution to the same problem in its new flagship RX-V1 (US\$3,199), but there was some feeling at the show that both provide solutions to problems that have yet to be identified.

There were some important introductions from British manufacturers. Meridian was prominent with an elaborately constructed display showcasing a number of new and recently introduced products, including a new flagship 24-bit, dual box, 8-driver fully active loudspeaker, the DSP8000 (US\$4,500/pair) designed to meet DVD-A requirements.

Many companies were addressing the same issue in different ways, including Tannoy, whose new Super Tweeter will be built onto some models, and which will also be available to add to existing speaker systems, with



Denon's CDR-1000 (top) scored a first, while Meridian's 568 processor made an impression (above). DVD-A (below) and MP3 technologies (left) were the big news.



claimed improvements in sound quality even when used with conventional CD sources.

It was also a good show for Wharfedale and Quad, both of which have been quiet to the point of invisibility of late, unless you happened to be a Tesco customer who picked up one of their fully code-programmable, Matrix-compatible DVD-V players. At CES we learned of more cute gadgets on the way, including a stereo speaker for personal stereos, based on proprietary flat panel technology (not NXT, they say) and built into what looks like a double CD jewel box – oh, and an ultra-cheap CD personal to drive it. Of more interest to the audiophile was another, smaller Loud-panel to decorate and hang from the wall, along with an in-wall version, and a range of very credible looking and promising sounding wood-veneered loudspeakers under the Pacific range name, designed to pitch the brand into an area of the market from which Wharfedale has been absent for too long.

Quad said that it's finally shipping 99-series electronics and the ESL988 loudspeakers, if only in small numbers so far, with the larger ESL989 due to follow shortly. Quad also showed early samples of its very civilised looking 99 AV processor (Dolby Digital and dts) that should hit the shelves this spring.

Significant loudspeaker introductions included the first active satellite speaker from Miller & Kreisel, the S-150P THX (\$1,699). M&K also joined Boston, Polk and others with their first miniature satellite, the LCR-45 (\$199 each). French specialist JM Labs was a prominent exhibitor with a range of new models, including a very desirable looking compact addition to the flagship Utopia series – the Micro Utopia will cost £3,000 when launched in the UK this April.

Meanwhile, recent startup Indigo showed an expanded Home & Studio range, including its first floorstander, the Model 4, priced at £750 in the UK.

Expect to see more of Quad's ESL988 speakers (right) and Tannoy's Super Tweeters (above right).

PAUL MESSENGER

Julian Vereker MBE (7 May 1945 – 14 January 2000)

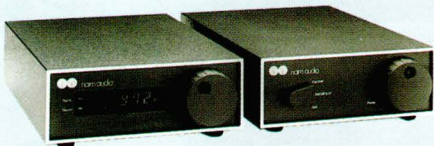
Once again, it's my sad duty to report the death of a leading figure in British hi-fi, and put together some sort of tribute to a life which was much, much more than ordinary. Julian Vereker was the larger-than-life main man at Naim Audio, and therefore the moving force behind one of Britain's most successful specialist hi-fi companies. He was also a good personal friend over many years, and someone whom I respected enormously, not only for his success in the hi-fi world, but for the many other facets of his complex life and personality.

Julian did lots of different things throughout his life, and actually helped finance the early beginnings of what became Naim with the prize money earned from winning a lot of saloon car races in a cunningly tuned mini. There are clear conceptual parallels between his radical approach to tuning a racing engine (he once described it as "a pulsed jet") and his equally radical approach to power amplifier design ("it's all about current"). As an engineer, he would see the big picture with great clarity, then worry away at the fine detail until he could effect implementation. The thing was, his picture was often different from and altogether more comprehensive than the perception others had of the same problem.

The story behind Naim amps illustrates this very well. In the early '70s, Julian liked recording musician friends' performances, but was frustrated by how poor they sounded compared with the live experience. Off tape it was difficult to tell which guitar someone was playing, never mind how well it was being played. He started checking out different equipment, and went out and bought the pukka hi-fi amp of the day. When he connected that up, he found it less revealing than his own home-made affair.

That set him down the road which would lead, around 1974, to the NAP160 and 250

Julian Vereker (top), with some of his products: Naim's NAP110 power amplifier (middle); the CDS (above); and the NAT01 tuner with NAPST power supply (below).



power amps and the NAC12 pre-amp which, with hindsight, were clearly the most radical and influential designs of the era. Several hundred NAP250s are still sold annually, and although some of the components and casework have evolved, the basic circuitry and concept remains the same. The NAC12 preamp was even more controversial: it was the first preamp of the modern era to

omit tone controls on sound quality grounds, and also to use external power supplies.

But what really set Naim apart was the then heretical claim that its amps sounded *better* – at a time when the establishment was denying that amplifier sound quality differences existed. Nowadays no one seriously disputes that superior sound quality is the key goal for any amp designer, and no preamp with serious audiophile pretensions would dream of fitting tone controls. Naim has meanwhile grown into one of the strongest players on the UK

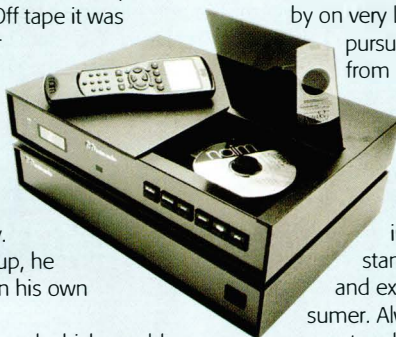
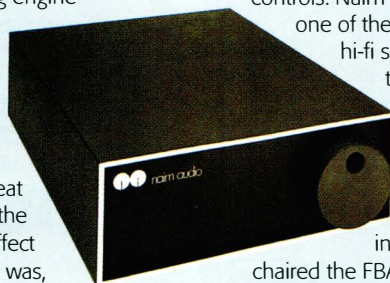
hi-fi scene, and is a fitting memorial to the lead Julian took a quarter of a century ago.

From an iconoclastic outsider to a pillar of the hi-fi establishment, Julian took an active role in promoting the interests of British hi-fi. He chaired the FBA and BFA industry bodies, and received an MBE in 1995 for export achievement. That said, he'd never have become part of The Establishment, and always retained something of the rebel in his attitudes.

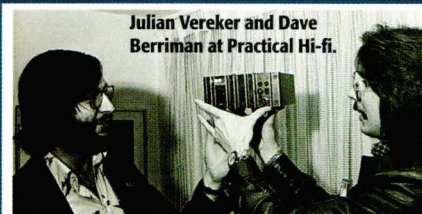
Although Naim was perhaps his greatest achievement, it was by no means an obsession. A man of enormous energy who seemed to get by on very little sleep, he found time to pursue a wealth of other interests from boats to bicycles, successfully 'multi-tasking' across a number of disparate fields.

He was committed to manufacturing as a creed: he liked making things, and making them well. He set high standards for his own products, and expected the same as a consumer. Always competitive, he could be arrogant and even intimidating, but remained at heart a very English gentleman: idiosyncratic, yet with great personal charm and magnetism, and always kind to a friend in need.

There are plenty in the hi-fi world who'll happily diss the sound of Naim equipment, just as Julian rarely had a good word for his competitors' products. But every one of his commercial rivals has expressed deep respect for the man, and genuine sadness for the loss of one of UK hi-fi's greatest contributors in modern times.



NAIM – A BRIEF HISTORY



■ **1967** – Julian Vereker retires from mini racing to concentrate on his interests in film-making and other areas of mechanics.

■ **1969** – Naim commences business as Naim Audio Visual. The first product is a sound-to-light unit capable of switching 30kW of lighting on and off in time to music. It is hired out to other companies for use in film production.

■ **1971** – Vereker indulges his passion for music by conducting recording sessions at home with his friends. Disappointed with the quality of sound he can achieve, he sets about building the first Naim power amplifier, making and selling them on an *ad hoc* basis to friends, acquaintances and a few studios.

■ **1973** – Vereker wins a contract to supply a power amp/speaker combo to Capital Radio, the independent London station just starting up at the time. Naim Audio Ltd is incorporated in July.

■ **1974** – Naim's growth is rapid, and the company relocates from the basement of a house in Salisbury to 16th century shop in the middle of the city. Vereker meets Ivor Tiefenbrun, founder of Linn, and the pair set off around the world on promotional tours. The classic hi-fi combination of Linn turntables with Naim amplifiers is born.

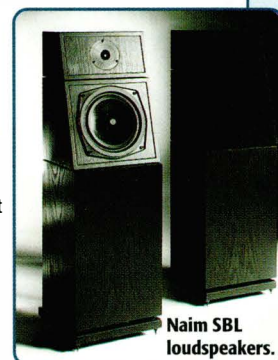
■ **1980** – Naim outgrows its base and moves to an 11,000 sq ft factory in Southampton Road, Salisbury.

■ **1985** – The company wins the Queen's Award for Export Achievement, with regular exports to more than 28 countries. Its range and reputation have soared in size and scope, and the factory is extended to 20,000 sq ft.

■ **1986** – Naim Audio North America Inc. is opened in Chicago, charged with distributing Naim products in the US.

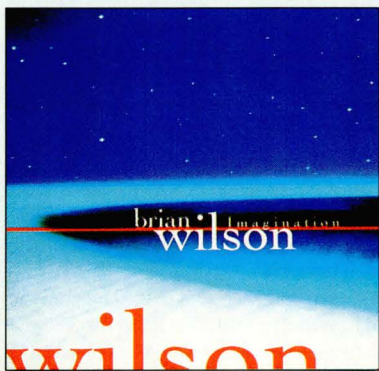
■ **1994 onwards** – A substantial expansion programme enlarges research and development, factory and administration facilities to 34,000 sq ft, with a further 6,000 sq ft of manufacturing space added in 1995.

Sophisticated computer-aided design technologies are implemented and the range continues to grow. New Naim CD players, tuners, speakers and, of course, amplifiers create real excitement whenever they arrive; such is the stature of Naim Audio today.



PREVIOUSLY UNHEARD

Phil Strongman digs out rare and classic tracks appearing on CD or virgin vinyl for the first time. Turn on, tune in, bliss out....



BRIAN WILSON *Imagination*

The stay-at-home Beach Boy conjured up the Sixties soundtrack of an entire generation – then blew it. But he bounced back in 1998 with *Imagination*, an album he wrote, arranged and produced himself – with a little help from Joe Thomas and Carole Bayer Sager.

And pretty wonderful it is too, with just the right amount of production to facilitate the man's feelgood tunes and trademark harmonies. Contains a new version of *Let Him Run Wild*.

Giant CD

Music ★★★★★ Sonic ★★★★★

NEW AGE RADIO

Sound Ideas For The 21st Century

Theremins, tablas and other exotica get put to good use on producer Dave Goodman's journey across ambient soundscapes complete with dub echoes and Buddhist prayers. A spaced-out blend of *Sgt. Pepper*, *A Clockwork Orange* and *The Singing Ringing Tree*, with all the magic and mood that that implies. This has some analog synth work of great depth from Sam Hermitage, while DJ-mixers will like its copyright-free status.

Mandala CD

Music ★★★★★ Sonic ★★★★★

SIMON AND GARFUNKEL

Tales From New York: Very Best of...

This epic 40-track set has *Bridge Over Troubled Water*, *I Am A Rock*, *The Boxer* and the 1965 take of *Sound of Silence* as well as the duo's last, poignant single, *My Little Town*. As with the boys' first solo efforts, all of these are quality songs recorded with real flair and dedication.

Columbia dble CD

Music ★★★★★ Sonic ★★★★★

RUPIE EDWARDS ALL STARS

Pure Gold / 7" Set

Pure Gold is an instrumental LP with Ansell 'Double Barrel' Collins, Skatalite Tommy McCook and Bob Marley's keyboard-player Tyrone Dowie, while the singles include tracks by The Heptones, U-Roy Junior and Johnny 'Civilization' Clarke. These gems all bear the tuneful touches top reggae recordist Edwards always spun in.

Success vinyl

Music ★★★★★ Sonic ★★★★★

FRANK SINATRA Reprise Years

Ol' Blue Eyes still sounds best on vinyl: the throaty tones that suddenly soar suit the medium's 'benign distortion' and the Reprise years were the man's Indian summer – *New York*, *New York*, *Didn't We*, *My Way*... A disco *Night And Day* is the cuckoo in the nest, while *Strangers In The Night* remains the passionate high-flyer.

Reprise vinyl LP (Vivante)

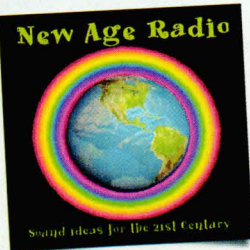
Music ★★★★★ Sonic ★★★★★

LED ZEPPELIN Early Years, Best of. Vol. 1

After a Zep set that sums it all up? Well this – with *Stairway*, *Dazed* and *Black Dog* – is the one. The original *Whole Lotta Love*, also sounds explosively 3D on wax.

Atlantic Vinyl dble LP (Vivante)

Music ★★★★★ Sonic ★★★★★



Chroma domes



Danish loudspeaker specialist Eltax has launched a new range of metal-coned models, intended for both two-channel and multi-channel use. The Chroma Series features a floorstander, a standmounter, a bi-polar surround speaker and a centre channel model, all sporting aluminium mid/bass cones and tweeters.

Simply named Front, the floorstander (£299) is a 2.5-way speaker with twin 16.5cm mid/bass drivers and a 96cm tall cabinet. It can be used as a pair, or as the main speakers in a Chroma multi-channel set-up. The 21cm tall standmounter (£129), called Satellite, features a 10.5cm mid/bass drive unit; it can also be used as a stereo pair, or as rear speakers in a multi-channel system. Alternatively, the Bipolar (£149) can be used at the rear, complete with its twin 10cm drivers for a more diffuse sound field.

Finally there's the Centre (£99), featuring a pair of 10cm mid/bass drivers placed either side of its tweeter. All are available in a black gloss finish – see next month's Mega Test for a review of the Chroma Front. Eltax ☎ (01908) 226464



Eltax Front.



DVD & CDR Hybrid



Interested in DVD? Fancy recording your own CDs? Hitachi has become the first manufacturer to combine these two hot technologies in one box, creating a convenient, affordable solution to the problem.

The DV-W1E is a dual-drive player, with a fully-specified DVD mechanism on one side and a CD-RW drive on the other. The DVD section includes built-in Dolby Digital decoding, dts compatibility and Hitachi's disc navigation system. The only other gear you need is a TV, amp and speakers. The DV-W1E is expected to cost £500-£600 and should be in the shops by the time you read this.

Hitachi ☎ (01628) 643000

UNIVERSAL REMOTE GIVEAWAY!

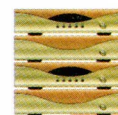
Tired of cluttering your coffee table with hi-fi handsets? Fret no more – One For All has developed the Audio Zapper, which will operate most CD and MD players, amps, tuners and cassette decks that have provision for remote control. It comes in champagne gold or metallic blue, and costs £20.

Then again, we've got 20 Audio Zappers to give away, courtesy of One For All. Just send your name and address to: One For All Give-away, Hi-Fi Choice, Future Publishing, 99 Baker Street, London W1M 1FB.





...so you just want **black?**



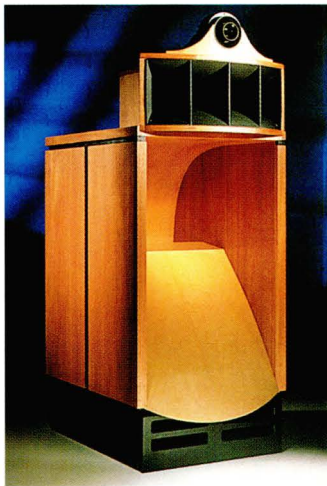
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TIME FLIES

Jason Kennedy asks: how have our hi-fi systems changed in the last 25 years?



Back in 1976, when this magazine first saw the light of publication in its diminutive A5 format, the hi-fi in the average music lover's home was significantly different to today.

Apart from anything else, there has been an awful lot of refinement and tweaking going on since then, to the point that what were once considered tweaks are now fundamental tenets of audiophile practice. Take cable; although the notion that cables varied was mooted by a few in the late '70s, it wasn't until the mid '80s that the subject was taken seriously, and now no system worth its salt would be seen without carefully selected connecting wires.

We've come to appreciate that the little things matter: equipment supports, speaker stands, isolation platforms and feet are all taken for granted. But back in '76 they thought a spike was a nasty mains vagary, rather than the crux of loud-speaker support that it has become. In 1990 when Paul Messenger summarised the '80s, what did he select as the

most important contribution to domestic hi-fi – the CD player? No, it was the spike. Which says something about his attitude to that rather successful medium, but also puts into context the importance that tweaks have for the enthusiast.

Anyone who suggested that the material and design of cables, including those for the mains, was a significant factor for sound quality in an era when certain high profile companies claimed that amps all sounded the same would have been branded a lunatic. Some still agree with the notion that if it can't be measured it doesn't exist, but they must be measuring the wrong thing – otherwise, there's little explanation for the continued proliferation of the vinyl record.

CD was, if not the greatest contribution to high fidelity, certainly the most significant creation of the last 25 years in both the hi-fi world and beyond. It brought a flat frequency response source to the masses and eroded the market for separate components by making it possible to create inexpensive, packaged systems that sound remarkably good.

But it also undermined the hi-fi press by being relatively immune to upgrading. The difference between a £100 CD player and a £1,000 one is about ten per cent of the difference between similarly priced record players, especially on a quick A/B demonstration. The fact that there are still audiophiles who'd rather listen to a £100 record player than a £1,000 CD player just goes to show what an eccentric bunch we are.

Not a great deal has happened to amplifiers over the last quarter century; granted, they've become leaner and meaner, and even more powerful in real terms – you couldn't get a genuine 70 Watt amp for the equivalent of £200 (Rotel RA-971) in 1986, let alone '76.

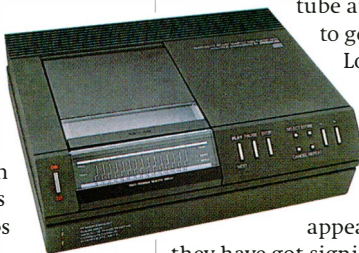


One change is the reappearance of the vacuum tube or valve in mid to high-end circles. Such things must have been at their nadir in the late '70s, yet they made a significant comeback in the '90s and don't appear to be going away if landmarks like the re-introduction of the Western Electric 300B tube are anything to go by.

Loudspeakers likewise have not changed dramatically in appearance, but they have got significantly less expensive, and materials have changed at both ends of the

while we wait for DVD-A. The format of the future looks set to be MP3, an Internet-spawned compression system designed primarily for efficient downloading, but nonetheless one that may end up ruling the music-on-the-move roost in future. After all, where do we listen to music these days?

That would seem to be the most significant difference between listening now and 25 years ago, then we sat down and paid attention to the music. Now the only time we can do that is in the car or bus. Only the hi-fi enthusiast seems to be prepared to put in what it takes to get the most out of music, and that's what living is all about.



“CD was, if not the greatest contribution to hi-fi, certainly the most significant creation of the past 25 years in the hi-fi world.”

quality scale. Budget speakers employ plastic baffles and are constructed on the other side of the world, while high-end designs resort to ever more exotic materials like carbon fibre, resins and Kevlar, not to mention woven polypropylene and aluminium. While the metal cone isn't strictly a new thing (GEC produced the first one in the fifties), it has seen a real upturn in fortunes across the board from the high-end B&W Nautilus to the latest Acoustic Energy designs.

Formats have also come and gone over the years. What happened to Elcaset? Sony's ill-fated cassette competitor suffered a similar fate to Philips' DCC, a digital tape format that was eventually thwarted by MiniDisc – but then, how long will that survive the onslaught of CD-R?

There were semi-successful mediums like DAT which didn't make it in the home but made serious inroads into the studio world, and more recently DAD – an audiophile-only subset of the DVD format created in the late '90s and still ticking over

PAUL MESSENGER REFLECTS ON A QUARTER CENTURY

I well remember when *Hi-Fi Choice* burst onto the scene. It was only a little book/magazine (no one was quite sure which) in its original A5 format, but it had a disproportionately large impact on the hi-fi scene in the mid-1970s.

It wasn't the first magazine to major on large comparative group reviews – *Hi-Fi for Pleasure* had led the way a couple of years previously. But it was certainly the first to attempt to

Top left: Living Voice Air Partner and Meridian MCD-Pro. Left: Sony WM-D6C Pro Walkman. Right: B&W Nautilus. Top right: Audio Note Ongaku. Below: Townshend Rock Reference.



ROKSAN Kandy

Kandy is Roksan's new entry-level component range, which is intended to retain something of the purist audio attributes of previous Roksan components, but at a lower price, and in a range of colours to add a little fun to a traditionally rather dour product category.

And why not? The Kandy range is available with its 6mm thick alloy extruded fascias finished in blue, yellow, purple, green, pink or gold – all metallic finished – and let's not forget boring old natural brushed aluminium which, as luck would have it, was the one that was sent for test.

It is also possible to buy new front panels separately, which are provisionally priced at less than £35 each. The test player was well finished, and early samples of the front panels look like anodised aluminium at first glance, although in fact the colour is a type of paint. The remote control has a fittingly bright silvered finish.

The colourful product literature makes light of all the technical stuff that's hidden under the bonnet. It turns out that the Kandy employs mainly middle of the range (sub-Caspian, for example) internal components, including a Sony mechanism (using its own suspension rather than the add-on suspensions specified for more expensive Roksan players), a Burr-Brown 1710 D/A converter and NE5532 output op-amps. The circuit has six separate regulated



"By no means a poor player, the Kandy is perhaps best described as rather old-fashioned, a little rough around the edges."

power supplies taken from a single toroidal transformer, which has separate windings for the analogue and digital circuits.

The player features optical and electrical digital S/PDIF output, but there is no headphone option. Mains switching is on the rear, which amounts to a rather broad hint that the player should be left under power unless it is not to be used for an extended period.

All the basic features you would expect are available from the front panel, with the handset adding random track access, intro scan, repeat, random and programme play to the mix.

SOUND QUALITY

The performance of the Roksan Kandy through all the listening tests was determinedly middle-of-the-road. The dynamic Buena Vista track sounded "muddled and congested" and "didn't hang together properly", and there were

also complaints of "mild colorations" and "poor timing".

The more refined piano and acoustic vocal tracks (Kissin, Janis Ian) were handled somewhat better, again with some complaints of coloration, but also with praise for the "very natural way that notes decayed" (Kissin), and "a lively, involving quality that times well" (Janis Ian). Overall, the player was described as sounding like a "good budget player" and "not especially sophisticated", but also variously "atmospheric", with "good detail" and capable of "doing a good job separating the various instruments".

The hands-on testing confirmed that the Kandy sounds broadly consistent from system to system, and confirmed the other findings too, which add up to a slightly confusing picture of a player which, although generally clean and open sounding, is also a little rough and ready, even by the

standards of cheaper players like the Marantz 6000 OSE, to give just one example.

CONCLUSION

By no means a poor player, the Kandy is perhaps best described as rather old-fashioned, a little rough around the edges by current standards, and a bit too ready to impose its own character on the music. It is a bit of a looker though, and probably the only player to combine serious sound quality with the ability to be dressed in different colour schemes. **AG**

VERDICT

SOUND	★★★★☆
BUILD	★★★★☆
VALUE	★★★★☆
PRICE	£475.00

An intriguing combination of neo-audiophile sound quality and designer good looks, but only has moderate musical value.

TWO YEAR GUARANTEE

Roksan Audio, 6 Northfield Industrial Estate, Beresford Avenue, Alperton, Middlesex HA0 1NW
 ☎ (020) 8900 6801

THE LAB REPORT

In a marked departure from its competitors, Roksan has eschewed the 'easy option' of adopting the latest so-called 24-bit DACs for something altogether older and trickier to implement. This is the PCM1710, a hybrid DAC from Burr-Brown used in earlier players from Arcam (the Alpha 7) and NAD's 522. The chip will suppress digital images by

60dB or so but, because of its noise-shaping technology, produces extremely high levels of ultrasonic noise which, as I've explained before, can result in an unpredictable sound with different amplifiers. The fact that the Kandy has been primarily designed to integrate within the Roksan system now begins to

make a little more sense – at least here its interaction is well understood.

Otherwise, we're looking at a player dominated by a DAC, from the +1.5dB/-2.5dB errors in low-level resolution, the widely varying harmonic distortion (0.004-0.4 per cent at -30dBFs) and all-too-familiar idle-tone that wanders around 1kHz

and reduces the A-wtd S/N ratio to 95.0dB.

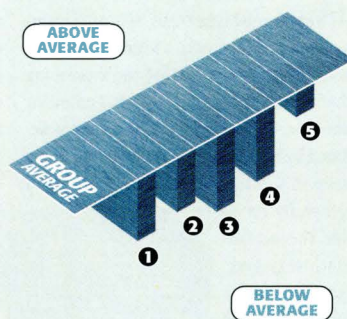
Regardless of Roksan's use of a decent Sony transport, custom motherboards and multiple supply regulation, it's very difficult to get the PCM1710 to behave differently! Even the 450psec of jitter with its even-order, data-induced peaks is perfectly in line with Arcam's Alpha 7. **PMI**



HOW IT COMPARES

Not the most technically advanced player on the market, but one whose patterns of distortion and noise are almost guaranteed to produce a very distinctive sound.

1 SUPPRESSION OF DIGITAL IMAGES	-40%
2 JITTER	-35%
3 PRACTICAL DYNAMIC RANGE	-50%
4 HARMONIC DISTORTION VS LEVEL	-45%
5 LINEARITY	-15%



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
■ Distortion @ 1kHz/0dBFs	0.005%	0.0015%
■ Maximum output level	2.2V	2.2V
■ A-wtd S/N ratio	105dB	95.0dB

NAD C540



The C540 replaces the C524 (reviewed *passim*) at a somewhat higher price (£329, up from £250). Both are built around a Burr-Brown DAC that NAD (and others) describe as 24-bit, but which, as usual, simply reads 24-bit data from the digital oversampling filter without truncation. Overall resolution, though, is almost certainly enough to reproduce 16-bit data if handled properly. In both cases, a four-pole analogue output filter is also used, but much of the rest of the design has changed.

Improvements are aimed at enhancing tracking of damaged discs, and the master clock has been mechanically damped to reduce jitter. The analogue stages feature a higher capacity power supply with separate regulation of the digital and analogue supplies, a new output op-amp (now the Burr-Brown 2604, replacing a Signetics part), and new selected stack foil capacitors and metal film resistors, with Elna Cerafine power supply reservoir caps.

At 300 Ohms, output impedance is low enough to avoid undesirable amplifier interactions. Encouragingly, special attention has been paid to areas that are

"Overall this is a fine player which is just a bit pedestrian in a crowded field not short of individual talent."

often overlooked, such as the electrical digital output which is transformer-isolated from the converter and fully buffered, with output impedance said to be an accurate 75 Ohms, features carried over from the C524. NAD Link sockets allow unified remote control of a complete NAD system.

Facilities are deliberately basic, but the C540 does feature a simple but adequate display and a straightforward set of play features accessible from the front panel, the trademark compact trapezoidal handset adding a random track access feature.

SOUND QUALITY

The C540's predecessor was favourably received and won a Recommendation, but overall standards have a shifted a notch or three upwards since then, and pricing has tended to remain stable or even to fall, whereas the C540 costs considerably more than the C524. The claims of

improved tracking here were not immediately realised; indeed, the player had intermittent problems with a few titles, and handling was very slow – even TOC reading seeming to take an age. However, when it came to playing music, the improvement was obvious.

Curiously, what criticisms there were from the panel echoed those made of the C524. In particular there were complaints that the (Kissin) piano sound was "highly strung and edgy sounding" and that "the music does not flow". Overall the C540 was, for that listener at least, "uninspiring".

The consensus, however, was more positive. "There's a satisfying wholeness about this performance," wrote one panellist, who also noted that "leading edges are very well defined" (Kissin). The Varese orchestral piece, which was a mountain for some of the players to climb, came across with "good musical definition". Another described the C540 as having "the

best instrumental and percussion quality so far – clear and detailed, though the voices were a little strident" (Buena Vista Social Club).

The hands-on listening echoed good and bad points alike, but overall this is a fine player which is just a bit pedestrian in a crowded field not short of individual talent.

CONCLUSION

The price hike over the previous models is substantial, and ultimately this, plus the relatively poor disc handling, militates against formal recommendation. Still, it is an articulate and refined performer, and should be shortlisted. **AG**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £329.95

Mostly refined, cultured sounding player is a clear step up from its predecessor, but disc handling could be slicker.

TWO YEAR GUARANTEE

The Audio Club, 15 Faraday Road, Aylesbury, Bucks HP19 3RY
(01296) 482017

THE LAB REPORT

As far as so-called '24-bit' CD players are concerned (see *Oasis*, HFC 187), manufacturers are neatly divided into those using Crystal's CS4390 DAC and those using Burr-Brown's PCM1716. NAD has opted for the latter and its performance is largely dictated by this choice. The response shows a mild -0.4dB loss in treble, but this won't generally be audible. The fact that both this loss and the channel balance varies at 20kHz (by 0.2dB) is

not an uncommon feature of the PCM1716 DAC. The 80dB suppression of digital 'images' is also par for the course, even though it's about 20dB behind the specification of Crystal's and Sony's latest chips.

Jitter is low at 228psec and primarily composed of a modulation at +/-671Hz which is specific to the player's internal layout rather than the DAC. The 217ppm clock error, however, could do with being tightened up. NAD's proprietary four-pole active filter successfully eats into the egress of any ultrasonic noise but it does seem to increase the player's

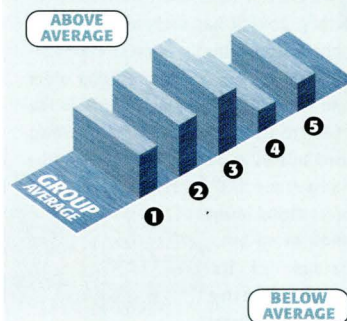
HF distortion by nearly 10x. Here a strong second harmonic reaches 0.035 per cent when figures as low as 0.003 per cent are possible (MF's A3 CD player being an example). Do also be on guard against unmatched A/B demos, because the high 2.3V output may put the NAD at an advantage. **PMI**



HOW IT COMPARES

A good digital implementation of a popular 24-bit DAC with custom analogue electronics to provide some additional 'flavouring' of the sound.

- | | |
|--------------------------------|-----|
| 1 SUPPRESSION OF DIGITAL IMAGE | 30% |
| 2 JITTER | 35% |
| 3 PRACTICAL DYNAMIC RANGE | 40% |
| 4 HARMONIC DISTORTION VS LEVEL | 15% |
| 5 LINEARITY | 20% |



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
Distortion @ 1kHz/0dBfs	0.007%	0.002%
Maximum output level	2.0V	2.3V
A-wtd S/N ratio	102dB	102dB

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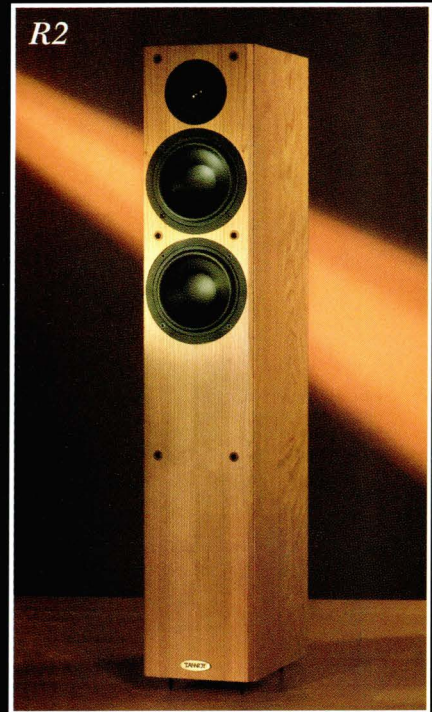
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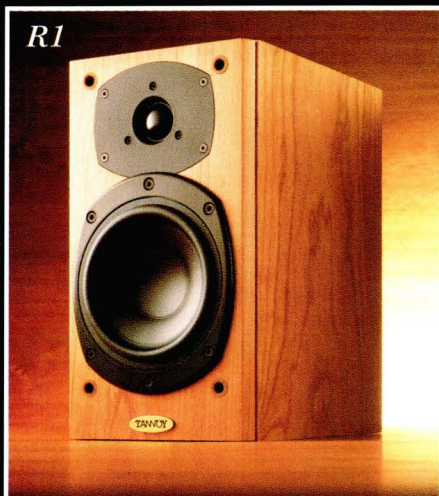
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MARANTZ 6000 OSE

Here is a neat, near budget CD player

from Marantz, which is the least costly of our middle price band here, and about half-way through the eleven models tested if arranged according to price. OSE indicates that this is the Original Special Equipment version of the 6000 CD player.

The engine that drives it is a dual differential mode bitstream processor, with a discrete HDAMS (Hyper Dynamic Amplifier Module) low output impedance, high slew rate output buffer amplifier. The mechanically quiet VAM-1201 mechanism is combined with a quick acting laser servo which can handle CD-Rs and low reflectivity rewritable CD-RW discs.

Improvements over the standard article include more screening around the HDAM module, which also includes a new low pass analogue output filter, an increased power transformer capacity and better OFC windings, higher quality capacitors and reinforcement of the base plate.

The 6000 is CD Text-equipped, with track titles shown on a good quality dot matrix display. The compact but well equipped and cleverly laid-out remote control is included which adds a number of search and edit functions, although the player's front panel is more than routinely well equipped in this respect. Connection options



"This is a smooth, attractive sounding and highly articulate player that works consistently well with a range of material."

include a headphone socket, electrical and optical digital outputs and system link sockets.

None of this quite does justice to a player that could easily pass as one costing twice as much as it does. The 6000 OSE feels solid, has particularly excellent controls, and has a smooth, sweet loader.

SOUND QUALITY

This player delivers the familiar Marantz house sound, which means that it is smooth and refined, with a constrained, and perhaps even slightly rolled-off treble, while the bass is full and – by some accounts – a little heavy-handed.

"There's a lack of bass control," complained one listener of the Buena Vista test track, "but timing is good, and the vocals sound natural and enjoyable" – although the same listener found Janis Ian's voice "slightly strident" (a rare criticism indeed).

The Kissin recording was described by another panellist as "like a real piano, with good dynamics and detail rendition, and clear harmonics", while he found the Janis Ian recording had a "nice vocal/instrumental balance, an easy flow to the rhythms and a clearly defined bass line". He found the Marantz offered clear definition of the different instrumental tonal colours in the Varese.

About the worst that can be said of the Marantz 6000 OSE is that it is not as muscular and dynamic as it might be, although few costing less than £300 do better, and there is more than a hint of the distinctive, slightly tilted tonality and what might be described as 'politeness' or 'restraint' often associated with Marantz players.

In the end, however, such things are largely a matter of personal taste, and apart from a trace of heavy-handed bass, which suggests that the system amplifier is

not always being properly controlled, this is a smooth, attractive sounding and highly articulate player that works consistently well with a wide range of material.

CONCLUSION

Here is a £300 player built like one costing twice as much, and if it doesn't sound as good as it looks, it come close, only occasionally sounding a touch heavy-handed. This player is remarkably good value, and on that basis, it is an obvious Best Buy. **AG**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £299.90

By any standards a beautifully presented player that presents music beautifully through the midband, albeit with a tilted and slightly heavy handed overall balance.

TWO YEAR GUARANTEE

Marantz, Kingsbridge House, Padbury Oaks, 575-583 Bath Road, Longford, Middlesex UB7 0EH
(01753) 680868

THE LAB REPORT

The distinctive appearance and sound of the CD6000 OSE belies the fact that this is Marantz's first real evolution in its budget CD player technology for many years. For example, two of its favourite SM5872 DACs (from NPC) are now employed in a dual-differential configuration, while a combination of discrete HDAM (Hyper Dynamic Amplifier Modules) constitute both analogue filtering and analogue output stages. The new circuit layout has reduced jitter levels from the 500-600psec suffered by the original CD63/67 series to 350psec, while errors in low-level linearity are squeezed to +0.0/-0.9dB over a full



100dB dynamic range. Stereo separation exceeds 120dB at all frequencies!

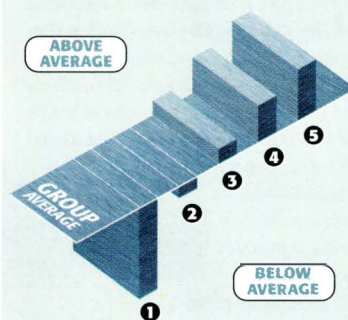
Distortion is improved too, never rising above 0.003 per cent at the 2.0V peak output, even though its output impedance is hardly breathtakingly low at 260 Ohms.

On the other hand, its A-wtd S/N ratio is some 6dB worse than its predecessors at 96dB – the opposite of what you'd expect from a differential circuit. This is not an issue from the point of view of sound quality; nevertheless, Marantz's engineers have confirmed these figures, suggesting that the extra noise is caused by the HDAM filter stage and additional logic circuitry required to synchronise the two converters. **PMI**

HOW IT COMPARES

A genuine enhancement of a familiar theme that yields both technical and subjective benefits.

- 1 SUPPRESSION OF DIGITAL IMAGES -60%
- 2 JITTER -5%
- 3 PRACTICAL DYNAMIC RANGE 10%
- 4 HARMONIC DISTORTION VS LEVEL 25%
- 5 LINEARITY 35%



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
Distortion @ 1kHz/0dBfs	0.0025%	0.0009%
Maximum output level	2.0V	2.0V
A-wtd S/N ratio	100dB	96.3dB

SONY CDP-XE530

Just shy of being the least expensive player in this group, the CDP-XE530 looks at first sight to be unfeasibly well specified. The front panel controls include a wider range of programming, random play, fade and assorted edit and time edit functions than most players pack onto their remote controls.

But this is only the start for a player that comes with a digital output level control (although it defaults to full level every time the player is switched off), a headphone socket adjustable from the handset, and CD Text, with multi-language support. Phew!

The player will seek the highest level passage on disc for use when recording onto analogue tape, and digital recordings can be made using the optical digital output. It almost seems churlish under the circumstances to complain that there's no electrical digital output here.

The Sony is as well finished as one would expect of the marque, but there has been no squandering of resources. The casework is flimsy, the front panel is finest moulded plastic, and the controls feel astonishingly good given how little seems to have been expended on the bits that show.

The rotary track selector is by far the quickest and most pleasing way to select track numbers other than the first on the disc, and the loading drawer is surprisingly quiet



"In its own terms the Sony sounds quite consistent, very much like a typical budget or mid-priced player of a few years ago."

and refined. The remote control is a characteristically excellent stick-type, with an unusually well grouped and clearly signposted control layout.

It all sounds very impressive, but there is a significant difference between this player and other Sony models tested of late. For cost reasons, this model has not been through the UK-based product-tweaking programme that has served Sony so well.

SOUND QUALITY

Correctly matched to its initial presentation by one listener when repeated, and receiving consistent – consistently poor, that is – scores all round, the CDP-XE530 breaks the mould for a brand that has scored some significant hits in the recent past.

The following panel comments are typical: "Poor transient response, dull, a bit heavy and ponderous," (Buena Vista Social

Club); "Not like a Steinway, sounds like an upright, with little resonance, and lacking weight... enjoyable, but I found my mind drifting," (Kissin); "Vocals are OK, but the bass is a bit ponderous (and) lacking emotion," (Janis Ian); "Bass is wooden, brass muted, muddy and lacking in insight," (Varese).

There was plenty more in the same vein, as well as some more positive responses (albeit punctuated by expressions like "OK, but..."); a very telling comment was made by one panellist to the effect that the Sony sounded "chromium-plated".

Indeed it does. In the hands-on testing, the Sony sounded appropriately punchy in the context of a low-cost, inexpensive system (which included, for reasons we haven't room to go into here, a Sony micro system).

However, in more ambitious surroundings the CDP-XE530 had

a strong sense of surface detail but was lacking in image depth, weight and dynamic range.

In its own terms the Sony sounds quite consistent, very like a typical budget or mid-priced player of a few years ago, but without the civilising warmth and grace of the best contemporary designs.

CONCLUSION

The bottom line is that this is a messy, unsophisticated performer, lacking in depth and substance. Therefore, despite an excellent control set and undeniably attractive pricing, the CDP-XE530 is not recommended. **AG**

VERDICT

SOUND ★★☆☆☆

BUILD ★★☆☆☆

VALUE ★★☆☆☆

PRICE £139.00

Entry-level Sony sacrifices sound quality on the altar of an extensive range of gadgetry.

ONE YEAR GUARANTEE

✉ Sony, The Heights, Brooklands, Weybridge, Surrey KT13 0XW
☎ (0990) 111999

THE LAB REPORT

This isn't a stripped-down version of Sony's costlier CD players, but has a lineage that can be traced back to budget units like the CDP-XE510 (HFC 172). All rely on a heavily integrated version of Sony's Pulse DAC technology where the digital filtering, noise shaping and conversion are condensed onto a common substrate.

Superficially, the CDP-XE530 turns in a great set of figures, including very low 0.001 per cent distortion at 0dBfs (just 0.006 per cent at -30dBfs), a healthy 103.5dB S/N ratio and mere +0.4/-0.5dB errors in linearity over a full 100dB range. Stereo separation exceeds 100dB and the response is as flat as is practical but,



like its forebears, the CDP-XE530 still harbours a technical oddity.

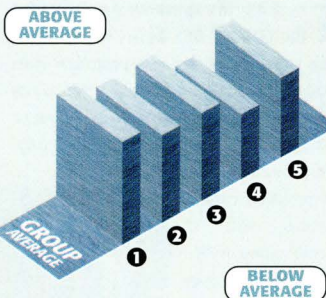
The last season has seen Sony remove almost all the power supply-related jitter that swamped models like the '510. Nevertheless, calculating jitter levels is still rather tricky, because its analogue noise remains infested with a digital 'hash' around the -116dB level. Sure enough, this is extremely low, but as it populates the entire spectrum, its influence can't be ignored and, in my view, may well explain the congested sound reported on the listening days.

With all other obstacles now dealt with, this remaining issue must surely be the model's Achilles' Heel. **PMi**

HOW IT COMPARES

Sony has enjoyed almost uniform praise for its CD players up to this point, but then the differences in digital technology are more than sufficient to explain the result in this instance.

- 1 SUPPRESSION OF DIGITAL IMAGES 70%
- 2 JITTER 60%
- 3 PRACTICAL DYNAMIC RANGE 60%
- 4 HARMONIC DISTORTION VS LEVEL 45%
- 5 LINEARITY 55%



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
■ Distortion @ 1kHz/0dBfs	<0.0045%	0.001%
■ Maximum output level	2.0V	2.0V
■ A-wtd S/N ratio	>100dB	103.5dB

ONKYO DX7222

The DX7222 is an apparently conventional budget CD player based around a 1-bit PWM converter with an 8x over-sampling digital filter, but very little additional information was available in time for this test from the new UK distributor, Jamo. The player is, however, quite impressively equipped, the only mild qualification arising from the still better endowed Sony CDP-XE5390 (see opposite page), which costs even less.

But the Onkyo is a comprehensively more solid and better built product, and still manages to offer more features than many people will ever find a use for, including a headphone socket with a volume control (a rotary potentiometer next to the socket, a superior arrangement to the Sony's digital control), programming for up to 36 tracks and delete programming. Just think: you can eliminate the Boyzone track on an otherwise listenable compilation in one simple, satisfying step. Listen to this and quake, Uncle Cliff...

Also on tap are time edit, to cram more onto tapes of specified lengths, peak search, random play, and five repeat modes, some of which are only available from the palm-sized remote control. The player itself is pretty well laid out, if not a particularly inspired piece of industrial design, and the display includes more information than you'll probably ever want or need



"Image scale tended to be exaggerated with chamber recordings (mainly piano, wind ensemble and string quartets)."

to know, although significantly it lacks CD Text.

Digital output is available from an optical Toslink socket, with no electrical alternative, while other rear panel sockets are available for linking with other Onkyo components for control purposes.

SOUND QUALITY

The DX-7222 showed a "lack of sparkle" and an "overblown bass", especially in the Buena Vista recording, according to one listener who was acute enough to identify when the player was repeated in the tests. But he also felt the player sounded "big and well controlled" other than in the bass, and that the band had "considerable drive and tension". Other panellists felt the player sounded rather lacking in control in this piece, but the quieter test tracks were generally handled better.

The Kissin piano recording, for example, was described as

"believable" and "articulate" with "good tonal definition and dynamics" while the Janis Ian song was "nice and easy, with good vocal quality, very clear bass lines and a good ambient effect".

The panel felt that the more difficult Varese orchestral excerpt was clearly handled well. "The various instruments are clearly defined, and the bass is particularly good," wrote one, while another commented on its "big, open acoustic, and strong dynamic impact".

However, the player did not emerge quite so cleanly from the hands-on testing, where some loss of clarity and image focus was experienced, especially in quite simple pieces.

Image scale tended to be exaggerated with chamber recordings used in the test (mainly solo piano, wind ensemble and string quartets), and the bass was identified as overblown and not entirely natural in quality with some rock

recordings (Alice in Chains, for instance) – qualities that were also identified at times by some of the panel.

CONCLUSION

Certainly not a great player, the Onkyo was nevertheless a broadly satisfying one on the whole – particularly so given the two year guarantee and price drop from £170 to £150 introduced by Jamo, the newly appointed UK distributor, shortly before this review was completed. Taking the strong equipment levels into account, a Recommended swing tag seems in order.

AG

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £149.95

Not a natural front runner, this is nevertheless a well endowed player, enjoyable if sometimes slightly defocused sounding at an attractive price.

■ TWO YEAR GUARANTEE

Jamo, Oakfield Park, Milton Road, Rugby Warwickshire CV22 7AL
(01788) 556777

THE LAB REPORT

A quick glance at the DX-7222's specification might indicate all was well, but there are one or two issues that floor the player at the last hurdle. For example, distortion is low enough at 0.002 per cent through bass and midrange, although this increases by 10x at HF. Then there's the 97dB A-wtd S/N ratio – a bit low perhaps, but still quite adequate for CD's 16-bit



code. Low-level linearity also holds true to within +/-0.5dB over a 90dB range, thanks to Onkyo's use of a bitstream-style DAC technology. Indeed, the excellent suppression of ultrasonic noise is rather surprising given its use of a PWM DAC.

So far so good. Only, the digital filter

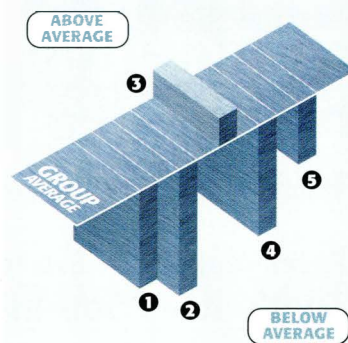
provides just 28dB of rejection of unwanted digital 'images' and, thanks to something called Gibb's phenomenon (see *Oasis, HFC 188/189*) also prompts a little peak in its HF response (+0.2dB at 16kHz, -0.7dB at 20kHz). All this means that the extra energy close into the audioband could result in a form of intermodulation distortion folding back into the music band with certain

amplifiers. Finally, and despite Onkyo's use of a good crystal clock, this player's huge 2,908psps of mainly power-supply induced and spurious high-rate jitter is more than sufficient to account for the "poor sense of rhythm" and "roughness" indicated, respectively, by the panel. **PMI**

HOW IT COMPARES

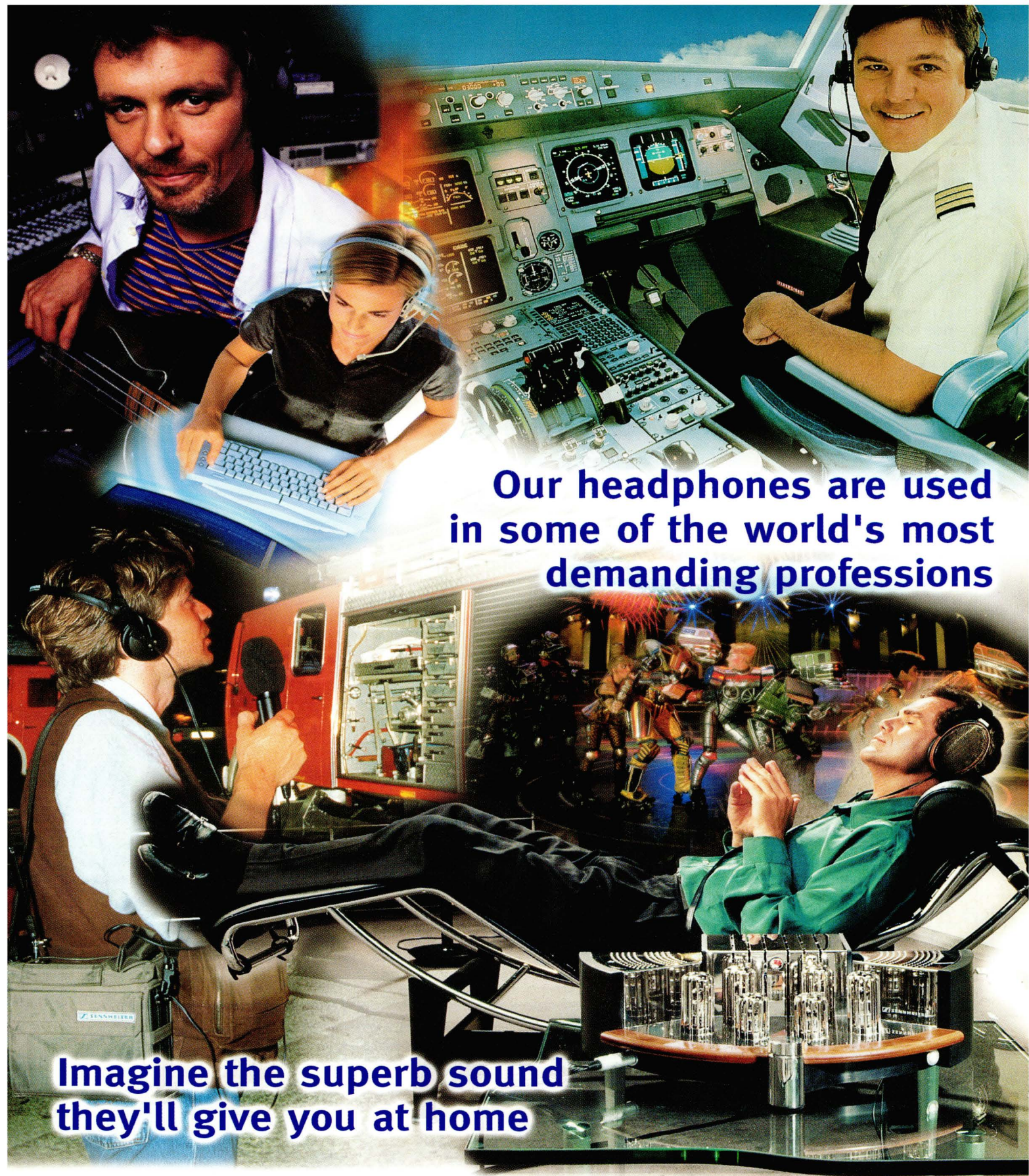
Sadly, this player doesn't live up to the technical standards of Onkyo's previous machines, even taking into account the very generous price tag.

- 1 SUPPRESSION OF DIGITAL IMAGE -65%
- 2 JITTER -85%
- 3 PRACTICAL DYNAMIC RANGE 20%
- 4 HARMONIC DISTORTION VS LEVEL -65%
- 5 LINEARITY -40%



SPECIFICATIONS

SPECIFICATION	CLAIMED	MEASURED
■ Distortion @ 1kHz/0dBfs	0.005%	0.003%
■ Maximum output level	2.0V	2.0V
■ A-wtd S/N ratio	90dB	97.0dB



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DENON DCD-655

Denon's latest busy looking CD player slots firmly in the budget category at well under £200, although there are three less costly players in the test. This places it at the top of our budget 'A' list, but it's still £120 less than the cheapest of the B group (the letters indicate price bands).

The DCD-655 employs Denon's proprietary Lambda Super Linear Converter as a way of eliminating zero cross-distortion, which historically allowed Denon to persevere with multi-bit converters (here a 20-bit design) long after most of the competition had thrown the baby out with the bathwater, with early, and too often musically deficient, single and low-bit converters.

The equipment levels are a little unusual. The player has a fairly full set of controls on its front panel, which is also adorned by a dimmable blue fluorescent display, including a thermometer-style track readout which is unfortunately positioned below the centrally positioned loading drawer, where it may be hidden when the drawer is open.

However, tracks can be selected or preselected using an excellent rotary control, which is a vast improvement on the standard issue buttons that increment track numbers by one with each press. A pair of controls allow the replay speed and pitch to be adjusted



"The inherent clarity and definition made this a good choice for long-term listening, and one that rose to the occasion."

between -12 per cent and +12 per cent of nominal (analogue output only), although the remote control, an attractive compact unit, doesn't address this feature.

You also get a full complement of tape editing features (a Denon cassette deck can be connected using the synchro sockets), and the Denon has an output level control which operates in 20 1dB steps. Headphones can be connected through a front panel socket with volume control.

SOUND QUALITY

There was some scattering of scores through the panel tests, but on the whole, and despite some criticisms, this player was well liked. "It has a lightness of touch and a pleasing deftness [which gives it a] soft, mellow feel," was one response to the Buena Vista Social Club track. Another panellist wrote that the Denon sounded

"forceful and a bit 'thick' sounding, but otherwise fine", while a third described it as "easy to listen to". This is a particularly high octave track, and not easy to reproduce.

The piano recording was described as "clangy, not like a Steinway" by one, but was treated more favourably by others: "Good instrumental definition, light and agile," and "OK, but a little veiled," being typical responses.

The slightly soft-edged quality was also apparent in the hands-on testing, but there was also plenty of detail, and a pleasant, ambient glow from appropriate recordings. Initially open and vibrant, the DCD-655 can come across as a little lacking in dynamics and energy, but this impression tended to fade with time.

The inherent clarity and definition made this a good choice for long term listening, and one that rose to the occasion with difficult,

densely scored orchestral and vocal recordings.

Avoid this player if your system is lacking in presence or tonally dull, but many budget systems tend to err in just the opposite direction, and the Denon is a well judged choice for such systems.

CONCLUSION

This well equipped budget player offers something for everyone, including excellent tape editing features (but the pitch change feature only works from the analogue output), quick track search and decent, slightly restrained sound quality. Recommended. **AG**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE **£180.00**

■ **Solid budget performer, with a relaxed, slightly soft-edged but pleasant way of presenting music.**

■ **TWO YEAR GUARANTEE**

✉ Hayden Laboratories, Hayden House, Chiltern Hill, Chalfont St Peter, Bucks SL9 9UG
☎ (01753) 888447

THE LAB REPORT

Following in the footsteps of the DCD-615, 625 and 635 (HFCs 139, 147 and 172 respectively), the DCD-655 is, nonetheless, the first budget player from Denon to use a 20-bit DAC technology. All previous versions were equipped with the 18-bit PCM61P from Burr-Brown, and while the 8x oversampling filter remains unchanged (offering 54dB of stopband rejection), the DACs are now 20-bit PCM1702s. This technology offers the benefits of very low ultrasonic noise and, compared with the 18-bit derivatives, a lower 0.01-0.02 per cent distortion at -30dBFS (instead of 0.05-0.08 per cent). At peak level (0dBFS), distortion is suitably low at 0.001-0.002



per cent through bass and midrange but picks up, thanks to a strong second/third harmonic, to 0.04 per cent at 20kHz.

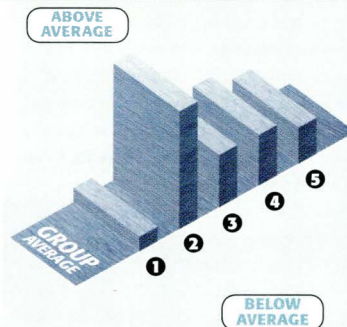
Likely as not, this is due to the analogue output stage which, incidentally, peaks at just 1.85V, so watch out for unmatched A/B demonstrations.

This is crucial, for the DCD-655 has a lot going for it - including a 102.8dB S/N ratio, very low 190psec jitter, excellent low-level linearity and a mere -0.2dB loss in response at 20kHz. The 0.2dB error in channel balance is a little puzzling, but should not exert any audible impact. For best results, don't forget to null the 12-step pitch control and set the 20dB digital volume to '0'. **PMi**

HOW IT COMPARES

A practical and clearly very successful upgrade on Denon's previous budget players. Technically, it's on the nail, but do watch out for the slightly low output level.

- | | |
|---------------------------------|-----|
| 1 SUPPRESSION OF DIGITAL IMAGES | 10% |
| 2 JITTER | 80% |
| 3 PRACTICAL DYNAMIC RANGE | 35% |
| 4 HARMONIC DISTORTION VS LEVEL | 35% |
| 5 LINEARITY | 25% |



SPECIFICATIONS

SPECIFICATION	CLAIMED	MEASURED
■ Distortion @ 1kHz/0dBFS	0.003%	0.002%
■ Maximum output level	2.0V	1.9V
■ A-wtd S/N ratio	107dB	102.8dB

CAMBRIDGE AUDIO D100



The least costly player in our group, the slimline D100 has a number of refinements that are unusual if not unique at the price. One example is the black painted alloy front panel where a plastic moulding would normally be found.

More significantly, the D/A processor daughterboard can be swapped out for enhanced processor boards when they become available, although whether it'll ever be worth upgrading the DAC in a player that is inevitably compromised in other areas is open to question.

The native control set – play, jog-type cue and track skip, programming and random play keys – are supplemented by a remote, which adds a random access keypad. An optical digital output is available, alongside blanked-off areas preassigned for electrical digital outputs and for a second optical socket which is apparently reserved for a clock lock circuit, which implies that a matching outboard DAC will be made available.

The D100 employs a custom servo controller from Sony, which dynamically varies focusing,

“This player imposes its own character on the music, with a uniformity that made long-term listening unrewarding.”

tracking and laser output level. Separate stabilised power supplies feed the digital and analogue circuits, and the DAC is a Delta Sigma-type from Crystal.

There are some operational peculiarities, such as the control logic that won't allow play mode to be selected before the drawer is closed, and overrun with the skip control. More significantly, tracking was intermittently suspect, not least with the Janis Ian test track, which performed faultlessly with the other players.

SOUND QUALITY

Plenty of unanimity here, but the panel wasn't exactly clamorous in its praise for the D100, which was described as loud (twice), slow (twice) and bass heavy, with edginess in the treble and a boomy, rather muddy bass quality consistently identified throughout the tests. “Thin and sounds loud,”

wrote one panellist following the complex and high-octane Buena Vista track, “and not very subtle.” Another described the same track as “loud, flat and lumbering.”

In a separate presentation, the Janis Ian recording was described as “having a pleasant balance, but tends to be bass-heavy”, and a second listener, writing about the same, rather refined recording, described the presentation as “light and tuneful”, with a “good vocal apart from a sibilant edge”, while he identified a “clangy overhang” in the Kissin piano recording, which he also described as having “unclear passage work”.

The hands-on testing was consistent with the panel tests; it was soon apparent that this player imposes its own character on the music, with a uniformity through a range of recordings that made long-term listening unrewarding. The problems identified by the

panel at the frequency extremes were also evident, but it was the inability to resolve fine ambient detail, along with a suggestion of midband coloration, that represented the main limitations.

CONCLUSION

Cambridge Audio has a strong track record for high performance with some of its least costly components, but this model does not live up to past form, and in the circumstances the promise of future upgrades isn't enough to tip the balance. Note that the brand is available only through Richer Sounds outlets. **AG**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £120.00

Not one of the better Cambridge Audio budget components, the D100 is ultimately unatmospheric and coloured.

ONE YEAR GUARANTEE

Richer Sounds, Gallery Court, Hankey
Place, London SE1 4BB
(020) 7940 2222

THE LAB REPORT

Even among budget players, the D100 is exceptionally affordable and this at least partially justifies Cambridge's use of a low-cost CS4338 DAC. This Crystal part will accept a 24-bit input, but is typically used in portable players where its 16-bit output specification is less of an issue. In practice, the 1dB error in resolution at -90dBfs is perfectly acceptable,

as is the increase in distortion from 0.004 to 0.016 per cent through midband to high frequencies. Noise (a ‘hissy’ white noise, rather than hum) is rather high at -80dB, however, probably because the bulk of the player's circuitry is mounted on the servo PCB and fed from a shared power supply.



Indirectly, this is linked to the panel results recorded by Alvin.

Otherwise, the DAC's on-chip digital filter provides just 51dB of stopband rejection, although the player's output of ultrasonic rubbish is usefully suppressed by

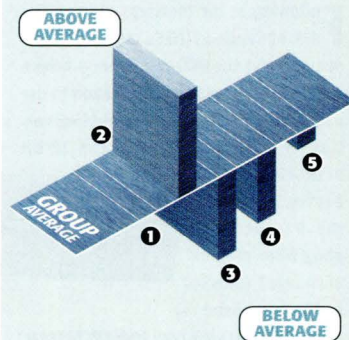
Cambridge's own analogue filter. The relatively high 160ppm clock error won't be audible (see the Monrio Asty review, p36), but it is another indication of Cambridge's sensible cost-cutting.

Very close-tolerance crystals (less than 20ppm) are simply an unnecessary expense in a product of this nature and need not directly affect digital jitter which, in this case, amounts to just 280psec. **PMI**

HOW IT COMPARES

A successful exercise in cost-over-engineering and perhaps the only player available to enthusiasts on the strictest of budgets.

- | | | |
|---|-------------------------------|------|
| 1 | SUPPRESSION OF DIGITAL IMAGES | 0% |
| 2 | JITTER | 70% |
| 3 | PRACTICAL DYNAMIC RANGE | -55% |
| 4 | HARMONIC DISTORTION VS LEVEL | -45% |
| 5 | LINEARITY | -10% |



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
Distortion @ 1kHz/0dBfs	0.01%	0.004%
Maximum output level	2.1V	2.1V
A-wtd S/N ratio	>95dB	80dB



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process. After all, don't you find much the same components in CD players at all price levels?

To an extent, there's no blanket answer, but it seems (to me at least) that there's more graduation in performance with price now than in the past. Perhaps this should not come as too much of a surprise given that even if the all the digital clockwork in different players was the same, which in fact it isn't, CD players are stuffed full of analogue circuitry, and their design responds as much to good analogue audio design practice as any other.

Of course there is, and can be, no definitive answer to the crucial first question of how much you should allocate to your CD player. It is this central type of uncertainty that is one reason why the hobby of hi-fi (as opposed to high fidelity music) is such an absorbing one.

The point is that more expensive players often sound better than cheaper ones, with some notable exceptions. The differences can be both subtle yet musically crucial, and if this isn't the way it seems in particular equipment combinations, it may be that the rest of the system is masking the differences.



HINTS & TIPS

Extracting the best from your CD player is, to a large extent, a matter of common sense. CD players don't like to be run from cold, so don't expect the best sound for the first half hour or so, unless (and sometimes even if) yours is one of the growing number of models with a standby feature. Ideally try to avoid stacking the player on top of other hi-fi components, especially if it's a copious heat generator like an amplifier, but if needs must, try to arrange some space and mechanical isolation between the components. We have found that compliant isolating feet can give good results.

GLOSSARY

DIGITAL CONVERTERS: The slice of silicon that converts the digital signals into an analogue waveform.

Converters come in various forms: the traditional multi-bit or ladder type are the best known, and have known strengths and weaknesses which designers are more or less adept at accommodating.

A recent introduction to the field, by Arcam, is the Ring DAC, a radical topology that goes a significant way towards addressing the failings of previous converter types.

FILTERS: Intrinsic to digital audio is the extensive use of filters, both analogue and digital. These are often very sophisticated in design, and in total probably have more to do with the 'personality' of CD player sound than many other better known factors.

OUTPUT IMPEDANCE: A measure of resistance to alternating current, a low output impedance (say, below 100 Ohms or so) helps ensure compatibility with most amplifiers, even when using long or unusual designs of 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.

JITTER: Jitter represents the uncertainty in the timing of digital signals, which translates into a muddling and loss of detail and defocused imagery. State of the art is below 150psec, but figures over 1,000psec are not uncommon.

GROUP A

£120-£180

This closely priced group includes three very well equipped models, and one – the Cambridge Audio D100 – that is more purist in conception. Only slightly more expensive, the Sony CDP-XE530 is one of the few Sony players that hasn't been through the programme that tweaks off-the-shelf Sony players for the UK market. The Onkyo and Denon are also off-the-shelf models. Onkyo has just changed UK distribution, and celebrates with a price reduction just in time for this test.

Cambridge Audio D100	£120.00
Denon DCD655	£180.00
Onkyo DX-7222	£149.95
Sony CDP-XE530	£139.00

GROUP B

£181-£550

A curious mix of models, there are some distinguishing features here. The Marantz is a superbly built player at a price that will cause many a double-take. The NAD is very much business as usual, being comparatively basic in equipment levels and finish and very much focused on the result. Roksan has taken a tangential approach with the Kandy, which blends its traditional approach (albeit not its most sophisticated designs) with a choice of coloured front panels, although the one tested is the sole conventional finish. Finally Talk Electronics supplied its entry-level Thunder model, which is designed to complement modestly priced systems with more typical limitations than normally appropriate for their players.

Marantz 6000 OSE	£299.90
NAD C540	£329.95
Roksan Kandy	£475.00
Talk Electronics Thunder 1	£549.00

GROUP C

£551-£900

The contenders in our final group are closely priced, and comparable with each other to the extent that they are all clearly aimed at the enthusiast market, with few of the features common to typical sub-£200 players, for example, to be seen on any of them. In other respects they diverge, taking quite different paths to audio Nirvana, especially in the case of the Monrio Asty, which as Paul Miller explains, and the listening panel discovered, ploughs its own furrow.

Monrio Asty	£695.00
Musical Fidelity A3 CD	£799.00
Cyrus dAD3 Q24	£900.00

HOW THE TESTS WERE DONE

Our eleven CD players were subject to the usual battery of tests, including a close physical examination, unsighted panel based listening tests in a high grade system, hands-on listening, mainly using a more representatively priced range of speakers and amplifiers, and a computerised measurement test programme by Paul Miller (all published measurements were taken on the QC suite v3.1 high-speed functional testing station). Each player was run in and warmed up prior to being auditioned.

Panel testing, spread over two days, included a large number of repeats, with no panel member knowing the identity of the player on test, and with levels carefully normalised at the beginning of each test run. The system used on this occasion included a Krell KAV250p/KAV150a pre/power amplifier and JMLabs Mezzo Utopia speakers for the unsighted and hands-on tests. Speaker cables and interconnects were from Nordost.

Hands-on listening was broadened to include Arcam Alpha 10 and Musical Fidelity A3 amplifiers, while speakers included Tannoy's R1, the Celestion A1 and others. The reference CD player was a Krell KAV250CD.

THE LISTENING PANEL

Our usual sincere thanks go our efferescent listening panel for contributing their listening skills and time. This month's batch included: Colin Hinkins (Mirage, Energy), David Inman (Castle Acoustics), Steve Harris (TAG McLaren, ALR), Keith Haddock (REL, Myryad), Russell Kaufmann (Morel, Densen) and Roger Batchelor (Denon). At the insistence of one of our panel, we retired to a local Italian eating house on day one, where we prevailed upon them to at least keep the house PA at a low level. On day two, riven by guilt, we made reparations at the local Pizza Express, where no such arm-twisting was necessary.

TEST MUSIC

Buena Vista Social Club *Chan Chan*/World Circuit WCD050

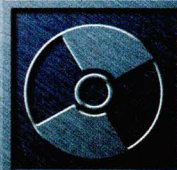
Brahms *Variations on a Theme by Paganini Op 35: Variation IV* – Evgeny Kissin/RCA Victor Red Seal 09026-68910-2

All roads to the river from Janis Ian's *Breaking silence*/Morgan Creek 519614-2

Varese Dance for Burgess/Asko Ensemble; Royal Concertgebouw Orchestra/Ricardo Chailly (conductor)/Decca 460 208 2DH2

Various other titles were used in the hands-on tests.





ON TEST!

CD PLAYERS

The sub-£1,000 CD player market can be pretty cut-throat. Which brands are chancing their jugulars for your listening pleasure this month? **Alvin Gold** and **Paul Miller** grab the mops.

THE CAST LIST

Cambridge Audio D100	£120.00
Cyrus dAD3 Q24	£900.00
Denon DCD655	£180.00
Marantz 6000 OSE	£299.90
Monrio Asty	£695.00
Musical Fidelity A3 CD	£799.00
NAD C540	£329.95
Onkyo DX-7222	£149.95
Roksan Kandy	£475.00
Sony CDP-XE530	£139.00
Talk Electronics Thunder 1	£549.00

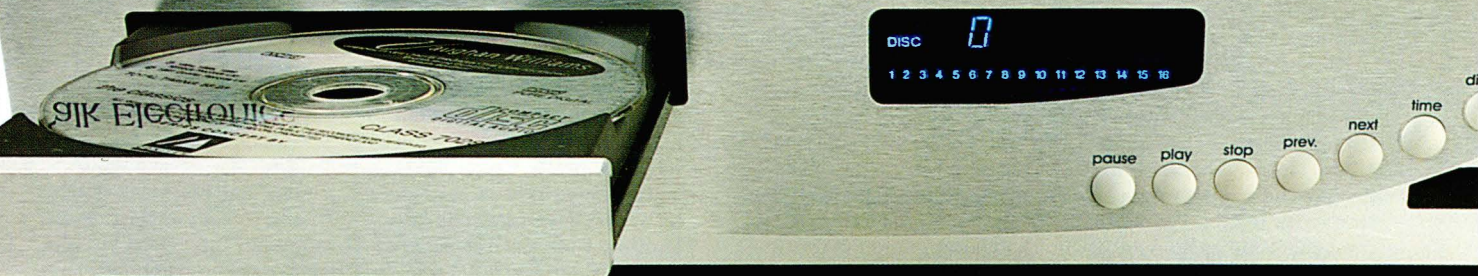
There are three players in this month's CD player test priced within spitting distance of £900 which, if you say it in a particular tone of voice and at just the right pace, could almost be mistaken for real money. The rest cost less, in most cases a lot less, with a

starting point of £120 for a model of restricted availability (the Cambridge Audio D100), and £130 for models available from a cross-section of hi-fi dealers.

The main question that arises with group tests of this kind is: how much should you consider

spending on a CD player? This question immediately suggests another – whether expensive CD players really are substantially better than cheap ones. The introduction of digital electronics is supposed to have injected a touch of democratisation into the

Talk Electronics



LETTERS

Hi-Fi Choice's very own 'points of view' page, where you, the reader, can express your opinions!

LETTER OF THE MONTH

BORING HI-FI

I'm a student and have been reading your magazine for the past couple of months. I'm looking to buy a trendy, good value hi-fi system but so far nothing really hits the mark. I currently own a £500 Sony micro system. It's silver, looks great with flashy buttons and has a MiniDisc player, but the sound distorts when played at only a moderately loud volume; parties are a no-no. I'd like to feel more involved in the music that I listen to, but think that the hi-fi systems featured in your magazine are dull and out of my price range. This isn't a direct criticism of *Hi-Fi Choice*, but a dig at the manufacturers who make these black, unattractive, old-fashioned products. Why is it that in a world where technology is changing so rapidly, hi-fi still look so 80s?

Gez, Brighton

The Editor Replies... That's a tough one. You're right, a lot of affordable hi-fi looks pretty dull, and most of the well designed stuff costs an awful lot. However, there are a few exceptions – notably, the silver finish mini systems from Denon, Sony and Pioneer, which are all around the £500 mark. And then there are some genuinely stylish options like the Audio Innovations Alto amplifier of yore and the latest incarnation of the Blue Room Minipod.



Blue Room Minipod.

As for group tests, this month sees a CD player test with plans for speaker and MiniDisc tests in future issues. DVD, however, will undoubtedly be featured again.



DJ Mason's 'red' super tweeter.

SUPER TWEAKER

I refer to the Jimmy Hughes column in issue 196 regarding the addition of a Super Tweeter. May I suggest a further item to assist this worthwhile 'tweak'? Maplin can supply a very well-made strong plastic box, item number MB4, which could have been designed to house the tweeter. All that's required is to cut out the front panel (dimensions are given in the catalogue) to fix the tweeter. I have further filled the interior of the box with some spare Deflex Acoustic Panel which has damped any resonances and added considerable weight to the enclosure. The tweeter sits on the top of a pair of B&W P5s relined with Deflex. I have recently auditioned a pair of speakers costing £2,000 and can confirm the P5s and Super Tweeter combination definitely provides a superior

sound over the more expensive pair. Many thanks to Jimmy and your excellent magazine.

DJ Mason, Newcastle

RELIABILITY CORNER

I was delighted to see in the Best Buy issue your mention on the reliability of the Pink Triangle turntable. I think it would be helpful to readers to include some information on product reliability in all reviews – or, better still, a section where readers can write in and share their experiences through the magazine.

My Little Pink Thing turntable has been back to the repair shop so many times it knows its own way! It has produced music for barely one quarter of the time I have owned it.

I've also had experience with three different Sony MiniDisc players, each of which has had a problem with the mechanism that detects when a disc is inserted, resulting in the machine switching itself on or off at random. On the other hand, items such as my Teac CD player and Mission speakers have worked faultlessly for years.

Peter Sanders, via e-mail

The Editor Replies... We get very few letters complaining about reliability problems, and when we do the issue can usually be resolved with a bit of dialogue between buyer and maker/distributor. The key to avoiding difficulty is to buy from reliable dealers, rather than the guy with the best price, then hopefully the dealer can sort problems out for you.

IMPROVEMENT FAST

I like *Hi-Fi Choice* for hi-fi, not DVD. I'm fed up of DVD player tests. Same as *What Hi-Fi?*. January's *Hi-Fi Choice* had no hi-fi. Why? Too many ads and too few tests. Let's see hi-fi only. More tests please and news and views. Sorry I got January's *Hi-Fi Choice*. Let's see a MiniDisc test, small speakers, portable radio and CDs. Let's see this improvement FAST.

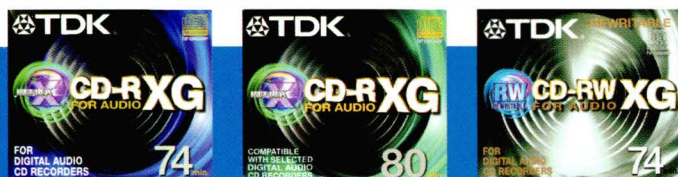
Name indecipherable

The Editor Replies... the growing popularity of DVD has led to players being used for both movies and music, and this has significantly affected the CD player market. So while we are unlikely to look at them from a video perspective, we felt it useful to test their stereo audio quality as well as surround sound capabilities.

SECOND-HAND HI-FI

I'm not a regular *Hi-Fi Choice* reader and only pick up a hi-fi magazine when thinking about buying something new. However, I have a suggestion: how about doing an feature on buying second-hand hi-fi gear? I don't know if you've ever written an article like this before, but there appears to be a potentially large market for it, and not just for the enthusiast. For example, if a first-time buyer, or anyone on a budget, knew what and where to look for quality second-hand gear they may well pick up a hi-fi bargain. There's an informative guide at http://www.tntaudio.com/guide/sources_e.html and a regular feature in your mag may well help a few people down the hi-fi road.

Duncan Towers, via e-mail



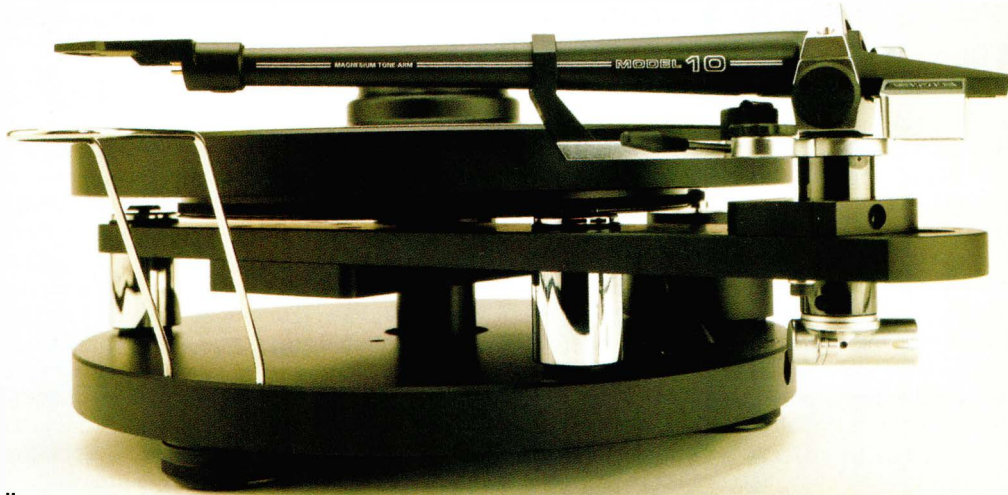
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at the heart of it

TDK's audio CD-R range

SME MODEL 10



Small is beautiful!

The stiffer a structure the less it will flex and vibrate. The more massive the less it will vibrate. Therefore to be structurally inert, with a given weight of metal, a turntable should be a compact as possible. The extreme opposite, *ie* the same weight of metal spread over a large enough area, would be aluminium foil. These simple facts of physics should be borne in mind if you aim to hear your records rather than your turntable!

Details and reviews on request from:

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There's a lot to swim through

DAVID VIVIAN

David's in the driving seat for a journey back to the best hi-fi systems he's ever heard. And he's taking you with him.

As a doctor of both car and hi-fi journalism, I often get asked the following questions. First, what's the best car you've ever driven? And second, what's the best hi-fi you've ever heard?

The honest answer to the first question is: "Dunno." There's a shortlist with a Ferrari F40, Porsche 911 GT2 and current Mercedes S-class somewhere near the top. I suppose I could rotate. As for the second question, there's a choice of two. The shock (for me, anyway) is that one of them was installed in a red VW Golf GTI 16V I haven't seen for at least five years. The innocuous-looking hot hatch belonged to one Ken Chisholm.

Ken's argument (crusade, even) was that an intelligently designed, carefully

truly omni-directional. Shaninian argues that since all natural sounds are omni-directional, it makes sense to have a speaker that works in the same way.

The Diapasons were hooked up to a Dynavector HX 1.2 power amp fed by a Naim NAC52 preamp which, in turn, received its signals from either a Naim CDI CD player or a Well Tempered Classic turntable and arm fitted with a Dynavector XX-1 high output moving coil cartridge.

Ken's car system had evolved around the legendary Nakamichi TD1200SE cassette player – even then it cost £1,200 and was made only to special order. It drove a couple of bridged Soundstream MkI amplifiers and beautifully installed KEF KAR 3-way speaker

system via a KDM 30 passive crossover modified to tri-wired operation. American Monster Cable interconnect and speaker cable were used throughout and the Golf's alternator had been up-rated from 60 to 90 amps, running off a beefier 88 amp-hour battery. To look at, it was distinctly "so what?" – neat, low-key, space-efficient. Deceptive. The standard-looking front door panels, for instance, were reinforced with glassfibre to provide a more rigid mounting for the mid-range and tweeter units.

Hearing was believing. The same source material was used for both systems, high quality tapes having been made for the Golf using the Well Tempered Turntable. First up some funky jazz fusion from Steps Ahead. This sounded simply terrific in the Golf, very dynamic yet beautifully integrated with no undue emphasis given to any part of the audio band. Sax in particular came across powerfully with great attack and presence.

Back indoors, the track grew in space and stature on Derek's system – big, expansive, glamorous with a greater sense of stereo and production effects. More treble energy was immediately apparent – occasionally verging on the fierce – but the upper octaves were fabulously well detailed and transparent. In short, the piece sounded funkier in the car, freer and more open in the house.

Moving on to the blues and John Hammond, Ken's car system again impressed for its immediacy, attack and sheer balls. The mouth organ had breathtaking presence and tangibility, guitar a beautifully warm and natural timbre. Timing was spot on, the music made sense. But the domestic system brought a greater depth and subtlety to the music, sounding more rounded and polished yet, at the same time, endowing the mouth organ with more cut, the guitar greater resolution. Now everything was clear: explicit, neck-tingling musicianship. The house edged ahead.

But with Rickey Lee Jones' wonderful *Danny's All Star Joint*, Ken's system was again in its element. This was real music with startling life and authority. Taut, twangy bass, effortless volume: swung like a good 'un. Derek's system couldn't beat that. Its presentation was more relaxed, didn't swing quite as easily. Which isn't to say it didn't do some things better. It had more mid-range presence and intelligibility, and a more alluring sheen to the treble.

And so the pattern was established. Ken's system was everything he said it would be: fast, rhythmic and musically involving, occasionally to an extent that eclipsed the mega-buck domestic set up. Derek's system, on the other hand, could resolve spatial information beyond the wildest dreams of the Chisholm experience. Both worked beautifully in their environments, both provided exceptional access to the emotional power of music. They were, and continue to be, the best hi-fi I've ever heard.

"To see if Ken Chisholm had a point about in-car hi-fi, we drove round to hi-fi hedonist Derek Whittington's home for a somewhat unusual car versus house showdown."

matched and properly engineered analogue car system – that's a console-mounted cassette player to you and me, son – could sound just as good as the sort of no-holds-barred, cost-no-object, domestic wet-dream set-up only millionaires or hi-fi dealers would ever have access to.

To see if he had a point, we drove round to hi-fi hedonist and dealer Derek Whittington's house in Loughborough for a somewhat unusual car vs house showdown.

Centrepiece of Derek's "no prisoners" domestic set-up was a pair of astonishing Shaninian Diapason speakers sitting in plenty of free air at one end of his lounge. The technical literature called them "Asymmetric prisms with unequal rakes in each direction constructed from 13-ply Finland birch". Each enclosure had fourteen separate drive units arranged in such a way that their output was



The astonishing Shaninian Diapason speaker: doubles as a Wendy House for the kids.

CAPTURE

The Essence

...the essence of a live performance, the passion... the power... the excitement. You just can't beat it!



But you can come close, that's why you own a hi-fi system. That's also why you need to use the very best cables you can afford, because only then, can you be sure that your system is being allowed to work to it's full potential.



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"An Award winner for the second year running, this cracking little cable offers a sniff of the high-end when it comes to detail and purity, and does so at a bargain price. Used in a good system, this wire can truly amaze."

-BI-WIRE VERSION NOW AVAILABLE-

Qunex Silver Spiral Price from £78.00/pair



"Music is presented in a natural and unforced manner... Silver Spiral excels in detail and dynamics...If your looking for an interconnect...Silver Spiral deserves to be at the top of your shopping list."

Qunex 2 Price from £27.00/pair



"Qunex 2 was one of the best-liked cables in the test. Qunex 2 fully deserves a Best Buy."

"Great price, great cable, well made. Nifty name, neat plugs. Five stars. Next..."

RUARK Solus £1,200

Lee Dunkley finds sonic enlightenment in Southend.

Essex-based Ruark Acoustics has been around for 14 years and has produced a variety of interesting designs in that time. Founded by cabinetmaker Brian O'Rourke, the company's aim was to produce speakers that combined the essential elements of exceptional sound quality and stylish design. Today, in what is an extremely competitive market, Ruark is proud that each loudspeaker is individually hand-assembled.

The Solus is a recent introduction marking the entry-level to the four-strong Sterling Reference range. This two-way standmounter, with a cabinet that is 30mm thick in parts, has internal bracing and a sloping front baffle that provides improved time alignment between drivers. Unusually, the 150mm mid/bass driver features ten cuts in its doped paper cone, each filled with a damping compound. Ruark claims this significantly reduces cone resonance, improving the speaker's midband performance. Partnered with an offset 28mm fabric dome tweeter, the Solus is bi-wireable via dual gold-plated terminals. Real-wood veneer finishes are available in natural oak, black oak and natural cherry, while other finishes cost extra.

The purpose-built support is a rigid but curvy, three-pronged tubular affair, mass-loaded with Sound Bytes for acoustic damping. Priced at £350, it is available in 'steel' or 'aluminium' finishes.

SOUND QUALITY

My initial thoughts concerned the Solus' impressive bass depth: Such scale belies the size of its main driver and cabinet dimensions, yet delivers musical, tuneful bass. From classical to dance music, it conveys weight and power with a controlled and well proportioned energy. Even at lower volumes the Solus gives a coherent and balanced delivery, rivalling Ruark's respected and larger Equinox model.

Other notable attributes include a wide stereo spread with convincing instrument placement, and a transparent midband. Further up the scale, high frequency detail has a smooth roll-off, giving the speakers a more rounded characteristic.

At £1,200, the Solus is a luxury standmounter that is definitely a worthy candidate for anyone's shortlist.



Ruark Acoustics ☎ (01702) 601410



FMJ CD23:
shinier than
most Arcams.

ARCAM FMJ CD23 £1,099.90

Tim Bower gets to grips with Arcam's new top-of-the-range CD player.

Everybody's at it, sprucing up their black boxes with tasteful trimmings, and seducing the punters with eye-catching aesthetics. Even sound-first stalwart NAD has surrendered to the irresistible pull of a glistening exterior, for its Silverline range. Now Arcam has followed suit, building on existing glories to create its FMJ flagship line.

Despite rumours to the contrary, FMJ doesn't stand for Full Metal Jacket, though it seems likely the acronym sprang from a working title of that kind. Officially, it means anything you want it to. "For Millennium Joy", as the press release would have it, or Feel My Jockstrap if you prefer. Full Metal Jacket is certainly most apt, because the FMJ CD23 is encased in a rather gorgeous metal shell. The top case and front plate are both aluminium, the latter being 8mm thick, and the chassis is made from a vibration-damping steel and polymer laminate. Aesthetic benefits are obvious, but when it comes to performance, the extra rigidity should pay an additional dividend.

Under the lid lies a modified Alpha 9 – one of our favourite players for less than £1,000, it has rare addictive qualities, and its dCS-derived Ring DAC and custom-designed chipset are also used here. However, Arcam has been intent on improving it, and has redesigned the motherboard and power supply. A high quality toroidal transformer now supplies the sensitive audio circuitry on the Ring DAC converter board, and the net result is a worthy newcomer to Arcam's range.

SOUND QUALITY

Is this the best-sounding player around the £1,000 mark? Well, it may be the one we feel most confident recommending to a broad range of listeners. After all it should slot happily into varied systems and suit most tastes. Yes, it demands high quality partnering equipment, but it's less particular than some of its more esoteric rivals.

Like the player on which it's based, the FMJ's strength lies not in any particularly striking quality. Rather, it is a collection of near-ideals that add up to a wholly satisfying listening experience, full of substance and charm. Its allure becomes stronger over time; its ability to extract ambient detail is a subtle quality you'll soon find you can't live without. Some may question its value for money compared with the Alpha 9; a £300 premium is a lot to pay for marginal improvements in performance. But if people are spending a substantial sum, they like to see some return, as well as hear it, and the CD23 delivers on both counts. Expect a full group test soon. And next month, the Alpha 10-based FMJ A22 takes part in our amp Super Test.



Arcam ☎ (01223) 203203

Ruark Solus:
handcrafted
loveliness.



ENERGY e:XL26 £600

Tim Bown checks out a name that's new to the UK.

Head of Energy? Thought not. The marque is effectively new to these shores, its occasional presence having evaporated some years back. However, its Canadian manufacturer, API, is one of the largest in the world, its brands selling truckloads throughout North America. API believes there are pickings to be had in the saturated UK speaker market, and has joined the growing procession in-bound from abroad.

The e:XL26 is second-from-top in Energy's entry-level e:XL Series. It is a 91.4cm tall floorstander with a well-proportioned MDF cabinet and a striking, bulging baffle. This latter part employs a low-resonance composite copolymer, and supports a 19mm metal dome tweeter and twin 165mm mid/bass drivers with polypropylene cones.

If multi-channel is part of your equation, either short or long-term, the e:XL range includes matching rear and centre speakers, and all models are magnetically shielded for use close to a TV. As for finish, the '26 comes in either black ash or light birch (as pictured).

SOUND QUALITY

This speaker is enthusiastic enough, as one would hope given the name. Its performance is characterised by lively treble and solid upper bass, but tone is a little topky and midrange rather reticent, lacking consistency across a range of music. Partnered with sweet sounding source and amp, and fed on a diet of acoustic-style music, you may feel it outperforms its price point; strummed guitar sounds are sharp and alert, bass drums kick with authority. It pretty much hits the spot with dance music too, a slice of Seb Fontaine sounded suitably beefy on test, delivered at high volume without undue stress.

But with some music, a rather bright and boxy nature comes to the fore. Powerful female vocals sound pinched – Maria McKee gained something of a Mini Mouse infection – and it lacks the effortless sweetness of tone to suit classical fans. Outwardly, Tchaikovsky's Fifth may not be the most demanding piece, but its swathes of strings are tricky to reproduce naturally. Here they sounded rather too reedy, and the brass too piercing. Elsewhere, a few loungecore tracks by the Beastie Boys highlighted both highs and lows with good snap and dynamic tension, but fizzy cymbals and congested bass spoiled the party.

There's enough here to gather interest, if not full recommendation at £600. But check out next issue's loudspeaker Mega Test; the e:XL25 is included, which is essentially the same speaker with slightly smaller cabinet and drivers for just £400.



API UK ☎ (01473) 240205



HD 590
Prestige:
aural escape.

SENNHEISER HD 590 Prestige £160

Lee Dunkley settles down with Sennheiser's flagship headphones.

Sennheiser is one of the world's best known and respected headphone manufacturers. The German company, which introduced the first open-backed headphones in the late 1960s, has a history spanning some five decades.

Open-back 'phones give a more spacious, 'out of the head' stereo experience, but allow sound to escape from the back of the diaphragm, and be heard by the outside world. This might be irritating to people nearby, but you'll still be able to hear the telephone ring.

A new addition to the company's 5 Series, the HD 590 Prestige is touted as the flagship of the range, being geared towards the more discerning listener. Its spec includes a new generation Duofol transducer with Neodym-Iron magnets and lightweight 18mm aluminium voice coils, combining to give spacious sound with a neutral balance.

Constructed from lightweight moulded plastic, its circumaural ear pads consist of oval-shaped ear-pieces with luxurious velour roll-cushions which sit snugly around the ear. The phones feel reasonably lightweight and comfortable on the head, with the padded single headband aiding distribution of their 270g weight. Even during prolonged listening sessions, the phones remain comfortable and unobtrusive, making those escapist trips to a musical world of your own long and pleasurable.

The single-sided three metre detachable cable provides ample freedom for movement and the ability to listen to TV from the sofa. The cable has a 3.5mm jack plug with a 6.3mm adaptor.

SOUND QUALITY

As you'd expect, the HD 590s give a good sense of spacious stereo, and a sound that can probably be termed classic Sennheiser. Bass is particularly well extended and controlled, conveying classical pieces with a sense of depth and heart-felt passion. Fast, rhythmic tracks also fair favourably, giving pumping tunes all the power and energy of the dance floor with plenty of head-nodding, foot-tapping rhythm. Vocals, however, seemed to lack a sense of naturalness and transparency, sounding veiled and synthetic at times, while the detailed treble occasionally drew attention to a recording's shortcomings.

The Sennheiser HD 590s offer outstanding comfort and listening pleasure, but may ultimately appeal to those who prefer a more laid-back sound.



Sennheiser ☎ (01494) 551571

e:XL26: hits
the spot with
dance music.





gather every model then available in a particular component category, and test them all against the same closely defined objective criteria and subjective listening conditions.

I don't know how many copies of those early editions were actually bought by consumers – distribution was a headache for a new, small title with an irregular publishing schedule, and the cover price was at least twice that of the regular monthly mags. But I do know they had an enormous influence through the trade. Dealers were desperate for the sort of comparative data that only *Choice* could supply.

I was working at *Hi-Fi News* when those earliest issues came out – we treated them as books rather than magazines, carrying reviews of them in our mag. Those A5 *Choices* may have carried ads, but they had much more the feel of books because each was devoted to one specific component in the hi-fi chain, and to covering its ins and outs in unparalleled depth.

A new edition of *Choice* was a notable event, and when the first ever Loudspeakers edition appeared on the eve of the 1976 Harrogate show, its findings were a major topic of conversation. To add spice, there was a lawsuit in the offing, instigated by a manufacturer who disliked having his speaker's sonics compared with a waste receptacle.

I joined *Choice* as editor (and everything else) sometime around issue 9, replacing Sally Peberdy. (That's as specific as you can get with a title that appeared four or five times a year, each edition taking six months from planning to publication.)

I still feel nostalgic for those topic-oriented, pocket-size *Hi-Fi Choices*, and I know many other enthusiasts also miss their comprehensive

and focused approach. They offered an unequalled breadth of perspective across each market sector, the large group creating a valid average against which any individual model could be compared. And each project was big enough to support some research into developing radical test techniques.

The 'book' format was a unique strength of the title, but also a major handicap. For one thing, the pages were too small for many potential advertisers' existing ads. Each edition was supposed to remain current for at least a year, yet didn't fit comfortably on newsagents' shelves, so proper distribution was always a headache.

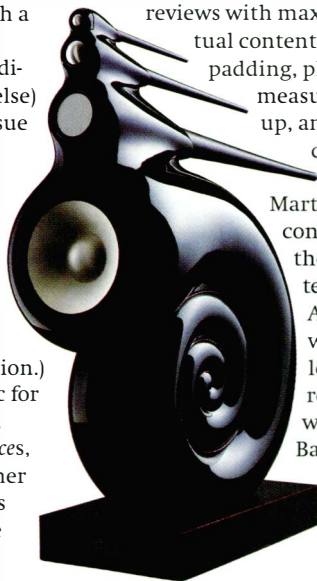
The *Choice* offices were then in Rathbone Place, just round the corner from Tottenham Court Road – a mecca for hi-fi buyers in the '70s and '80s. There was an excellent newsagent at the corner of the road, known locally as The Tobacco Boys, and Felix Dennis always made sure they carried the full range of *Choice* titles, which they in turn sold in large numbers to passing hi-fi customers.

I left *Choice* around 1983, but returned three years later, in time to orchestrate the change into the full size monthly magazine you hold today. It all happened at the end of 1987, and I recall doggedly typing the original Directory entries into a laptop for most of two long-haul flights to Tokyo and back. It was while we were staffing up for the new monthly *Choice* that current editor Jason Kennedy joined the team.

The bigger, brighter, faster *Choice* was a big break with tradition, but it didn't cut all its links with the past. *Choice* always opted for concise reviews with maximum factual content and minimal padding, plus a strong measurement back-up, and this agenda

carried through.

Martin Colloms continued to lead the reviewing team, with Alvin Gold, while I took on loudspeaker reviewing when John Bamford took the helm as editor during 1988.



JK'S VERY BRIEF HISTORY OF TIME

Twenty five years is a mighty long time in hi-fi publishing, and as you can see from our time line (below), a few seminal events have come to pass over the years – not to mention a lot of superb products. Selecting products for this list proved a far greater task than I had anticipated: 200 issues take an awful lot of trawling, and I managed to think of a lot of products that I couldn't track down. Putting dates to them was a nightmare, too. In the end, rather than try to pinpoint the year that each product appeared, I have put each down in the year that it was reviewed in *Hi-Fi Choice*. In some cases – the Spendor BC1 and B&W Nautilus come to mind – that was some time after the product's inauguration, but usually the the gap was reasonably slim.

There are inevitably a lot of omissions in the list; I couldn't track down my first piece on the Mana table, nor find the first example of a Roksan Xerxes review. Clearly we could do with a good database around here!

This list is also quite a personal one. Inevitably there are products that others might feel to be essential but which never made a great impression, and conversely some on the list that you won't have heard of. Individual products from certain brands are difficult to pin down, Arcam being the best example. It has made a lot of great kit in its time, but picking the key product is virtually impossible. Still, I've found more than a few great names and hopefully they'll bring back some fond memories. Here's to the next 25 years of high fidelity in the home.

YEAR	LANDMARK	YEAR	LANDMARK
1976	Spendor BC1 £257, issue 3 Yamaha NS100M £525, issue 3 Sony Elcaset, BBC LS3/5A Linn LP12 £231, issue 5	1990	Townshend Rock Reference £1,800, issue 79 Audio Note Ongaku £29,950, Collection 90 Voyd Reference £5,414, Collection 90 Naim NACS2 £4,249, issue 83
1977	Technics SP10 £760, issue 5 Thorens TD160 £88, issue 5 Soft dome tweeters	1991	Epos ES14 £475, issue 98 Rotel RCD-965BX £300, issue 100 Audio Note AN-E £1,300, issue 106 DCC & MD launched, 100th issue of HFC
1978	Revox B760 £520, issue 9 KEF R105 £785, issue 10	1992	Lasaway green pen £10, issue 104 Michell Iso £393, issue 107 CD-R launched
1979	Supex SD900E Super £124, issue 13 Mission 770 £350, issue 15 Sony Walkman, Hitachi MOSFET transistors	1993	Mission 753 £600, issue 114 Living Voice Air Partner £12,000, issue 117 TDL RTL3 £412, issue 126 SME Model 20A £4,000, issue 118 Pioneer PD-S901 £470, issue 119
1980	Dunlop Systemdek £260, issue 18 Rega Planar 2 £99, issue 18 NAD 3020 £86, issue 19 Metal dome tweeters	1994	Rotel RA830BX £200, issue 134 Wilson benesch ACT 1 £999, issue 134 Electrofluidics Monolith 20/20 cable £25/m, issue 142 HDCD launched, HFC EAR supplements
1981	Nakamichi 100ZXL £1,275, issue 22 Pink Triangle TT £300, issue 24	1995	Copland CSA14 £999, issue 139 Sony CDP-915E £300, issue 141 DNM Rota 2 £4,800, issue 144
1982	Stax Lambda £175, issue 28 Koetsu Black £345, issue 28 CD launched	1996	Pioneer PD-R05 £1,300, issue 152 Densen Beat £600, issue 154 Pioneer A300R Precision £400, issue 159
1983	Michell Gyrodec £595, issue 30 Quad ESL-63 £1,150, issue 31 Celestion SL600 £599, issue 31 Nakamichi Dragon £1,100, issue 32 Sony PCM-F1, issue 32 Sony WM-D6 Walkman Pro £200, issue 32 Krell KSA-50 £1,250, issue 33 Naim Nait £180, issue 33 The arrival of the spike	1997	B&W Nautilus c.£35,000, issue 166 Arcam Alpha 9 £500, issue 168 Goertz M1 £20/m cable, issue 168 Marantz PM66 K1 Signature £400, issue 168 Tannoy Mercury M2 £140, issue 169 DVD launched
1984	Sony CDP-701 es £890, issue 35 Rega RB300 £90, issue 35	1998	Nagra P-LP £7,500, issue 178 B&W Nautilus 802 £6,000, issue 183 Rotel RCD-971 £350, issue 184 Sony SCD-1 £2,500, issue 184 MP3 & SACD launched,
1985	Naim NAT01 £900, issue 39	1999	Arcam Alpha 10 DRT £800, issue 188 Naim CDSII/XPS £5,625, issue 188
1986	Arcam Alpha amp £130, issue 44 Musical Fidelity A1 £209, issue 44 Meridian Pro MCD £675, issue 45 DNM 3A £1,000, issue 44 DAT launched	2000	Wadia 860x £7,500, issue 199 DVD-A launch?
1987	Naim NAT 01 £1,098, issue 50 Akai GX-6 £350, issue 52 JPW AP2 £145, issue 53 Hi-Fi Choice A4 relaunch		
1988	Ortofon MC3000 £800, issue 60 SME Model V £1,138, issue 60 Pink Triangle PIP £2,670, issue 62 Sony MDR-R10 £2,500, issue 72		
1989	Audio Research SP9 £1,698, issue 72		

TALK ELECTRONICS Thunder 1

The Thunder range has become an old friend in these pages. We've tested two of the more costly variants, the Thunder 3 and Thunder 4, which differ from the model reviewed here by using more sophisticated power supplies and filters. But there have been other changes to the basic chassis which is now manufactured in a much more fetching bright metal finish, with improved controls and more modern panel graphics.

The player still feels a little lightweight, but at least it now looks and handles like a thoroughly professional product, without the slightly flaky feel of earlier versions – although the drawer mechanism is distinctly wheezy. Maybe it's a winter thing.

From the user point of view, the story is a simple one. A single row of controls on the front panel accesses the basic play modes, which in this case includes switching to dim the display or turn it off completely, and to select alternative display readouts. The chassis is all aluminium rather than steel, which was decided on for sound quality reasons, aluminium being non-magnetic.

The D/A converter is the Crystal CS4390, a nominally 24-bit part, with a six-pole analogue filter op-amp to reduce out-of-band noise as sharply as possible, where more costly Thunder series players



"The player still feels a little lightweight, but at least it now looks and handles like a thoroughly professional product."

employ gentler acting, discrete two-pole filters. This change was made to ensure that the player makes the most of inexpensive amplifiers which are not necessarily able to cope with out-of-audioband noise as gracefully as more costly designs. A slight reduction in very high frequency output is one side-effect deemed acceptable for the same reason.

The Thunder 1 also features a different transformer with reduced regulation compared with its stablemates. In common with other Talk Electronics players, the Thunder 1 is upgradable with out-board power supplies at extra cost. It's also available in black with silver panel graphics ("very Mark Levinson", as it was described) at the same price. The rear panel is all promise, and little delivery, with blanked off holes instead of digital outputs, although one can be fitted at extra cost.

SOUND QUALITY

The sharp out-of-band filtering, and possible in-band group delay, may have been responsible for the fairly consistent observation that this player has an "edgy" upper register, with evidence of "HF ringing" and of "cloudy" voices (Janis Ian especially).

There was also some positive reaction to this model, with one panellist remarking that the Buena Vista Social Club track was "powerful, lively... and quite involving", and from another who described the excellent Kissin piano recording as "fluid", although he also remarked on a lack of sparkle in the playing, an observation that fits in well with the consensus.

Overall, this player can only be described as good in parts. Although the bass showed real signs of grip and a solid, propulsive sense of timing, the midband and treble areas were clearly a

little muted, and there was some evidence of a loss of fine detail resolution – apparent, for example, is a lack of any coherent sense of ambience from appropriately recorded discs.

CONCLUSION

The stripped-down Thunder 1 is better built than earlier models, and it can be enhanced with out-board power supplies, but this may not be enough to address what appear to be some fundamental limitations that have a detrimental effect on clarity and transparency.

AG

VERDICT

SOUND	★★★★☆
BUILD	★★★★☆
VALUE	★★★★☆
PRICE	£549.00

Stripped-down Thunder model is designed to extract the most from real-world ancillaries, but given the price the limitations are just too severe.

THREE YEAR GUARANTEE

Talk Electronics, Unit J, Albany Park, Camberley, Surrey G15 2PL
(07747) 011107

THE LAB REPORT

Much of the technical flavour of Talk's costlier CD players is retained in this 'budget' Thunder 1. Crystal's so-called 24-bit CS4390 DAC still takes pride of place, but there are some slight compromises in its performance here. Jitter, for example, is up from the 200psec or so that's expected to 330psec, thanks to a number of power supply-related effects. Indeed, the Thunder 1's power supply is slightly less robust

than that of its cousins, which probably explains this egress of 100Hz ripple.

The player's S/N ratio is also fractionally down at 100dB (A-wtd) but still well within CD's 16-bit remit. It's as well to remember that the '24-bit' claim refers to

the capacity of the DAC to handle long digital words, and not the dynamic range achieved in practice.

Talk has kept its proprietary, multi-pole analogue filter stage, but implemented it with IC op-amps rather than discrete components. While the nature of the filter is unchanged – successfully suppressing the ultrasonic noise

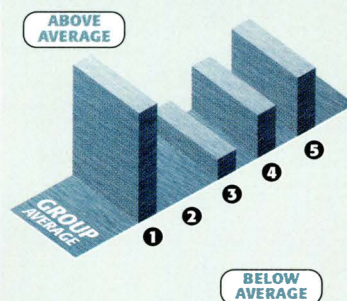
ejected by the DAC's noise-shapers harmonic distortion is increased slightly from 0.01 to 0.02 per cent at HF. Otherwise, the 2.2V output level, the acceptable +/-0.5dB errors in linearity (over a 100dB range) and imperceptible -0.2dB treble cut are all pretty much par for the course.

PMI

HOW IT COMPARES

Looks and feels just like the costlier Talk CD players but a simpler power supply and analogue output stage keep costs down without impacting too heavily on technical performance.

1 SUPPRESSION OF DIGITAL IMAGE	65%
2 JITTER	0%
3 PRACTICAL DYNAMIC RANGE	15%
4 HARMONIC DISTORTION VS LEVEL	30%
5 LINEARITY	40%



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
Distortion @ 1kHz/0dBfs	<0.005%	0.001%
Maximum output level	2.0V	2.2V
A-wtd S/N ratio	100dB	100.1dB



A3 RANGE.

MACHINED, MIL-SPEC ALUMINIUM
FRONT PANEL.

TWENTY-FOUR CARAT GOLD
PLATED FITTINGS.

REMOTE CONTROLLED.

PHONO STAGE.

POWERFUL, ROBUST, BUILT.

MUSICAL FIDELITY

CYRUS dAD 3 Q24

Recent changes at Cyrus – caused in large part by the increasingly prominent role of NXT – have had an impact, initially diverting resources from the former, but lately Cyrus has been reverting to form. At least, that was the case with the dAD1.5 we reviewed recently, but is it still the case with the more costly dAD3Q, tested here with the newly developed internal Q24 module?

The original dAD3 featured twin mono 18-bit converters, which have been replaced here by a 24-bit integrated filter/DAC (which signals the ability to read 24-bit data from the noise shaping digital 8x oversampling filter without truncation errors), with a relatively high order, four-pole output analogue filter for attenuating out of band images.

The design also includes extensive anti-jitter measures, including a regenerated clock near the DAC. Elaborate power supply arrangements include nine regulated supplies within the player, plus two in the Q24 module. The player can also be upgraded with an external add-on supply, the PSX-R, which was not tried here.

The player can be plumbed into a Cyrus system using system link (MC-BUS) terminals. Features are fairly basic, except that absolute phase is controllable and even programmable on a track-by-track basis, and the only digital output is from an optical TOSLINK socket. That's good news for personal



“Even taking account of the fact that this player was the most expensive on test, it was a consistently impressive performer.”

MiniDisc recorder users, but less welcome for those who want the lowest possible jitter output.

The player comes in the familiar simplified version of the Cyrus diecast housing, with an ABS moulded base, and the standard, rather artless, Cyrus full-feature remote control.

SOUND QUALITY

The dAD 3 Q24 received consistently strong comments in three separate presentations to the panel. It was described with impressive unanimity as being sharp and analytical, with an almost master tape-like solidity and presence, and a positive, well timed bass.

The piano recording “comes

through in a realistic way,” and the Janis Ian track was “(again) reproduced with a strong studio-like presence... it’s well paced, with good detail, and this player could be listened to for as long as you like without becoming tiring”.

The powerful Buena Vista Social Club track was described as having a “strong bass that drives the music well”, and by another as “dry and analytical”. There was some criticism of the treble, which was sometimes felt to be brittle; “perhaps a trace of sheen” as one put it, although he tempered his comments by noting that the high frequency presentation was “smooth and even”.

The Cyrus also clearly lacked the expansiveness and range of

the Krell player used for reference, but even taking account of the fact that this player was the most expensive on test, it was a consistently impressive performer that served a wide range of music well, both in the panel sessions and the separate, sighted listening tests.

CONCLUSION

This is a sharp, analytical player, with a treble that can sound rather aggressive in the

wrong system, and with a lack of warmth that again demands sympathetic system balancing. However, its resolving power, stability and consistency make this a safe recommendation overall, and the ability to upgrade (and presumably improve) the player further with the PSX power supply makes it an attractive long term proposition. Pity about the lack of a digital electrical output, though. **AG**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £900.00

■ Bold, sharp and articulate player, perhaps a little too dry and emphatic for some systems, but clean and lifelike in the right one.

■ ONE YEAR GUARANTEE

✉ Cyrus, Stonehill, Huntingdon, Cambridgeshire PE18 6ED

☎ (01480) 451777

THE LAB REPORT

Never let it be said that here at *Hi-Fi Choice* we don't respond to genuine improvements made to existing kit, especially when we were the ones to point out the shortcomings in the first place! So it is with Cyrus' dAD3 CD player, whose relatively high noise, jitter and distortion was remarked upon in *HFC 163*. The dAD3Q upgrade proved significant (*HFC 169*) and this dAD 3 Q24, takes the concept another stage further with the addition of a 24-bit Burr-Brown PCM1716 DAC. Jitter is now reduced to just 160psec of data-induced patterns, which is just 20psec shy of state-of-the-art. Distortion, too, is incredibly low at just 0.0005 per cent

through bass and midrange and just 0.007 per cent at 20kHz. Putting this into context, the NAD C540 (which uses the same DAC) hits 0.035 per cent at 20kHz.

The A-wtd S/N ratio is a few dB behind what is technically possible at 101 dB, but then this figure represents an ideal compromise between maintaining full 16-bit resolution without exposing lower-level 'digital rubbish'.

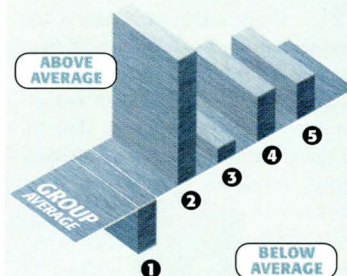
The response is free of ripple, channel balance within 0.01dB (0.05dB above 10kHz) and stereo separation better than 100dB – all confirming that the Q24 is leagues ahead of the basic dAD 3. **PMI**



HOW IT COMPARES

An excellent implementation of current '24-bit' technology, combining very low coloration, jitter and pinpoint resolution.

1	SU	RESSION OF DIGITAL IMAGES	-30%
2	JITTER		85%
3	PRACTICAL DYNAMIC RANGE		10%
4	HARMONIC DISTORTION VS LEVEL		30%
5	LINEARITY		25%



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
■ Distortion @ 1kHz/0dBfs	<0.003%	0.0005%
■ Maximum output level	2.1V	2.1V
■ A-wtd S/N ratio	105dB	101dB

MONRIO Asty



The Monrio Asty is no beauty, but it has a certain presence – even what almost amounts to an attitude. It's solid and heavy, with smoothly rounded corners and a solid slab alloy fascia with a simple, fluorescent display, a slim loading drawer and just four control buttons: open/close, play and two track skips.

The mains on/off switch is on the back adjacent to the IEC mains socket – an encouragement to leave the player switched on when not in use – and there are three sockets, an electrical digital S/PDIF output and a pair of analogue outputs. If you want to get any more 'up close and personal' than the basic front panel buttons allow, you'll need to refer to the remote control.

Monrio is a specialist high-end producer of amplifiers and other components and is based in Piacenza, Italy. The Asty CD is the obvious partner for the Asty amp, and a little downmarket of the Privilege CD player (issues 166 and 178 respectively).

This Asty CD employs a '24-bit' Delta Sigma D/A converter (the

"The overall picture was of a player with a full tonality, not lacking in treble presence or detail, and with a strong muscularity."

24-bit description comes with the usual health warning), and has entirely separate transformers for the analogue and digital circuits, each with multiple regulation for individual stages, including six shunt regulators for the output buffers and amplifiers, and capacitors and resistors in critical circuit areas chosen (it says here) following extensive listening tests. About all that has been forgotten, it seems, is a properly designed master clock anywhere near the D/A converter stage.

SOUND QUALITY

A puzzle indeed. I have a fair (but by no means perfect) sense of pitch, and could reliably detect a speed error with some material – in a Bach *Brandenburg Concerto*, for example, but not in a Mahler symphony predominantly scored for lower pitch instruments. Others

may find the effect more obvious, but it's worth noting that larger errors are routine with non-digital sources. Still, one listener concluded that the music was "in too much of a hurry" (Kissin), but this was the only comment that could be directly related to pitch.

In other respects, the Asty had strong characteristics, some very attractive. "Positive and sure-footed," and "sprightly and energetic" (Buena Vista), and "plays music with a fluid push" (Kissin) were typical. The most succinct comment was "piano forte", which really deserves some kind of prize.

The overall picture, then, was of a player with a full tonality, not lacking in treble presence or detail, and with a strong muscularity. These findings emerged from the hands-on testing too. Where the player fell down was in the upper midband and treble, which were

curiously ill-separated: fine detail tended to be homogenised or lost, and image scale became too expansive and defocused.

CONCLUSION

One listener concluded the Asty was a "powerful sounding player that appears to have a wide bandwidth but little drama, and an inability to sort out difficult detail", and that's about right. It is by no means untalented in its own way, and its bass and lower midband were particularly strong, but it needs more balance – and preferably, a more accurate clock. **AG**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £695.00

Powerful, driving player has a messy mid/top which lacks analysis, and a peculiar internal topology that allows it to run fast.

■ TWO YEAR GUARANTEE

✉ UKD, 23 Richings Way, Iver, Bucks SL0 9DA

☎ (01753) 652669

THE LAB REPORT

This is an exceptional example of how one simple mistake can floor a CD player. On the face of it, the Asty offers a vanishingly low 0.0006 per cent distortion, a smooth -1.1dB treble roll-off and an acceptable 99dB S/N ratio, none of which suggest a hint of trouble (Monrio's claimed 112dB can only be achieved with digital muting).

The internal design is customised around a Crystal CS4390 DAC using full-sized rather than surface-mount components. Strangely, I couldn't see a local crystal reference and can only assume it is taking a clock feed from the (Philips) transport PCB instead. If so, this is a very bad idea and would explain

the vast 5,750ppm clock error. This is 100x higher than normal and equivalent to a 115Hz shift at 20kHz or a +0.6 per cent increase in pitch, and ties in with the panel's remarks concerning musical tempo.

Moreover, with a 'vague' clock reference, jitter also escalates to an equally vast 5,555psec of low-rate patterns, correlating perfectly

with remarks concerning the player's poor stereo imagery.

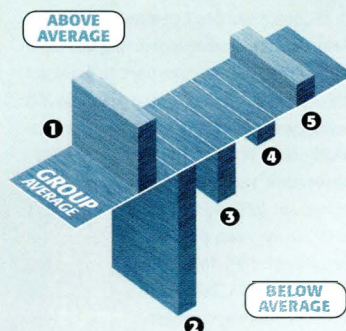
So, even though the player looks to conform to specification (low distortion, noise, good linearity etc), in practice it is colorations in the time domain that utterly dominate its performance. **PMI**



HOW IT COMPARES

Low distortion, to be sure, but the huge clock error and jitter swamp any possible chance this player might have had in the open market.

1 SUPPRESSION OF DIGITAL IMAGE	45%
2 JITTER	-95%
3 PRACTICAL DYNAMIC RANGE	-35%
4 HARMONIC DISTORTION VS LEVEL	-10%
5 LINEARITY	15%



SPECIFICATIONS

PARAMETER	MANUFACTUR'S SPEC.	ACTUAL SPEC.
■ Distortion @ 1kHz/0dBFS	0.002%	0.0006%
■ Maximum output level	2.1V	1.85V
■ A-wtd S/N ratio	112dB	99dB

MUSICAL FIDELITY A3

The A series runs in parallel with the X-series, with virtually identical internals, the only differences being those due to the change in form factor. Specifically, the A3 CD is modelled on the X-Ray. So why the new range? The answer is that not everyone likes the rather radical/bizarre-looking (delete as applicable) X-series, and the A series is the non-radical alternative.

It has been designed with the kind of tactile and visual quality attributes deemed necessary in other markets, especially the Far East. Hence the use of thicker than usual chassis sections, fastened with Torx connectors to discourage casual vandalism.

The quality image is reinforced by a thick-section, brushed-alloy extruded front panel, with gold-plated brass trim along the bottom edge and around the loading drawer, and by the use of high quality phono connectors for the analogue and electrical digital S/PDIF digital output, which supplements the only remaining audio connector, an optical Toslink digital output.

The front panel controls are equipped with damped alloy buttons. The player feels solid and well put together, and the Sony mechanism offers reliability benefits over some of the alternatives. It was interesting to note that the mechanism was mechanically quieter than a previously examined sample of the same player.



"This is an extremely well sorted player – probably the most consistent and often the best-sounding player in the group."

The A3 CD player is driven by a Burr-Brown PCM1728 Delta Sigma DAC, which is capable of reading 24-bit wordlength data from the 8x oversampling filter. The five-pole output (analogue) filter is said to be linear phase, and jitter reduction measures have been given priority.

SOUND QUALITY

"Lively and the bass bounces along, while the vocals are sweet sounding, but a little soft," said one of the Janis Ian track, using a word – soft – that appeared consistently throughout the panel's listening sessions.

"A great sense of scale and detail," was a typical response to the Buena Vista Social Club recording. "The guitar sound is convincing, the bass strong and the overall portrayal authentic."

Others pointed to the A3's good timing, and vocal quality and

instrumental tonality were explicitly praised. But again, descriptions such as "soft", "mellifluous" and "sweet" made slightly too regular appearances.

This is a common criticism of at least some Musical Fidelity components, and one that the manufacturer is sensitive to, pointing out that the lack of HF emphasis is, in fact, a demonstration of the superiority of its designs. I tend to side with the panel on this one: the A3 CD can indeed sound a touch less than industrial-strength at times, with a loss of brilliance and air that the very best CD players can bring to the party.

In every other respect, however, this is an extremely well sorted player – and, incidentally, probably the most consistent and often the best-sounding player in the group. Here it was rivalled only by the Cyrus dAD 3 Q24 (see p35), largely because it was effectively

transparent, meaning it is difficult to describe the sound of the player itself in any great detail separately from the music. This, of course, is one of the best definitions of good high fidelity.

CONCLUSION

Despite a certain lack of sparkle, the A3 CD is a very strong mid-price player. It works consistently well in a wide range of systems, is largely free of identifiable colorations, does not underplay musical dynamics, and offers particularly believable and well anchored soundstaging. **AG**

VERDICT

SOUND	★★★★★
BUILD	★★★★★
VALUE	★★★★☆
PRICE	£799.00

Simply equipped, well built, and with stable, detailed and solid sound quality, the A3 CD lacks only a touch of HF air and bite.

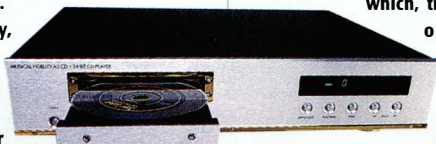
FIVE YEAR GUARANTEE

Musical Fidelity, 15/16 Olympic Trading Estate, Fulton Rd, Wembley HA9 0TF
(020) 8900 2999

THE LAB REPORT

Musical Fidelity has had great success with CD players based on Burr-Brown's '24-bit' PCM1716 DAC (see X-Ray and E624, HFC 184 and HFC 188 respectively) and seems set to continue the tradition here.

Importantly, the A3 CD enjoys exceptionally low levels of jitter (just 130psec), a good 80dB suppression of digital images, a low 0.002 per cent distortion (re. -30dBfs) and a wide – perhaps too wide – 107dB S/N ratio. Remember, CD's 16-bit code can only accommodate about 96dB of dynamic range, so a 'window' in excess of this may also expose digital distortions.



On the other hand, errors in low-level linearity are minimised (just +0.0/-0.4dB over a 100dB range) while distortion remains below 0.003 per cent even up to 20kHz at peak level (0dBfs). Talking of

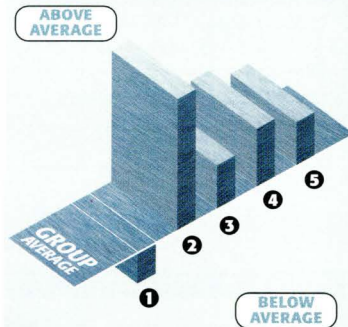
which, the A3CD's 2.3V output level is some +0.6dB over the nominal 2V standard. So, even though you should beware of unmatched A/B demos, at least the player's low 50 Ohm source impedance helps it drive all but the oddest interconnect/amp combinations with impunity.

By any standards, the technical performance of the A3CD is up with the very best that's available. **PMI**

HOW IT COMPARES

Another (largely aesthetic) variation, on an established and well proven theme. No technical gremlins to muddy the digital waters here.

1 SUPPRESSION OF DIGITAL IMAGE	-20%
2 JITTER	90%
3 PRACTICAL DYNAMIC RANGE	30%
4 HARMONIC DISTORTION VS LEVEL	40%
5 LINEARITY	30%



SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
Distortion @ 1kHz/0dBfs	<0.006%	0.0025%
Maximum output level	2.0V	2.3V
A-wtd S/N ratio	>105dB	107.2dB



CD PLAYERS

CONCLUSIONS

THE BEST IN THE TEST

BEST BUY

MARANTZ 6000 OSE £299.90

This is no departure from the familiar Marantz pattern: if you're looking for one feature that sets it apart, it's the price. At £500 it'd probably pass unnoticed, but at £300, it's clearly remarkable value for money. The player doesn't sound quite as good as it looks, but comes close enough.



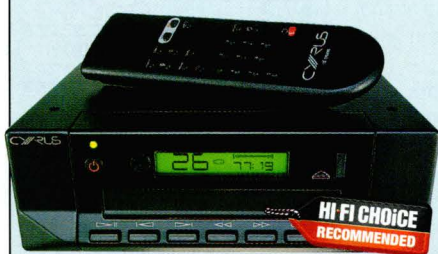
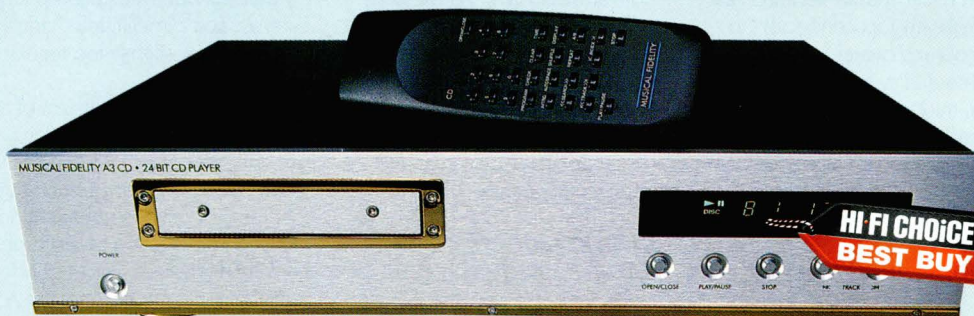
BEST BUY

MUSICAL FIDELITY

A3 CD player £799.00

MF has worked hard over the past few years, and the A3 CD player shows how far it's come.

Musically, its cool refinement and transparency allow it to almost grow under the skin, responding faithfully to the source material with just a suggestion of a loss of edge and upper harmonic richness.



RECOMMENDED
DENON DCD-655

£180.00

Although the DCD-655 is clearly not aimed at the typical audiophile, the extensive bells and whistles don't really get in the way too much, and the DCD-655 turns out to be a thoroughly likeable player. It will certainly prove attractive to those who value its powerful operating features.



RECOMMENDED

CYRUS dAD3 Q24 CD £900.00

The dAD3 isn't new, but this version is. As the name suggests, the Q24 marks a change to a 24-bit (wordlength) processor that also features a new integrated filter and enhanced anti-jitter measures. On the whole there was strong praise for its analytical quality, authority and timing.

RECOMMENDED

ONKYO DX7222 £149.95

Here is a budget price player which, unlike some, is also decently built. There were some specific complaints, but on the whole the player was quite liked for its open, expansive sound, and its dynamic quality. A recent price cut makes this otherwise rather conventional model a more attractive proposition.



CD PLAYER COMPARISON TABLE

MAKE MODEL	CAMBRIDGE AUDIO D100	CYRUS DAD3 Q24	DENON DCD-655	MARANTZ 6000 OSE	MONRIO ASTY	MUSICAL FIDELITY A3 CD
PRICE	£120.00	£900.00	£180.00	£299.90	£695.00	£799.00
SOUND	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★★
BUILD	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★★
VALUE	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
GUARANTEE	1 yr	1 yr	2 yrs	2 yrs	2 yrs	5 yrs
WEIGHT	4kg	3.5kg	4kg	5.3kg	8.5kg	6kg
DIMENSIONS (HxWxD)	43x8x30cm	21.5x7.8x36cm	43.4x10x28.5cm	44x7.3x29.8cm	43x8x31cm	44x9.5x40cm

Alvin Gold sums up the shortcomings of those players that didn't quite make the grade.

Looking back over the reams of notes generated by the listeners during test, it's clear that this month's group is a little short of being a classic. There are several slightly disappointing models from names associated with what some call speciality audio, or simply names that have had a good track record.

The Monrio Asty, for example, appears to fly in the face of normal design practice in being controlled by a clock that is linked to the transport, which normally plays second fiddle to the one near the DAC. Linking the master clock to the DAC is normally regarded as almost a prerequisite if jitter is to be minimised. The result in this case was not wholly negative, but there were nonetheless significant problems, as the test shows.

Moving on, many of the key design decisions in the Talk Electronics Thunder 1 were specifically taken to complement typical failings in lower cost ancillary components, amplifiers especially. However, there is what looks suspiciously like a fundamental problem here in that, as a specialist producer, Talk hasn't been able to price the Thunder 1 where it really belongs.

The Cambridge Audio D100

was an uncharacteristically disappointing offering from a range with some significant successes to its credit, and the built-in upgrade potential can't be enough to overturn such findings. At a similar price, the Sony CDP-XE530 is superbly equipped, being one of the least costly players with CD Text, for example, and

with one of the best control systems of any. Musically, though, it is not one of Sony's successes.

The Roksan Kandy and the NAD C540 are both largely satisfactory players that failed to achieve any formal gongs on price grounds, but this in itself should not be enough to rule either out of contention. The Roksan in particular signals a new move by a brand with previously rather purist leanings towards improving the cosmetics of its products. Long may it continue.

BEST BUYS & RECOMMENDATIONS



BEST BUYS: Our famous Best Buy swing-tag is awarded to hi-fi equipment which offers an excellent standard of performance at an attractive price. Best Buy winners are superb all-round components.

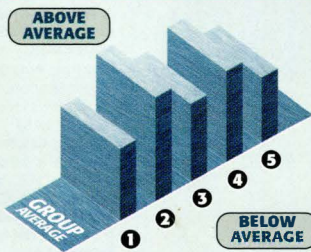


RECOMMENDED: Recommended products are first-class audiophile propositions, losing out to Best Buy status only because of a higher price or less competitive overall sound quality.

UNDERSTANDING OUR BAR GRAPH MEASUREMENTS

Behind *Hi-Fi Choice's* unique bar graphs are some of the most advanced measurements made anywhere on the planet. They are provided by our Technical Editor, Paul Miller, using both GPIB-controlled measurement hardware and his own, award-winning, PC-based Virtual Instrument software. Each bar graph value is derived from a weighted statistic of several key measurements and is displayed relative to a notional zero per cent which represents the group average for that particular category.

THE BAR GRAPHS



1 SUPPRESSION OF DIGITAL IMAGES: This indicates the effectiveness of the player's digital filter in removing 'aliasing' or 'stopband' distortions immediately outside of the audio band.

2 JITTER: Any uncertainty in the timing of the digital code produces digital jitter which manifests as an insidious form of distortion during digital-to-analogue conversion. The lower the figure the better.

3 PRACTICAL DYNAMIC RANGE: This is determined by the player's Signal-to-Noise ratio and to what degree it is compromised by any Noise Modulation occurring under real signal conditions.

4 HARMONIC DISTORTION VS. LEVEL: This bar chart value is derived from the variation in distortion both with frequency and signal level. The consistency and nature of the distortion also forms part of the equation.

5 LINEARITY: Linearity is a measure of the player's low-level resolution. If a signal coded at -80dB emerges from the player at -80.5dB then this represents a deviation in its linearity of 0.5dB.

TEST INNOVATOR OF THE YEAR

Our Technical Editor, Paul Miller, has been awarded Test Innovator of the Year by *Test* magazine, the leading European journal of the test and measurement industry. This gong came in recognition of Paul's Jitter Measurement Suite, as used to test CD players for *Hi-Fi Choice*.

test
The European Test Industry Journal

RIVAL BUYS

MERIDIAN 506 £1,100
Crisp styling makes this design timeless, as well as having great charm and resolving ability. The 506 is supplied with the MSR standalone system remote control.

MARANTZ CD17K1 Signature £1,100
Bears the imprimatur of Ken Ishiwata, Marantz's resident technological guru, and offers fabulously refined, articulate sound quality, although perhaps not quite going as far as the edge-of-seat involvement that should be part of the deal.

SONY CDP-XB930 £300
Like other recent Sonys, this one has a choice of digital filters to help fine-tune the player to the system and the music, but the main reason for buying is its unusually clean, clear and open sound quality.

ROTEL RCD-971 £450
One of the less expensive players with HDCD compatibility. A surprisingly refined and detailed all-round performer, this player underlines the recent turnaround at Rotel.

ARCAM Alpha 9 £800
Player based on dCS Ring DAC converter technology and the Pacific Microsonics HDCD digital filter, the Alpha 9 offers fabulous resolving power and naturalness following early teething problems.

MUSICAL FIDELITY X-Ray £799
Musical, accurate and even refined, but only erratically engaging was our test conclusion on this 24-bit (wordlength), Burr-Brown equipped player, which is packaged in the stylish/unorthodox (delete according to taste) X-series oval casework.

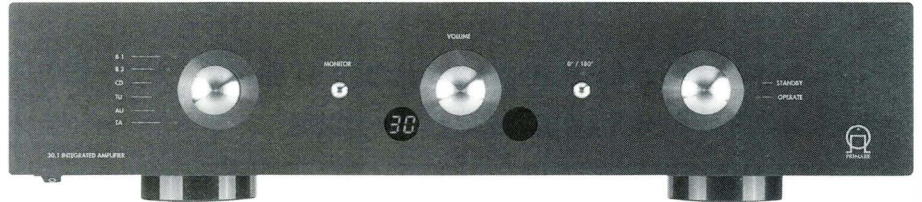


CD PLAYER COMPARISON TABLE

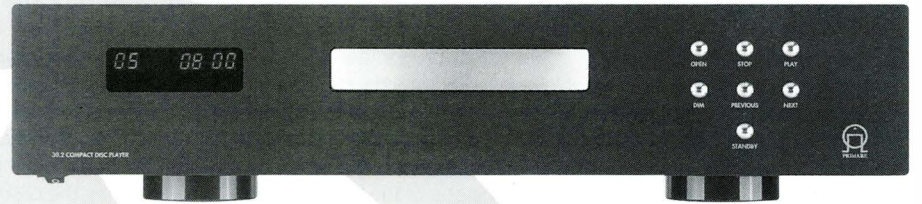
MAKE	NAD	ONKYO	ROKSAN	SONY	TALK
MODEL	C540	DX-7222	KANDY	CDP-XE530	THUNDER 1
PRICE	£329.90	£149.95	£475.00	£139.00	£549.00
SOUND	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
BUILD	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
VALUE	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
GUARANTEE	1 yr	2 yrs	2 yrs	1 yr	3 yrs
WEIGHT	4.1kg	3.7kg	11kg	3.4kg	6.2kg
DIMENSIONS (h×w×d)	43.5x7x28.5cm	43.5x9.1x30.8cm	43.5x8.5x35cm	43x11x29cm	43x10x30cm



A 30.1 INTEGRATED AMPLIFIER



D 30.2 COMPACT DISC PLAYER



Primare Systems a perfect partnership

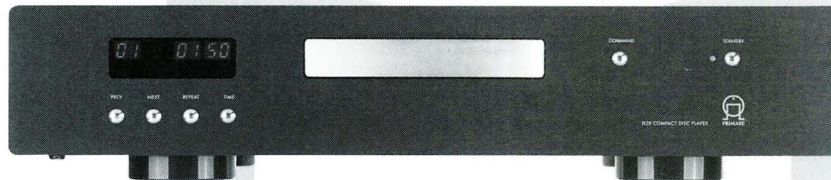
A 20 INTEGRATED AMPLIFIER



T 20 STEREO FM TUNER



D 20 COMPACT DISC PLAYER



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SOUTH EAST

Audio Designs, East Grinstead. 01342 314569
Audio T, Epsom. 01372 748888
Audio T, High Wycombe. 01494 558585
B&B Hi-Fi, Newbury. 01635 32474
LMD Audio, Margate. 01843 220092
Musical Images, Edgware. 0181 952 5535
Musical Images, Beckenham. 0181 663 3777
P J Hifi, Guildford. 01483 504801
The Sound of Music. 01892 547003
B&B Hifi, Bracknell. 01344 424556
B&B Hifi, Reading. 0118 958 3730.

EAST ANGLIA

The Audio File, Cambridge. 01223 368305
Sounds Perfection, Helston. 01326 221372
Spectral Sound, Chippenham. 01249 654357
Audio Excellence, Bristol. 0117 926 4975

MIDLANDS

Midland Audio Exchange, Kidderminster. 01562 822236
Music Matters, Solihull. 0121 742 0254
Sevenoaks Hifi, Worcester. 01905 612929

NORTH EAST

Acoustica, Chester. 01244 344227
Hifi Showrooms, Congleton. 01260 280017
Practical Hifi, Preston. 01772 883958
Practical Hifi, Carlisle. 01228 544792
Romers Hifi, Rishton. 01254 887799
The Sound of Music, Crewe. 01270 214143.

NORTH EAST

A Fanthorpe Ltd. 01482 223096
Gilson Audio, Middlesborough. 01642 248793
Sevenoaks Hifi, Newcastle. 0191 221 2320
Vickers Hifi, York. 01304 629659
Eric Wiley, Castleford. 01977 553066

SCOTLAND

Glasgow Audio, Glasgow. 0141 332 4707
Holburn Hifi, Aberdeen. 01224 585713
The Music Hall, Edinburgh. 0131 555 3963
Loud and Clear, Edinburgh. 0131 226 6500

IRELAND

The Hifi Shop, Belfast. 01232 327604
Lyric Hifi, Belfast. 01232 381296

Wales

Audio Excellence, Swansea. 01792 474608



HELP!

Don't know your Arcam from your Elacs? Let Peter Guthrie sort those hi-fidelity horrors.

MODULE MADNESS



I have a dilemma. I currently own an Arcam Alpha 7 amp and CD player and wish to upgrade. I'm pleased with my current set up, which is connected to a pair of Sony SS-176E speakers, but want more out of the system and don't really know where to start. I thought of a power amp such as the Alpha 8, but my long-term goal is to upgrade my CD player to an Alpha 9 via the module upgrades and feel I would soon grow out of it. I feel the only match for the 9 CD is the Arcam Alpha 10 amp, but funds won't allow me to buy the lot together. Finally there's the matter of speakers, but I think that Tannoy Revolution R3s would do the job.

Adrian Cope, via e-mail

A lot of Arcam owners don't realise that this option is open to them, so well done on doing your research thoroughly on this one. By simply upgrading modules you get the next player up in the range – just plug and play.

Try listening to the Tannoys, but also bear in mind Dynaudio's Audience 40s (£400). If you're long term goal is a system in the Alpha 9 class, it would be worth investing a bit more in your speakers and going for something like Triangle's very lively and communicative Zephyr IIs (£599).

In terms of your amplifier, the Alpha 10 is excellent and its modular nature lets you add to your hi-fi as budget becomes available, but don't forget that you can still add power amps to your Alpha 8. By adding an Alpha 9P (£400) or even an Alpha 10P (£600), you'll get a far better sound in the long term.



Triangle Zephyr II.

HIGH PRAISE



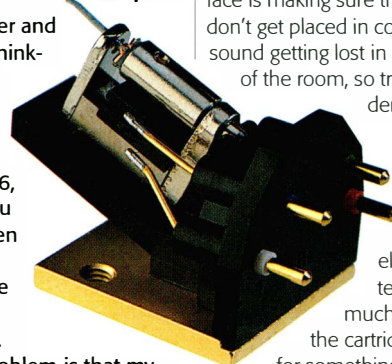
My current system consists of a Systemdek IIX900 turntable (with RB300 arm and Linn K5 cartridge), Harman/Kardon HD-7325 CD player, Audiolab 8000A amplifier, TDL RTL 2 speakers and Cable Talk Talk 3.1 and Monitor 3 cables.

I have about £2,000 to spend on upgrades and, unless otherwise advised, I think I should go for a new cartridge, CD player and speakers. I'm thinking of a CD player like the Musical Fidelity X-Ray or Meridian 506, what would you advise? I'm open to suggestions on the cartridge and speakers I should choose.

The other problem is that my living room is very long and narrow (about 20ft x 9ft), with high ceilings and lots of corners. I listen to a very wide range of music – anything from Mozart to Mötörhead, but mostly artists and styles somewhere in between.

Alistair McWilliam, Guildford

Sumiko Blue Point Special.



Your RTL2s are far from ideal for your room and one of the first upgrades you should make. But try and select the CD player first; the two you've selected are very good and so are the NAD Silverline S500 (£1,100) and Densen Beat B400 (£1,000). Then choose your speakers; have a listen to a pair of Musical Technology Falcons (£577), which should fill your room well, even with the high ceilings. The problem you'll face is making sure the speakers don't get placed in corners or the sound getting lost in some dark area of the room, so try to get a home demonstration.

Source components are always the most important element of a system, so spend as much as you can on the cartridge. We'd go for something like a Sumiko Blue Point Special (£250) or a Denon DL-304 (£200). That still leaves you with about £200 or so, and your cables could do with an upgrade. We'd go for the Kimber PBJ (£68) or Supra EFF-ISL (£80) for the interconnect, and Kimber 4PR (£90/5m pair) for speaker cable.

INCISIVE INVESTMENTS



I'm replacing my system and would like your comments on my plan. I want a system that'll be a good long-term investment and would like to include home cinema in my system. The hi-fi should be clear, smooth and slightly soft. I've been listening to Mission 773es and Tannoy Revolution R3s and didn't like the sound much – it was like the box was too small and the sound was trying to get out.

My top choices are the Denon AVC-A1D and a Celestion speaker package based on the A2s.

Sari Kytonen, Singapore

Well, it almost seems that you've made your mind up already! Hopefully you saw our multi-channel special in the January issue, when we reviewed the AVC-A1D's brother, the AVC-3300 (£800) and found it excellent. However, perhaps a better buy for your 'lifelong investment' would be Arcam's Alpha 10 DAVE/10P combination (£2,500). Although more expensive, the sound is genuinely 'hi-fi'. The Celestion speakers are very good and should provide the kind of sound you want, but have a listen first to make sure.

Arcam Alpha 10 DAVE/10P.



SYSTEMS INTEGRATION



Is it possible to integrate my hi-fi (NVA turntable, Alpha 10, Musical Fidelity X-LP and Linn Tukans) with my PC? It's a serious question – I'd like to be able to download and play MP3 files from the Net, record audio from the turntable on CD-R and play DVDs on the TV monitor, using the amp to connect it all. Is it possible to hook up like this yet, or do I still need to get lots of boxes that do more or less the same thing, but don't talk to each other? Most importantly, even if I could, would the sound quality be up to it?

David Vaughan-Birch, Devon

Yes, it's possible, but we doubt the sound quality would be much cop. Boxes still don't talk to each other in the way you suggest, although a new 'handshake' protocol called

The future face of hi-fi?




IEEE 1394 means you will be able to in the near future. To hear the PC through the amp, run a phono cable from the sound card on your computer to your amp and connect it to the CD, Aux or Video input.

You can get a DVD drive for your PC and, provided it has a powerful enough graphics card, you can watch DVD movies on the monitor, with sound directed through to the amp, but quality won't be great.

KISS OF LIFE



Rotel RCD-971.

 I have an Audiolab 8000A amplifier, Royd The Minstrel speakers and a 1992 Technics SLPG-400A CD player. The sound lacks life compared with live radio broadcasts and records.

I recently borrowed a top-of-the-range 1992 Sony CD player and was surprised to hear how similar it sounded to the Technics. I'd like more bass and life, but not a harsher, brighter sound. The cables are homemade OFC cables with gold plated phons and thick, multi-stranded


OFC speaker cables. I listen to most music except heavy opera and chart music.

R Willis, Dorset

Sony CD players of the time were not renowned for their lively reproduction, so it's no surprise it didn't solve that problem. CD players have come a long way since '92, so listen to a few at a reputable store and see how you go. You may find you need to spend more than you want to get the sound you crave, but listen to a Sony CDP-XB930E (£400) or a Rotel RCD-971 (£450) – this will give you more life, detail and bass than the Technics, without nasty fizziness.



SUPER DECISIONS

 My current equipment includes a Linn Sondek with Lingo, Ekos and Klyde, a Naim 82 preamp, two Hi-Caps, Naim 160 Power amp and Quad ESL63 speakers, and I'm delighted with it.

However, for CD listening I use a Kenwood DP-7090. Good as it is, there's room for improvement. I've been considering buying a CD player in the £2,000 to £3,000 range, but it appears from your review of the Sony SCD-777ES that I may do better to opt for the newer format.

The SCD-777ES is a superb player that demonstrates qualities not present in many other CD players at the price. We've heard the Linn player and, while it was very good, it has similar characteristics to the Sony (slightly laid back, but inherently detailed and informative), it's always less so. It's hard to recommend Japanese products over the homegrown variety, particularly at the high end, but the Sony is better as a CD player, and will play SACDs.

The battle between SACD and DVD-A may yield a casualty, but



Sony SCD-777ES.

the fallout may not be as bloody as at first feared.

Most manufacturers are planning DVD-A/SACD 'universal' players, so the two formats could co-exist.

The first of these players are due towards the end of this year, so you may prefer to wait before parting with your cash. In the meantime, keep badgering Sony for an audition – the '777ES is a splendid CD player in its own right, but you should certainly try before you buy.

I'm unable to audition the '777ES.

Should I trust your judgement and buy one? I note that a new Linn player selling at about £2,000 hasn't yet been reviewed.

Is the SACD versus DVD-Audio battle likely to result in obsolescence for one of the formats?

Dermot Rooney, via e-mail

SPACED OUT



I'm looking to replace my now ageing Thorens TD160 turntable with something a bit more high-end. I've shortlisted the Rega P25, Michell Gyro SE and Nottingham Analogue Spacedeck. In Holland the Michell and Nottingham Analogue are very expensive, but I am coming to the UK soon and I could buy there.

The rest of my system consists of a Pioneer A705R amplifier, Pioneer PD-703 CD player and Tannoy Mercury M3 speakers with van den Hul cables. I recently purchased a Denon DL304 cartridge, so I don't need a new one just yet.

Tim, Holland

All three turntables you suggest are better than both your old Thorens and the rest of your set-up, but we assume that this is your first step down the upgrade path – a good one at that. You've suggested three great turntables, but we'd probably go down the 'buying the Michell in the UK' route. The Michell Gyro SE (£775) is a fantastic turntable and worthy winner of our Editor's Choice award. You'll also need an arm, and the Rega RB300 (£146) would do a great job. With the Michell, you also get the option of upgrading to the QC power supply (£399), which improves the deck still further.

Michell Gyro SE.



TINNY TROUBLE



My budget system consists of a Sony CDP-XE500 CD player, Denon PMA-250 amplifier, Tannoy Mercury M1 speakers on sand-filled Atacama SE24 stands, with QED Qudos Silver speaker cable and Ixos 104 interconnects.

While I'm happy with the improvements the Tannoys have brought in bass and midrange, the treble sounds 'tinny' and the overall picture isn't as detailed as I'd like. I suspect my CD player may be to blame and I'm considering an upgrade, perhaps to the Sony XB930E. I may also look at changing my ageing amp.

Would the CD player be money well spent? Do you have any suggestions for a suitable

amp for about £250? My musical tastes include Paul Weller, Green Day and Radiohead.

Dave Saunders, Devon


The Sony CDP-XB930E is an excellent player and would be a sensible choice after the CDP-XE500. Another possibility is Arcam's Alpha 7SE (£349) – both would suit your musical tastes and the rest of the system well. In terms of your amplifier, a good solution would be to follow the one-make system strategy and buy either the Sony TA-FB730R (£199) along with the CDP-XB930E or Arcam's Alpha One (£229) with the Alpha 7SE. If you find your treble "tinny", the latter combination may prove best – its top end is a little softer.



CHAIN LIGHTNING



Primare A30.1.

 I need some advice on a new amp I'm planning to buy. I have Sonus Faber Electa Speakers on SF Stands, Marantz CD-63 MkII KI-Signature CD player, Rotel RA-935BX II amp, MIT interconnects and Monster speaker cable.

The weak element in the system is obviously the amplifier. I'm now in the position to spend about £2,500 on the system and the Rotel will be the first to go. I was thinking of going for separates and recently heard a Naim combo (NAC 102/NAP 180) which impressed me.

Peter Veeren, The Netherlands

You're right – the Rotel is the weakest link, with the Sonus Fabers way out in the lead, but the Marantz will also need to be changed if you want to go fully down the upgrade route. The big question is whether you'll be able to spend another

£1,000 plus on a source component in the near future, having spent a similar amount on an amp.

While the Marantz CD-63 MkII KI-Signature is a fine player at £400, it can't compete towards the £1,000 mark, let alone those at £2,000. Our advice is often to go for the source first, but in your case we doubt the Rotel's coming close to driving the speakers effectively. Your choices are change the amp or change both. The Naim combo will give a supremely dynamic sound and a good choice of upgrades, while easily driving the Sonus Fabers. Audition the Naim in combinations with your speakers, and also try to listen to the Primare A30.1 (£1,499.99) – it should work well with the Electas.

Later, you might like to look at a CD player such as Naim's excellent CDX (£2,000) or take a trip into the future with an SACD players like Sony's SCD-777ES (£1,700).

THE DOCTOR IS IN

 I suffer from frequent bouts of upgradeitis. Replacing the weakest link in my hi-fi chain always exposes a previously satisfactory item for me to worry over. I don't really want a cure because I thoroughly enjoy the condition, so I'm writing to seek your help with my latest attack.

Central to my indecision is the following question: given all else is equal, what is best: bi-amping two 75W amps, or tri-amping three 50W amps? If I bi-amp a tri-ampable speaker, which of the three terminal options do I leave to one of the amps?

The relevant bits of kit are a Shearne Phase 2 Reference amp, Shearne Phase 3 Reference power amp (with a third to be added if tri-amping), Michell Gyrodec SE with QC

power supply, SME IV arm, Lyra Clavis Da Capo cartridge, EAR 834P phono stage and Ruark Talisman II speakers (to upgrade to Crusader II if tri-amping).


David Harris, Surrey

For the purposes of your query, and all else being equal, tri-amping a tri-ampable speaker would be better – using a separate amp channel per drive unit and doing away with crossovers. The only way to make your final decision is to listen for yourself. The upgrade will certainly improve your overall sound, if only because you are upgrading speakers and adding another power amp. You may alternatively be better off spending more on loudspeakers.



Ruark Crusader II.

BI-AMP BASS BOOM

 My system comprises an Arcam Alpha 8SE CD Player, Alpha 8 amplifier and Acoustic Energy AE109 speakers connected with Cable Talk 4.1 flat cables. I am bi-amping the speakers, but find on some recordings, such as John Lee Hooker's *Best of Friends* CD, the bass is too strong, so I usually reduce the bass on the amplifier. I'm considering upgrading it with the Arcam Alpha 8P power amp. Will this improve the overall performance of the system?

Barry Carter, via e-mail

We suspect that you're bi-wiring rather than bi-amping. Bi-wiring involves sending twin runs of cable from the amplifier to each loudspeaker, attaching separately to high and low frequency terminals. Bi-amping takes this theory one step further, with each drive unit of a single speaker driven by a separate amp channel. Thus, two stereo amps are required.


By adding an Alpha 8P you are moving from bi-wiring to bi-amping. This will improve your overall sound dramatically and significantly

tighten up the bass on the AE109s, if used to drive the bass, but the source of the problem is probably the speakers themselves. AE109s are very bass heavy, so a change to something smoother and more delicate such as AVI's NuNeutrons (£500) would sort out the problem more effectively.

AVI NuNeutrons.



IMPEDED BY IMPEDANCE

 I want to select an appropriate amplifier for my system. My existing amp is a Kenwood (I can't remember the model), which doesn't seem able to deliver clean power into my B&W speakers with their four Ohm impedance. The Kenwood's power output is rated at 100 Watts per channel into eight Ohms and as a result the internal distortion (inaudible) almost caused the tweeters to blow. The bottom line is: how do I determine whether an amp is suitable for my speakers?

Dan McGrath, via e-mail

What's (inaudible) internal distortion? It sounds like your amplifier might have some sort of fault.

While proper RMS output ratings

for amplifiers are a good indication of power the real limiting factor is amperage. When Paul Miller lab tests amps under dynamic conditions he finds out what they are genuinely capable of.


As a rule loudspeakers with low actual impedance (6 Ohms or less) and sensitivity (87dB or less) are harder to drive. The art of system building lies in matching the power and character of amps to speakers.

In your case, however, power is unlikely to be the problem. B&W speakers while not the most efficient around are rarely too demanding for a genuine 100 Watt amplifier. And if it's damaging your speakers upgrading to powerhouse like Denon's PMA-1500R might be the best option. But it would be worth seeing if it's fixable first.



Denon PMA-1500R.

FRENCH CONNECTIONS

 I am thinking of buying a Naim CD3.5 and Nait 3R (my budget cannot extend to a NAC92/NAP90) with the prospect of adding a NAP90 or something more powerful in the future.

The problem is the selection of speakers. I live in Paris and dealers here tend to combine the Naim with B&W and other similar stuff. I have listened to the Naim with B&Ws, mainly the CDM1SE and 7SE. I preferred the CDM1SE as I found it faster,

cleaner and more expressive than the 7SE.

I'm thinking of going with the CDM1SE as my listening room is not enormous and I like the 'intimate' sound of smaller speakers. But I've heard that Naim equipment also works well with Epos and ProAc speakers. I listen to a range of music, but mostly modern jazz and vocals, and classical. What do you recommend?


Panagiotis Damaskopoulos, France

You're right: Epos and ProAc speakers tend to match well with Naim amps. Epos ES12s (£499) would make a particularly good partner for the CD3.5 and Nait 3R combination. You should also consider auditioning Dynaudio Audience 50s and Audiovector C2s, but if you wish to add a NAP 90 in the future, why not try the Naim Credos (£1,000)? They are a little 'upfront', but tend to integrate very well in Naim systems.



Epos ES12.

FLOORSTANDERS VS STANDMOUNTS

 I've had my system for nine or ten years and I'm looking to upgrade, but everywhere I go, I get conflicting information. I have Mission 772 speakers, Pioneer A-445 amplifier, Pioneer PD-6300 CD player, Pioneer F-656 tuner and a Pioneer CD-445 cassette deck all with original interconnects and QED 70 strand speaker cable.

My first priority is the speakers and my budget is about £400. I really need to understand what benefits floorstanding speakers have, if any, over standmounts. My shortlist covers Mission 773e, B&W 602SE and the new Mission 780. My room is 20ft x 12ft. *Andy Davies, Worcestershire*

The differences between floorstanding and standmount speakers are fairly simple, though


Stand tall or small that's the question.

exceptional products always break rules. Floorstanders tend to deliver more bass owing to their greater cabinet volume, and you don't need to budget for supports. But standmounters can sound more cohesive, with a better sense of pace and timing.

Given your situation, don't be tempted to go for a new speakers without trying a new source component first. If you're planning a full system upgrade over time, it is most sensible to start with the element of the system that creates the least coloration in the sound. If you choose a source component with the sonic characteristics you require and then add bits to suit that as you go, you'll be in a far more flexible position when you next come to upgrade. An Arcam Alpha 7SE CD player would be a good place to start.



OPTIMISING NEW SYSTEM

 I am putting together a system based on an Arcam Alpha 7SE CD player, Arcam Alpha 8R amplifier, Denon TU-260L tuner and Nordost Solar Wind cables, but I'm unsure about which speakers to buy. My tastes are fairly mellow (Portishead, Massive Attack), but with an occasional burst of the Prodigy.

Ian Salters, via e-mail

All of your musical tastes have fairly heavy bass, so we assume that you enjoy that element of the music. Depending on your budget, we would listen to Heybrook's Optima (£259) speakers as the bass is stunning at the price. If you can spend a bit more, you'll find the midrange and treble will improve dramatically (that may be what you are after as the vocals in Portishead and Massive Attack can be wonderful), and speakers like Rega Juras (£475) would create a far more real and expressive sound. Another good choice would be Tannoy Revolution R2s (£350) – their lack of boxiness and good scale should suit your musical tastes (and choice of equipment) very well.



Heybrook Optima.

B&W BASS BLAST

 I have recently brought many of my hi-fi components up to date, most recently with an Arcam Alpha 7SE CD player to go with my Arcam Alpha 8R amplifier. I currently have B&W DM602s bi-wired with QED Profile 4x4 cable sitting on Atacama SE20 stands. They sound fine with music such as Dire Straits or Celine Dion, but with more complicated pieces, the bass seems to get lost and ends up with the whole piece sounding confused and muffled. I have tried moving the speakers, but with little effect.

I have decided to replace my speakers with something more Arcam-friendly and less laid back, with a

budget of about £350. My current front-runners are Tannoy Revolution R2s or KEF Q35s, but I'm open to any suggestions. *Simon Bane, via e-mail*

The KEFs will give you a tighter sound than the B&Ws and like the Tannoys will be more dynamic. You've suggested a couple of good models, but the KEFs are particularly well suited to your Arcam gear, especially if bi-wired (and later, perhaps, bi-amped). They can be a little bass-light, but you can alleviate this to some degree by putting them up close to a wall. After the heavier bass of the B&Ws the KEFs could prove something of a shock, so also listen to the Tannoys and a pair of Rega Juras (£475), which are pretty nimble.

Rega Jura.



SPINE-TINGLING VOCALS



I'm planning to buy my first separates system. What do you think of the new Century range by Marantz – CD-6000OSE and PM-6010OSE, with the Tannoy Revolution R3? I heard the two companies are affiliated. Is that true?

I like floorstanding speakers and mostly listen to vocals and

trance music. I like sharp, punchy bass and vocals that send a shiver down my spine.

Hwuan Chen

The system you suggest is likely to be a good 'un – refined and easy on the ear, with particular strengths in stereo imaging. However, its bass may not be sharp and punchy enough for you tastes.

Have a listen to Arcam's Alpha 7SE CD player (£350) and Alpha 8R amplifier (£380) – they will give you sharper bass and more detail and warmth in the vocals. In terms of speakers, it may be better to choose standmounters rather than floorstanders, as you'll get a tighter (although less voluminous) bass and more detail for those vocals to send a shiver down your spine. Try and listen to Heybrook Heylette Bs (£200), or Dynaudio's excellent Audience 40s (£400).

You are right, Marantz and Tannoy are affiliated in the UK, and common development platforms can create some super 'one-make' separates systems.



Dynaudio Audience 40.

NEAT, BUT LACKING BASS



My system consists of Cyrus Pre/PSX-R and Cyrus Power amp, Micromega Stage 3, Neat Petite/Gravitas bi-wired with Nordost Super Flatline and a Wireworld interconnect.

I enjoy the open imagery of this system, particularly with vocal and acoustic music. The Neat Gravitas are the most recent addition following a move into larger premises, and gave the Petites more weight without compromising their open nature.

I am listening to more acid jazz, hip-hop, reggae and darker sounds like Massive Attack, and feel that the system needs more bass presence at lower volumes. This may seem surprising as the Gravitas are huge and the Cyrus is supplying plenty of power. I'm now looking for the rich, open sound of the Neat speakers, but with a little more bass, and I'm not sure which route to take.

Should I look at changing the amps, or change the nature of the sound with new speakers? Could the Micromega be at fault or maybe the speaker cable? I have a budget of £1,000-1,500.

Patrick Hoole, Hove

Before you do anything get yourself some Electrofluidics or Townshend speaker cable. It's better than anything at bringing out the best bass that a system has to offer.

A lack of bass at low volumes often comes from a lack of power in the amplifier, and the Cyrus Power is certainly not as powerful as some. A solution would be to add another Cyrus Power and bi-amp the speakers, so doubling the power available. Just adding the Cyrus Power would also leave budget available for a new CD player – a Rotel RCD-991 (£750), NAD S500 (£1,100) or Roksan Caspian (£895) would fit the bill nicely. None are 'fat' or too 'in your face' and should integrate into your system fairly seamlessly.

NAPPY NUT



I bought my hi-fi (or at least that's what I like to call it) some years ago now and it supplied background music diligently during nappy changes etc, but the kids are now old enough not to destroy speakers and chew CDs.

I realised after sitting down and seriously listening to music for the first time in a while that my trusty system was somewhat lacklustre and very tired sounding. I have decided to go all-new with a budget of about £1,000. My musical tastes are mainly heavy rock with some classical organ music and my room is about 9m x 6m.

Mark Peskett, via e-mail

On your budget, we'd probably leave the tuner for later and concentrate on the matter of improving the quality of the main system. A good choice is the combination of Sony CDP-XB930E CD player (£299) with a Rotel RA-971 MkII (£250) or Arcam Alpha One (£230) amplifier. To safely combine children and speakers it's probably most sensible to go for a floorstanding pair as they're less vulnerable. Try listening to Heybrook's Optimas (£259) as they should do very well with your music tastes. That lot brings you up to about £800, so with about £100 spent on cables, you still wouldn't go much over budget with a Denon TU-260L MkII tuner (£130).

ALL IN WONDER



I've set up an office in a small spare bedroom and

would like a second system to provide music while I'm working. I need remote control to mute it when the phone rings, and the system must be portable and CD-based so I can take it with me when I'm working away from home. Cost isn't an issue, but the thought of buying a ghetto blaster is anathema to me as I require good sound quality.

I am considering the new Linn Klassik with tuner, and my dealer also suggested a Denon CD/receiver, but I am not sure what speakers would suit. Headphones would not be appropriate because the whole system should fit into one of those smart aluminium flight cases so I can take it into hotels without the receptionist calling security!

Ed Griffith, Cardiff

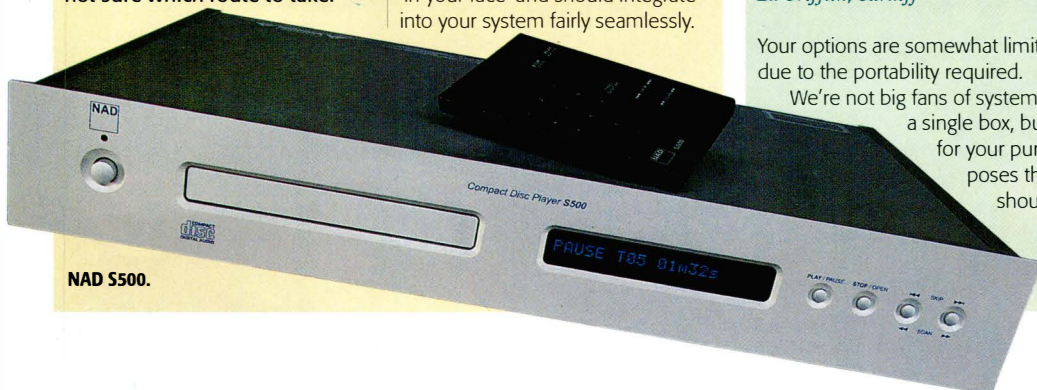
Your options are somewhat limited due to the portability required.

We're not big fans of systems in a single box, but for your purposes they should



Linn Kan.

be significantly better than a ghetto blaster. Your dealer has suggested a couple of good solutions, with the Linn Klassik being our preference. It's the more expensive option but its performance warrants the extra. If you do go for the Linn then the obvious speaker choice is the Linn Kan (£295) to partner it. However they may prove rather heavy and smaller alternatives include the Technics SBM-01 and Dali Royal Menuet (£400).



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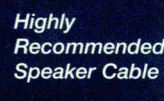
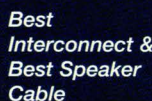
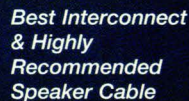
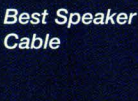
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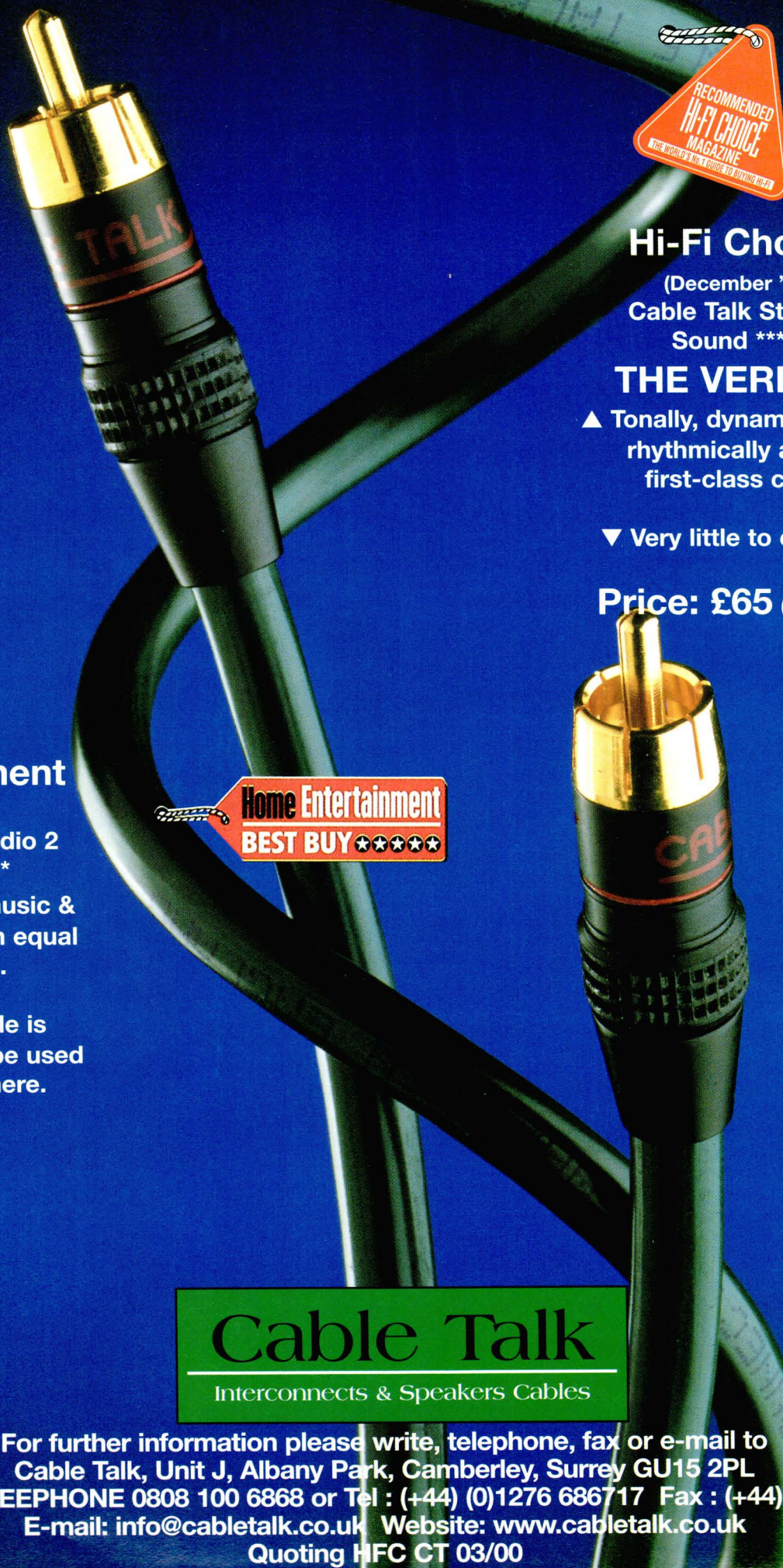
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Hi-Fi Choice

(December '96)

Cable Talk Studio 2
Sound *****

THE VERDICT

▲ Tonally, dynamically and rhythmically a truly first-class cable

▼ Very little to criticise.

Price: £65 (1m pair)

Home Entertainment

(August '98)

Cable Talk Studio 2
Verdict *****

▲ . . . handles music & video sound with equal aplomb . . .

▼ . . . the cable is excellent & can be used almost anywhere.



Cable Talk

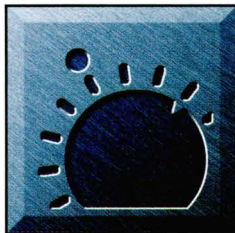
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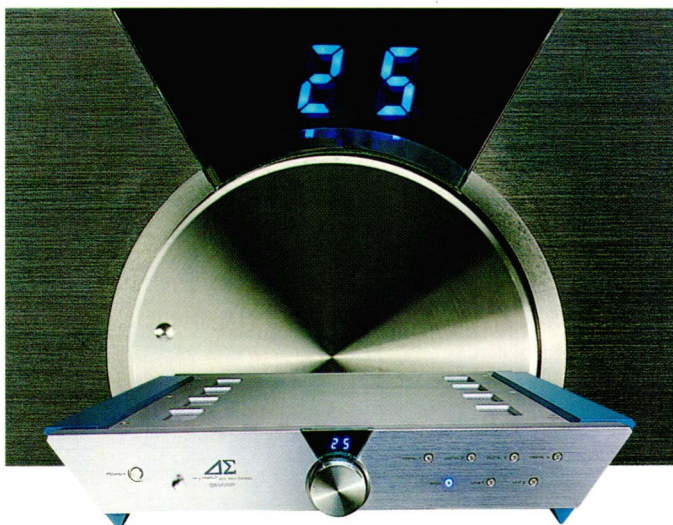
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Quoting HFC CT 03/00



PAUL MILLER'S OASIS OF SANITY

Paul's got so much to tell you about Sharp's new digital technology it could change your life.



Differences in technology notwithstanding, the core aims and potential benefits of both the Sharp SM-SX100 and Tact Millennium (HFC 194) digital amps are the same. Not least is the fact that this technology allows the direct connection of current and future digital formats without any intermediate 'analogue' processing. In this way, the signal path is kept as simple and clean as possible.

Broadly speaking, both amps maintain the incoming audio in the digital domain and use it to control (modulate) onboard DC power supplies via a network of very high-speed MOS-FET power transistors. This produces a very high frequency (RF) signal at sufficient voltage to drive the speakers directly, leaving the audio (music) signal buried within. In practice, the audio is recovered by filtering the RF signal of its high frequency content, revealing the low frequency end of the spectrum, which is largely occupied by the music.

Because these fast-acting power transistors are being used as on/off switches, they avoid the 'partial' conduction and biasing requirements of conventional analogue power amp stages and are thus much more efficient. Crossover-like

distortions are avoided, as are channel imbalances at low signal levels, permitting very high power amps to be squeezed into modest enclosures with little or no heatsinking.

That's the theory, anyway. In practice, implementing a successful digital amplifier simply trades the well-known difficulties of an analogue design for a whole new raft of brain-busting technical difficulties. Digital amps may well be the future of audio, but at the moment they are no panacea for either the designer or consumer.

The key difference between the Sharp SM-SX100 and Tact's Millennium lies in how the incoming digital data is manipulated. Both amplifiers employ a process called truncation and noise-shaping to reduce the 'size' of, say, the incoming 16-bit words, while shovelling the distortion and noise this creates out to higher, ostensibly inaudible frequencies. Tact breaks the 16-bit data into smaller 8-bit chunks while increasing the data rate by 8x from 44.1kHz to 352.8kHz, assuming a CD source.

Naturally, and even with the 8x oversampling, trying to describe the same music information with 8-bit words rather than 16-bit words creates extra noise and distortion that's

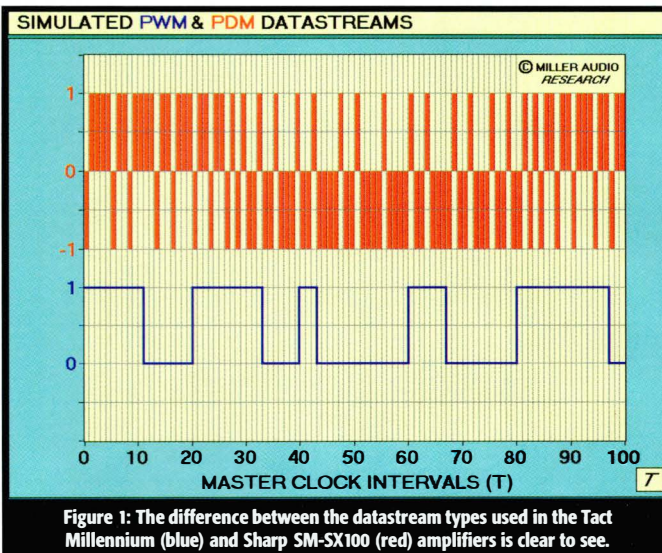


Figure 1: The difference between the datastream types used in the Tact Millennium (blue) and Sharp SM-SX100 (red) amplifiers is clear to see.

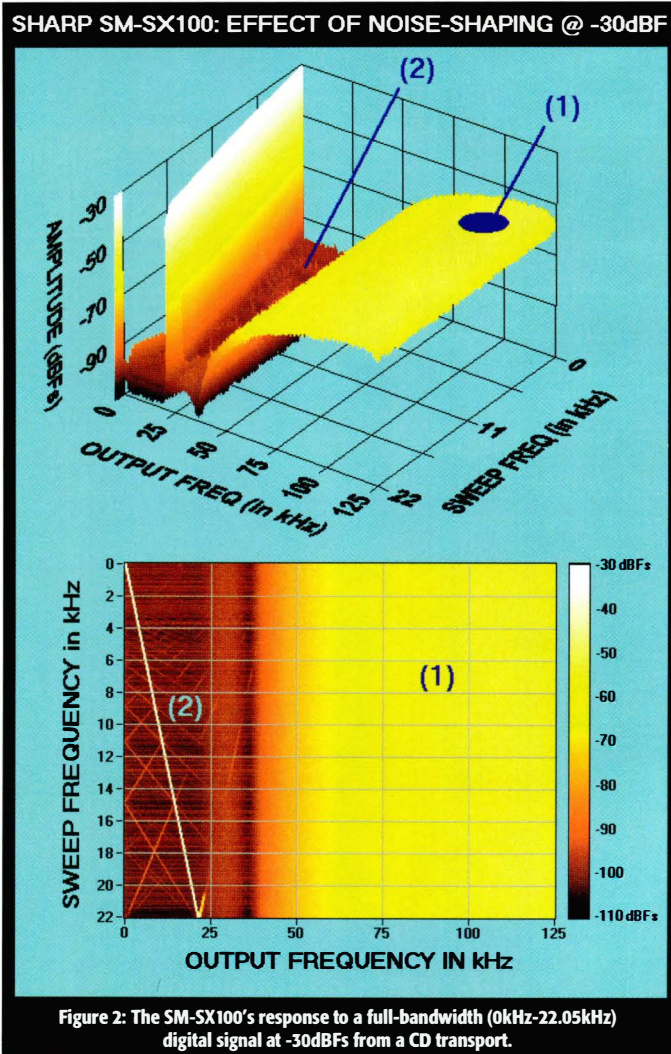


Figure 2: The SM-SX100's response to a full-bandwidth (0kHz-22.05kHz) digital signal at -30dBFS from a CD transport.

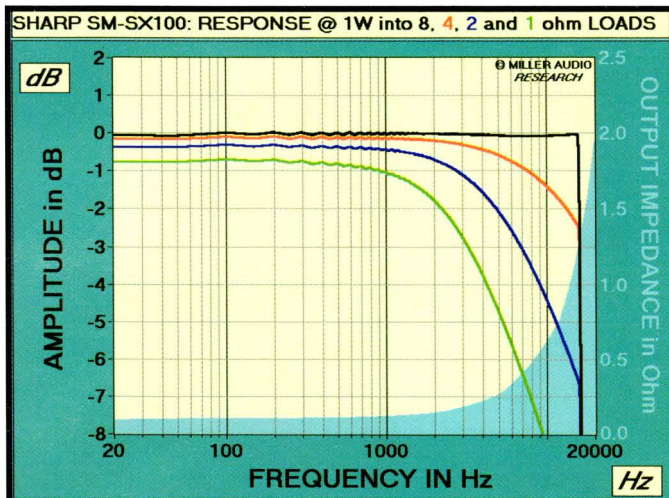


Figure 3: Extensive analogue filtering adds a reactive component to the Sharp's output impedance, which modifies its response into different loudspeaker loads.

spread uniformly over the extended 352.8kHz bandwidth. Tact 'shapes' this extra noise into a lump out of the way of the audio range. So, although there's more noise at ultrasonic frequencies, noise in the audio range is back to where it was with the original 16-bit data.

Sharp takes this technique to its logical extreme. Here the 16-bit data is chopped up into single bits while the data rate is increased by 64x to 2.8224MHz (2,822.4kHz). This causes a massive error in the description of

the changing width of the pulses that defines the amplitude and shape of the final music waveform while, in the latter, it's the density of the pulses that represents this same information.

Both these digital signals are used to control or switch the DC voltage from the amplifier's power supplies, which are directly connected to the speaker via an output LC filter network. It's this filter that scrubs out the very high frequency part of the PWM or

"Implementing a successful digital amp simply trades the difficulties of analogue design for new, brain-busting problems."

the music signal and reduces its dynamic range to just 6dB or so. However, this poor 6dB dynamic range is consistent over the entire 2.8MHz bandwidth which, with seventh-order noise-shaping, gives plenty of room to redistribute the noise towards the upper end of this extended range and recover (as close as possible) the original 16-bit, 96dB dynamic range across the audio band.

COMPARE & CONTRAST

These two different datastream types are represented on Figure 1. The (blue) 8-bit code used by the Millennium takes the form of a variable-width signal and is known as Pulse Width Modulation (PWM). The (red) 1-bit bitstream employed by Sharp goes by the name of Pulse Density Modulation (PDM). In the former case, it's

PDM signal to reveal the underlying music waveform.

Theoretically, the PDM technique should prove more linear than the PWM route because it employs the same '1 bit' over and over again. By definition, this singular bit must always be the same 'size', whereas an 8-bit PWM code constitutes some 256 (2⁸) different combinations of levels (see *Oasis*, HFC 191) which are not necessarily precisely '1 bit' apart. In practice, however, the Millennium's PWM operation realises a superior low-level linearity and dynamic range, largely because of the Tact's sophisticated pre-processing of the data to account for distortions in the high-speed output switches.

ONE BIT AT A TIME

The reality of trying to implement a 1-bit, seventh-order

noise-shaper is graphically illustrated by Figure 2, which shows the SM-SX100's response to a full-bandwidth (0kHz-22.05kHz) digital signal at -30dBFs from a CD transport.

The huge welt of requantisation noise (1) that's squeezed into an area outside of the audio range is impossible to miss and demonstrates that the dynamic range of the 'musical frequencies' (2) is largely restored.

You may also see the criss-cross pattern of spurious digital distortions within the audioband which is hardly ideal but, once again, difficult to avoid with high-order noise-shaping. Indeed, noise, distortion and digital spurious are all more pervasive than with the TACT Millennium amplifier and, ironically, lends the SM-SX100 an 'analogue-like' technical performance.

High-order noise-shapers are very difficult to keep stable, so while the Millennium with its lower-order noise shaping and digital scaling gives a very clearly defined clip at peak output (0dBFs), the SM-SX100 becomes progressively less stable above -10dBFs, producing glitches that manifest as noise and distortion on the output. Noise and distortion are also intrinsically bound to the stability of the power supply in a digital amplifier.

In this instance, Sharp needs a linear power supply which offers a stable voltage and current delivery of just 3-4A at 2.8MHz with minimal in-band noise. For a 100dB dynamic range with 40V rails, the power supply ripple cannot exceed 0.4mV, which is equivalent to a 0.1mOhm output impedance at 4A current. A 1mOhm source impedance is practical for a switch-mode supply, but 0.1mOhm is little short of a technological nightmare...

CABLE KNITS

In common with all digital amplifiers, the SM-SX100 requires a great deal of analogue filtering on its output to remove as much high frequency noise as possible and isolate the music signal proper. This also adds a reactive component to the amplifier's output impedance, which modifies its response into different loudspeaker loads (see *Oasis*, HFC

177) and makes it rather more sensitive to choices of loudspeaker cable.

This is the bright blue, shaded trace on Figure 3, which shows how Sharp has optimised its response for a purely resistive 8 Ohm load (black trace) while significant losses in overall signal level and treble extension occur into 4, 2 and 1 Ohms (red, blue and green traces respectively).

Connected to a 'real' loudspeaker load, the overall system response is severely 'rippled' in sympathy with the speaker's own impedance trend.

Round the back of the SM-SX100, Sharp has fitted a 8/4 Ohm speaker selection switch. This is rather more comprehensive than its 'analogue' equivalent because it changes the filter characteristics according to the load, ensuring the 8 Ohm setting gives maximum power into 8 Ohms with flat response and vice-versa for 4 Ohms. Driving an 8 Ohm load with a 4 Ohm setting produces a loss in output from 165W to 105W, for example.

Like Tact's Millennium, the Sharp SM-SX100 is another glimpse of our digital future, but not necessarily the shape of it. I look forward to following the difficult birth, fractious childhood and final maturity of this promising technology.

Do you have a subject for the Oasis?

Please contact Paul Miller via e-mail on MILLER_AUDIO_RESEARCH @compuserve.com

GLOSSARY

BINARY OR DIGITAL WORD: A number composed solely of 0s and 1s. A 16-bit binary word is 16 digits long. As each digit can be a 0 or 1, there are 2¹⁶ possible permutations.

CLIPPING: The point at which an amplifier reaches its maximum output into a given loudspeaker load. Distortion typically increases dramatically at this point.

DAC OR DIGITAL-TO-ANALOGUE CONVERSION: The process by which a music signal is reconstructed from binary data.

DSP OR DIGITAL SIGNAL PROCESSING: In the case of the Tact Millennium amp (see HFC 194), for example, the mathematical manipulation of music signals as data in the digital domain.

NOISE-SHAPING: A type of 'digital feedback' used to move digital errors that occur as noise out to higher, inaudible frequencies.

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NAUTI but nice

Jason Kennedy turns his shell-likes to the latest B&W gastropod.

Had you told me at the time of B&W's original Nautilus 'sea-shell' launch (an extraordinary loudspeaker and a spectacular marketing device) that five or so years down the line I'd be reviewing the latest example of its progeny, I wouldn't have believed you. Yet here I am with the Nautilus 804, the least expensive floorstanding model and the last of the range to see the light of day.

The 804 is probably the most living room-friendly of the Nautili; it's tall and slim with a lovely curved cabinet and very fine veneer, and at £2,500 it's competitively priced for a very high-tech loudspeaker.

While it may not have the full-blown Nautilus 'Head' of the top two models, it does incorporate most of the other features such as the free-standing tweeter, surround-less Kevlar midrange driver, tapered tubes for absorbing the rearward output of mid and high frequency drive units, a free-flow dimpled reflex port and Matrix cabinet construction. All these elements contribute to exemplary measured performance. Bandwidth is quoted at 38Hz-22kHz (-3dB) and harmonic distortion as less than one per cent 70Hz-20kHz, which is pretty impressive from a nominal eight Ohm design with 89dB sensitivity.

What sets this apart from the 805 as a 'proper' Nautilus design is the 150mm midrange drive unit and its accompanying tapered tube, the existence of which is indicated by the presence of an aluminium decoupling 'nozzle' at the rear of the cabinet. The Kevlar cone has a thin foam impedance-matching surround, which has the benefit of greatly reducing reflections from the surround and contributes to the unit's extremely low distortion.

The 804's elegance comes at some cost to stability. The spike footprint is quite small for the height of the speaker: it's just over a metre tall, but

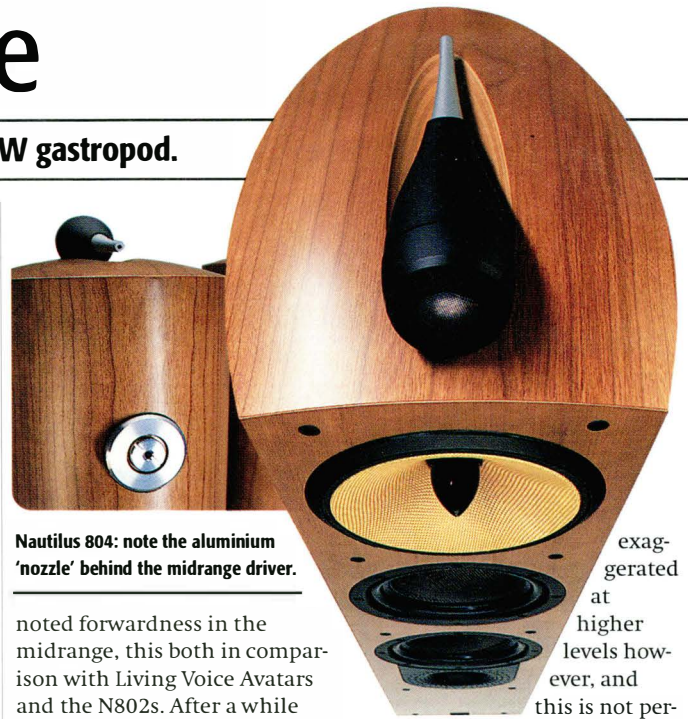
the base measures just 23.8x34.4cm and the spikes sit a couple of centimetres inboard. It's the sort of shape that would probably benefit from a plinth of some type.

SOUND QUALITY

Having been designed by the team that was responsible for the 802 that impressed me so dramatically in 1998 (*HFC* 183), I had high expectations for this relatively compact model. And while it was inevitably in a different class when it came to high volume levels, there were many similarities that reminded me of the good times I had with those big beauties.

There's one caveat I should mention in the light of that previous experience: these speakers take ages to run in. In the case of the 802s it was three or four months, so I didn't know what their full potential was until after the review was written and published. I fear the same will apply here, but it's nice to know that you're buying a product that will improve with age.

First impressions with the 804s were inevitably of the tonal balance variety and consisted of a



Nautilus 804: note the aluminium 'nozzle' behind the midrange driver.

exaggerated at higher levels however, and this is not perhaps the best

noted forwardness in the midrange, this both in comparison with Living Voice Avatars and the N802s. After a while the balance became familiar, and its benefits in terms of low and mid-level listening could be appreciated. While the 802s were voiced to sound best at levels that the average neighbour would consider anti-social, the 804 'works' most attractively at more sensible volumes.

The balance is to an extent responsible for the analytical, highly detailed sound of the speaker; it's not the only or even main factor, but it must contribute to a result that's pretty revealing of everything else in the system, particularly the recording.

I've rarely used a speaker that's so sensitive to phase changes, image manipulation and special effects within the music - I discovered new elements of studio wizardry within some pretty familiar material. Radiohead's *OK Computer*, for instance, has some very odd but effective phase-related effects at work, and an awful lot of spatial manipulation around instruments, voices and sounds.

The 804 also proved remarkably revealing of different recording techniques and environments without resorting to brightness in the way that 'detailed' speakers often do. You really appreciate the variety of sonic effects that producers and engineers conjure up in their efforts to make more interesting recordings, yet which lie unheard with the average 'stereo'.

Its balance seems to be

speaker for the headbanger. I used the 804s with two power amps, a 50-Watt Michell Alecto and the 200-Watt Gamut (née Sirius) D200. It clearly preferred the latter (more expensive) model, but even with this much power on tap was not as powerfully driven in the bass as one might like at high levels. I guess you need more cabinet volume and bigger drive units to move that sort of air.

CONCLUSION

The Nautilus 804 is an extremely proficient and clean loudspeaker, it tells you exactly what's going on in the recording, and while it may not be the most sizzling foot tapper around you can be sure that very little is being added to the mix on its account.

There is an element of it pleasing the head more than the heart, but it's probably one that could be countered with the right ancillaries. It might even get there on its own once the Kevlar is fully run-in.

VERDICT

SOUND	★★★★☆
BUILD	★★★★★
VALUE	★★★★☆
PRICE	£2,500.00

An elegant and very capable floorstander that's a lot cleaner than most and highly revealing of the subtleties within the music.

■ FIVE YEAR GUARANTEE

B&W Loudspeakers (01903) 750750



CUTTING EDGE

Paul Miller takes an exclusive look at the world's first commercial 1-bit amplifier.



Like a bolt from leftfield, Sharp, a company previously best known for its LCD projector technology, has launched a radical new amp onto the market. The SM-SX100 is the world's first commercial 1-bit digital amplifier and, at about £10,000, is raising eyebrows across the industry.

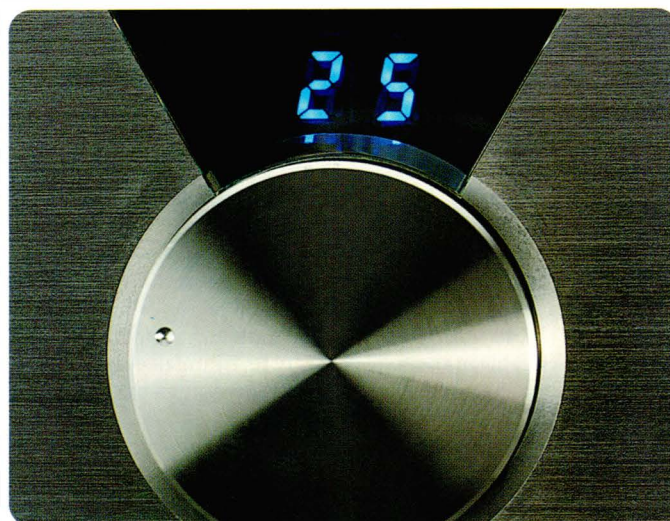
However, the likes of Krell, Mark Levinson and Audio Research can probably rest easy in the knowledge that the SM-SX100 is something of a 'technology demonstrator' – expect to see 1-bit digital amplification moving into Sharp component systems, AV amplifiers, portable and car audio rather than other high-end separates.

Nevertheless, the SM-SX100 ranks as both a technical and visual statement. Its aesthetics wouldn't look out of place in Poirot's drawing room, and reinforce the sheer individuality of this product.

In a parallel universe, there's probably a CD player and pair of speakers to go with this amplifier. Here, the SM-SX100 is a technological island, its principal bridge with the mainland made via a series of digital inputs which interface directly with conventional CD transports and, in an intriguing gesture, with the digital output of Sony's new SACD players.

This is made all the easier because the data format adopted by the SM-SX100 mirrors that of SACD, unlike TACT's Millennium digital amp (see *HFCs* 178 and 194). For a full discussion of Sharp's 1-bit technology and how it compares with TACT's digital regime, see my *Oasis* on p48.

"In a parallel universe there's probably a CD player and pair of speakers to go with this amp. Here it's a technological island."



For now it's enough to think of the SM-SX100 as a digital conduit, maintaining the music data stored on CD, SACD and DVD (the latter up to a 48kHz sample rate) in digital form until the moment before it hits the speaker terminals. The problems of conventional analogue amplifiers with their big power supplies, poor channel balance at low volume and waste heat all have the capacity to be eliminated with a true digital amplifier.

As with SACD, data passes through the SM-SX100 as a high-speed bitstream – a stream of single bits (1s and 0s) or pulses that race ahead 64 times faster than they would with a conventional CD player. The amplifier magnifies these pulses and their 'density' defines the level and shape of

the final, filtered music waveform. A 1-bit digital amplifier really does have the potential to be this elegant even if, in practice, there are huge technical hurdles to be overcome.

Under the bonnet, things are pretty complex but Sharp's user interface could not be simpler. Just select from one of five digital inputs (including SACD) or one of two analogue inputs which route the output of a tuner or phono stage via the SM-SX100's onboard A-to-D converters.

A rotary volume control allows you to 'dial-up' different power levels on a scale of 0-128.

Frankly, this scale is pretty arbitrary. A setting of 80 represents a full power output of 165 Watts into 8 Ohms with a peak level digital input. This falls to 125 Watts at low bass frequencies and 110 Watts at high treble frequencies with the speaker selection switch set to 8 Ohms.

Set to 4 Ohms, the amplifier delivers no more than 130W, but its response characteristics are then optimised for these lower impedance speakers. I'll explore this theme in *Oasis* but, for now, with modern CD material, I'd not be tempted to advance the volume control much beyond 80. Settings beyond 90 could well damage your loudspeakers if the amp clips, producing crushing levels of distortion.

SOUND QUALITY

TACT's Millennium amplifier taught us that this type of technology can have a very distinctive sound, so I assembled the same panel of listeners, used the same Theta CD



Sharp's user interface couldn't be simpler, but the indicated power levels come across as being pretty arbitrary.

transport/Audio Note speaker system and reverted to familiar music selections for our in-depth, subjective tests.

In the event, the SM-SX100 lacks the Millennium's 'dark' acoustic background and its ability to depict huge dynamic contrasts. Instead, it sounds animated but not intimate, is able to play very loud but sounds neither especially 'big' nor overly spacious.

One listener suggested the amplifier had "signed a non-aggression treaty with the music": while its presentation is always taut and composed, this exercise in 'music delivery' lacked the empathy expected of a first-rate amp. For example, Cassandra Wilson's *Step by Step* was exceptionally well resolved in terms of detail but not in spaciousness or colour.

Sure enough, the rhythm line is very, very tight, the bass deep and well maintained while the treble sounds exceptionally tidy, lacking any suggestion of 'digital distortion'. But it's simply too damn tidy – "We need a little more earthy reality," said one panellist.

Lesley Garrett's recording of *Die Fledermaus* sounded rather more like a studio recording, lacking the spaciousness of the hall. Again, the sense of control and articulation is unmistakable but there's not the depth, the immediacy and dynamic variation we know to be possible. Similarly, the upper of the bass lines from Christy Moore's *Reel in the Flickering Light* was less distinct while his voice was

simply not not as gruff or as 'Irish' as we know, suggesting a remoteness from the performance that's just not typical.

In an effort to understand where Sharp may be attempting to position the amplifier, we listened to some contemporary and thoroughly electronic Japanese music. *High Fidelity Lounge* is one such album, musical digits that give the SM-SX100 something to chew on.

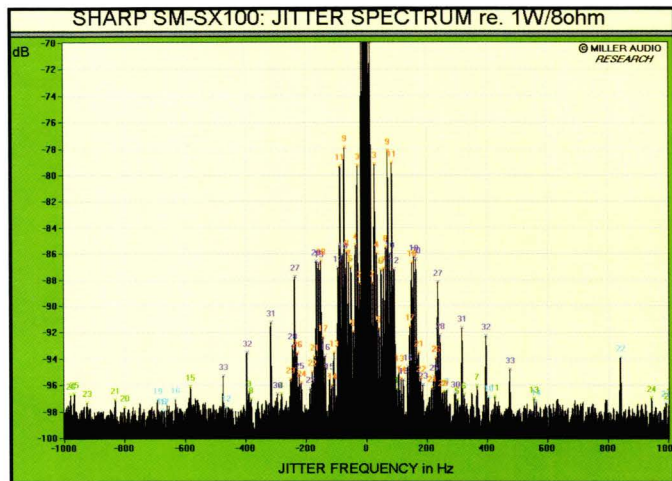
Here the technical proficiency of the amplifier allows it to sound extremely potent, incredibly deep and extended with no hint of booming or sharp aggression. The synthesised bass, strings and percussion play directly into its hands, sounding both precise and loud without becoming physically oppressive.

GETTING BEHIND THE SOUND

Perhaps it is something of a self-fulfilling prophesy, living up to the myth of an archetypal



The SM-SX100's aesthetics wouldn't look out of place in Poirot's drawing room – or aboard the USS Voyager.



digital amp; cool, calm and calculating like a very big, fast and capable computer crunching the musical numbers. In theory this is all that should be necessary. Yet, in practice, manufacturers who've been at the top end of audio for any length of time understand that music also has

central peak. Perhaps through some instability in the 1-bit noise-shaper combined with intermodulation distortion in its high-speed MOSFET output stage, a host of other peaks are present whose nature is known

to compromise both stereo imagery, a sense of depth and what might otherwise be termed 'musicality'.

Nevertheless, nothing can detract from the fact that this is a highly individual product. Nothing quite looks or sounds like the SM-SX100 and that alone is bound to polarise opinion – even if, for our unbiased blind listeners, it remains a triumph of science over art.

Credit where it's due, it is perhaps slightly unrealistic to expect the very first stable, 1-bit digital amplifier to also set new subjective standards when the technological feat alone is little short of awesome.

The SM-SX100 is the technology of the future but, like all brand-spanking new innovations, it will probably need a season or two to really blossom. And when it does, as in this case, *Hi-Fi Choice* will be first with the news.

VERDICT

SOUND	★★★★☆
BUILD	★★★★★
VALUE	★★★★☆
PRICE	£10,000.00

The world's first stable, 1-bit digital amplifier is a technological milestone. It should go from strength to strength.

ONE YEAR GUARANTEE

Sharp (0161) 205 2333

"The rhythm line is very, very tight, the bass deep and well maintained and the treble sounds exceptionally tidy."

a life, a vivacity and 'soul' that's immediately recognisable but very tricky to quantify.

Fortunately, having carved the SM-SX100 apart in the lab, some very good reasons emerge to explain the performance of this amplifier (turn to *Oasis*, p48 for greater detail). As I've mentioned, its power output beats Sharp's 100 Watt specification, but varies through bass, mid and treble and with the speaker load. Distortion, too is significantly higher than that achieved by a 1-bit CD player, for example, with a best-case figure of 0.025 per cent.

However, it's the jitter spectrum that's worth a thousand words (see graph). Here we see a highly complex pattern where there should only be a single,

NESTING BOXES

Paul Messenger braces himself and gets to grips with a pair of speakers that together weigh about as much as he does.

Naim Audio takes its own unique approach to loudspeakers – as indeed it does with amplifiers and CD players – going to quite extraordinary lengths to decouple mechanically the various driver units from their enclosures, and the enclosures from each other.

This NBL ('nested box loudspeaker') is a four-driver, three-way design which costs £6,648 the pair, and fits into Naim's speaker line-up between the compact two-way SBL ('separate box loudspeaker', £2,395) and the much larger three-way DBL ('decoupled box loudspeaker', £10,750, which was nearly christened an FBL because of its considerable bulk).

It shares both the principles and the drive units of its older siblings, but the NBL's very different execution is altogether more elegant and practical. And although the £6,648 price tag is pretty serious, the sheer complexity of the design and the number of parts involved make it seem very decent value for money in a market context.

Like all Naim speakers, the NBL is available in two versions, one active, the other passive. The former costs £650 less because it doesn't need a large and complex passive crossover network to split the signal into the three separate frequency bands that feed the individual drivers. However, the active route works out a lot more expensive in system terms, because it requires an electronic crossover unit plus multiple power amps to power the drive units. The speaker itself is the same in both formats, so an NBL can be upgraded from passive to active very easily. To facilitate that, and help remove the crossover from the major sources of vibration within the boxes, the crossover is built into a tray which hangs down, recessed and hidden from view, against the back panel.

This is a large and very hefty (41kg) loudspeaker, but by no



The hefty NBL isn't too tall or wide, but carries most of its bulk in a much deeper shape than most of its contemporaries.

means an unattractive one, thanks to high-class, real wood veneer and an interesting shape which features a domed top and which tapers, in both height and width, from front to rear. It's neither excessively tall (116cm) or wide (21-29cm), carrying most of its bulk in a much deeper shape than most contemporaries. The speaker is intended to be placed close to a wall, which will minimise its intrusion into living space, but its considerable depth (c.47cm) means the mid and treble drivers are well clear of the wall, so first-reflection colorations shouldn't be too obvious.

ACOUSTICS AND AESTHETICS

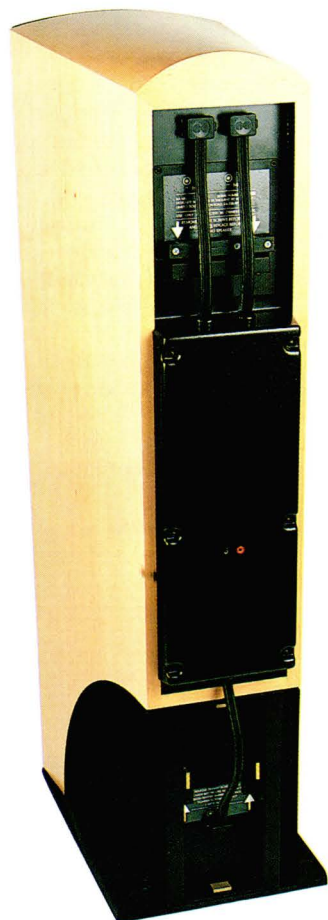
Apparently, the acoustically transparent foam grilles used in earlier BL-series Naims is not popular on aesthetic grounds, so the company has come up with a technique for using a more orthodox fabric grille.

The grille frame is permanently screwed in place (using ten screws!) to make sure it doesn't rattle, and the fabric, fixed to a rubber O-ring, is stretched over the frame, then a second O-ring fits snugly over the top, tidying everything up. The only worry is that this



Designer Phil Ward: the NBL was around in active form for some time before the passive version was finalised.

“The NBL repeated that trick I’ve come to associate with Naim components: making it easy to get into unfamiliar music.”



‘permanent’ frame looks less than ideal acoustically, despite inside-edge chamfering.

Whereas the DBL carried its bass, midrange and treble drivers in a conventional vertical line, up the front of its wide enclosure, the NBL adopts a very different strategy. The midrange and tweeter are similar for both (and use the same drivers, although the NBL adopts an inverted disposition), but instead of the single 15-inch used by the DBL, its bass is supplied by two much smaller 8-inch frame drivers (the same as those used as main drivers by the SBL) mounted back to back in the bottom rear corners of the sides.

These are acoustically closely coupled to both rear wall and floor, so that each is effectively driving one-eighth of a sphere, giving a substantial increase in ‘room gain’ over such a driver operating clear of reflections, and also generating a smoother in-room response.

The two bass drivers in the NBL actually have a combined cone area just slightly more than half of the DBL’s 15-inch,

so the room gain is an essential part of the mix.

It’s not a new technique – Roy Allison used it in his own and in AR designs (notably the AR9 and AR90 models) many years ago – but it does make a lot of sense for a three-way design where the fashion trend is inexorably towards narrow-fronts, and there are obvious parallels with Mission’s new 78-series models (see HFC 199).

One consequence of repositioning the bass drivers *vis à vis* the DBL is that the bass-to-mid crossover point has been moved down, from about 350Hz to 270Hz, while the power handling and ultimate loudness capability of the smaller NBL is bound to be somewhat less than its bigger brother.

WHAT’S IN THE BOX?

The enclosure complexities are probably better explained diagrammatically, but starting from the ground and moving upwards, the base is a substantial alloy casting, securely accommodating the chunky 8mm spikes. The main enclosure carcass, which houses the

60-litre sealed box bass chamber, is rigidly fixed to this base, but the drive units are all mounted in sub-enclosures which use a variety of mechanical decoupling techniques.

The bass arrangements are very much a doubling up of those used in the SBL. They have the same intention of providing a large, sealed-box alignment alongside the tight damping and excursion control provided by using a small ‘antechamber’, with controlled acoustic resistance leakage to the main enclosure. The two drivers are mounted back-to-back (helping to cancel reaction forces) in the small 13-litre sub-enclosure, and this is decoupled by allowing some horizontal movement in its mounting on the base.

The main bass chamber stops some 55cm off the ground, although the enclosure continues up the sides and over the top to provide the ‘nest’ for the mid/treble sub-enclosure. This is a decent sized sealed box, considering it only has to handle midrange frequencies. It’s heavily tapered to avoid parallel faces, sitting on leaf springs which provide low frequency side-to-side rocking decoupling. The drivers themselves are mounted on another leaf-spring arrangement that operates in the fore-and-aft plane.



It takes a long time to set up and install a pair of SBLs or DBLs, because the separate enclosures have to be painstakingly assembled onto the complex frame/stand. The NBL, however, is dead easy. Each speaker comes in the one box. Simply fit the spikes, stand it up in position, and remove the four transit bolts that hold the sub-enclosures in place during shipping, and you're away.

The far-field in-room averaged measurements are rather

me of my wall-mounted drive units (Tannoy 15-inch dual concentrics), a speaker system which is a true boxless infinite baffle. The NBL doesn't have the same tonal warmth, but it does share a similar 'boxless' quality, which attests to the efficacy of that complex enclosure decoupling.

However, there's no avoiding a somewhat cold and clinical character, which is certainly a function of the balance. Indeed, during the opening bars of Talvin Singh's *Traveller*, I wondered whether the bass drivers had even been connected – and then the bass came in with considerable power, crispness and gravitas, and none of the usual box colorations and overhang of conventional speakers. The dry bass delivery takes a bit

with some material. When entertaining a teenage crowd partying to The Offspring on Millennium Eve, I elected to use Mana rather than Naim power amplifiers for their 'kinder' overall balance.

I discussed the 'forwardness' with designer Phil Ward, who said that the NBL had been around in active form for some months before the passive version was finalised, and that the control settings arrived at under active drive provided a 'target function' for the speaker's passive balance.

I like 'forward' speakers myself, but suspect that because it's essentially 'cleaner' an active system can get away with being rather more forward than its passive equivalent, and can't help feeling that

a slightly more restrained balance might be more acceptable in the marketplace.

Stereo imaging isn't a quality one normally associates with Naim equipment, but the NBL delivers startlingly good stereophony, aided by the very low box signatures, and sometimes audible extending beyond the confines that physically separates the two speakers. Large acoustic spaces, like well-miked cathedrals, are also reproduced with excellent conviction, thanks again to the ultra-clean bass end.

Indeed, the NBL repeated that particularly neat trick I've come to associate with Naim components: of making it very easy to get into unfamiliar music. No, I haven't turned into an Offspring fan, but I did find myself spending an unusual amount of time eavesdropping on Radio 3, just because the NBL's wide-and-clean midband dynamic range is so convincing on all sorts of acoustic music – even difficult stuff like choirs and brass.

At the same time, I was equally impressed by the way pure electronic instruments were reproduced, with the sort of realistically sharp stop/start edges that reason dictates but which in reality is very rarely reproduced.

CONCLUSIONS

Combining the bass performance of two SBLs with the DBL's mid and top end, and in a far more elegant package than the latter, the NBL delivers a stunning amount of musical information with as wide a dynamic range as I've heard from any loudspeaker.

Some will certainly find the forward balance not to their taste, but anyone seeking serious speaker performance at a surprisingly realistic price ought to run a pair of these past their ears.

“The dry bass delivery takes a bit of getting used to at first, but the freedom from boom, resonance and box coloration gives a very clean and articulate performance with very subtle texture.”

interesting, confirming the effectiveness of the bass system in delivering a bottom end which is smoother and more even than most, going well down to -4dB at 20Hz in-room.

The balance as a whole is a little unusual, however, because although the whole trace falls within rather impressive +/-5dB limits, the broad-band character is quite unusual in emphasising the upper midband (600Hz- 1.5kHz) and treble (c.5kHz), while the upper bass and lower midband (70Hz-500Hz) are correspondingly 'lean'. This makes sensitivity difficult to pitch accurately, but on balance I'd rate it at 89-90dB/2.83V. The load hovers around 6 Ohms across most of the range, with no abrupt phase angles, falling to a 4 Ohm minimum at 20Hz.

SOUND QUALITY

The NBL was auditioned only in its passive form – the active version promises still better dynamic range, as well as potentially useful extra flexibility in setting the gross overall balance. Even the passive version is an astonishingly good loudspeaker in most respects, especially its wonderful dynamic range and freedom from boxiness.

One first and lasting impression was that they reminded

of getting used to at first, but the freedom from boom, resonance and box coloration gives a very clean and articulate performance, with very subtle texture and tonality. It's nearly nine years since I reviewed the DBL, so comparisons are difficult, but as I recall the bigger speaker lacked the bass smoothness of the NBL. However, its 15-inch driver had more grip, immediacy, drive and authority. Where the DBL seemed to lead with its bass, the NBL is much more midband-oriented.

Another feature of the forward balance is that the speaker remains highly articulate at very low levels. In fact, it's remarkably articulate through the voice band at all levels, revealing previously obscure lyrics with great dexterity. The other side of this coin, however, is that high level replay can become a trifle wearing



VERDICT

SOUND	★★★★★
BUILD	★★★★★
VALUE	★★★★★
PRICE	£6,648.00

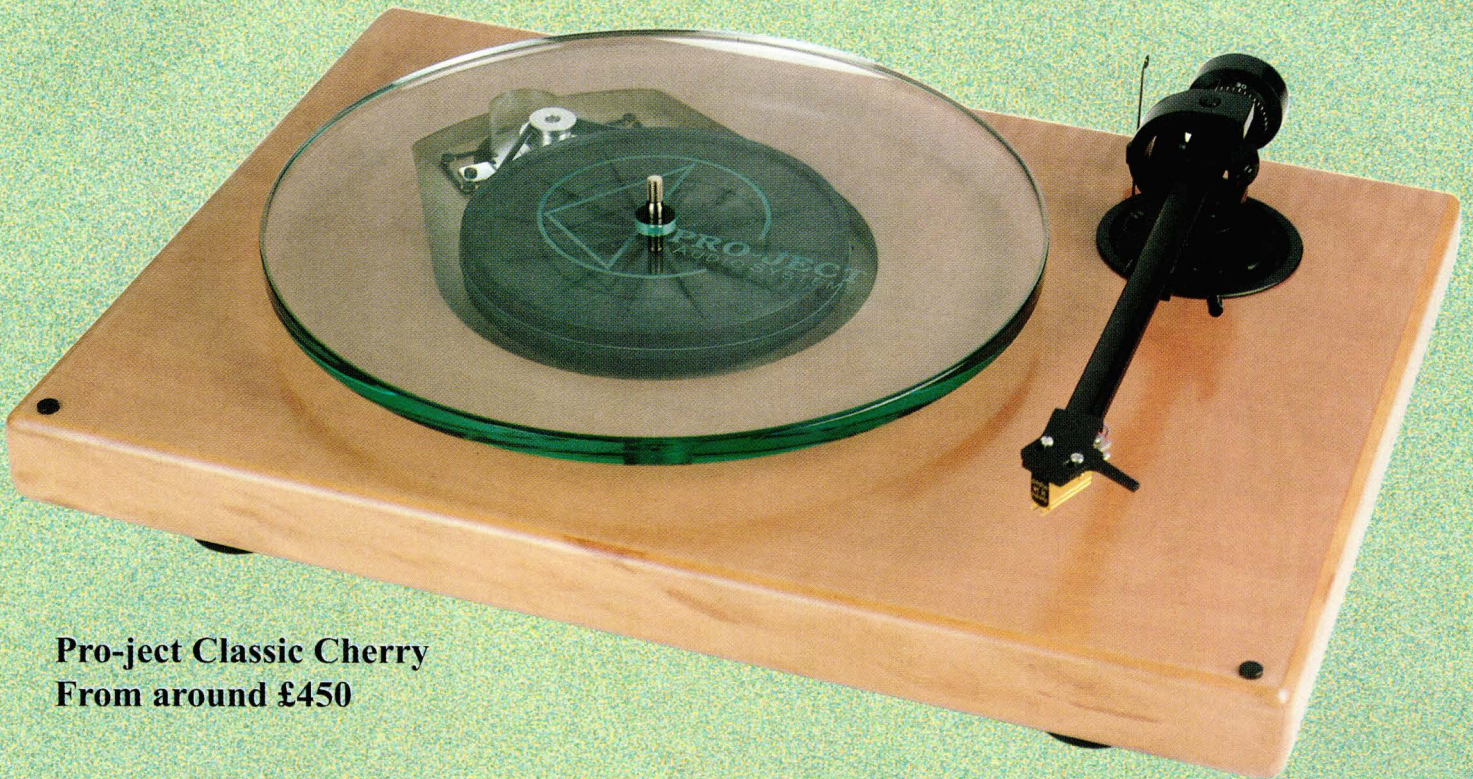
An elegant, large speaker, the NBL is exceptionally informative with an awesome dynamic range, but the dry, forward balance might not suit all.

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Five Stars

Paul Messenger explains why you should visit an independent

Why use a specialist hi-fi dealer? The short answer is because he knows one hell of a lot more about hi-fi than you do. And if you've gone to the trouble of picking up a specialist magazine on the subject, you're obviously interested in something rather more than a mini system from the nearest electrical superstore.

You've probably bought this magazine for one of two reasons. You're looking for advice (presumably unbiased and good) on choosing and using your hi-fi system, and/or you're checking out the ads to decide where to go and buy it.

The independent specialist dealer doesn't know everything, and he doesn't know much about you, but if music's an important part of your life, he's the only guy around who's able (and hopefully willing) to help you choose the equipment which will give you the best long term satisfaction.

Power of the Press

Dealers sometimes moan to me about the power of the press, and the disproportionate influence of its 'Best Buy' and multi-star ratings. Well, I've been in the press for twentysomething years, and still feel more ignorant than powerful.

The more I mess around with hi-fi gear, the more I become aware of our lack of real understanding of the subtleties involved, and the more I appreciate the importance of the dealer's skills and experience, in bringing together components so that the whole is greater than the sum of its parts.

We hacks get paid to write words, often about components in isolation, because individual product reviews are still the staple diet of the press. They can sometimes provide a useful guide to the way a product performs, but only under the particular circumstances in which the review was conducted.

The hi-fi reviewer attempts, with varying degrees of success, to evaluate a particular component, and find something interesting (and

hopefully positive) to say about it. That's about the end of it, and it's on to the next product.

The magazine prints the review, and that very process magically confers a measure of authority. Experienced hi-fi enthusiasts, who read reviews over a period of years and try out various products themselves, soon start to realise the limitations of that approach. Some reviews are better than others, but none can get to grips with the real heart of the problem - whether a given product will improve your musical satisfaction, in your system and your room.

The Role of the Dealer

The dealer's role is very different, and potentially much more valuable. He has the chance to talk one-on-one. If he's good at his job, he'll use that opportunity to find out what you as an individual are looking (or listening) for.

His motivation is very different too. Sure he wants to make a sale. That's the lifeblood of any shop. But he also knows that if something he sells really does deliver long term satisfaction, there's a very good chance you'll come back again to see if he can repeat the trick some time in the future.

If you go into a shop and demand a particular CD player, on the basis that it got seven stars (out of five) in last month's magazines, the shop will probably simply take the line of least resistance and sell it to you. (Or switch-sell you to a similar price alternative, if he's fresh out of stock of that particular flavour-of-the-month.)

If you go in and say you're looking for a CD player, and want his advice on what to choose, things are liable to become more interesting. The

for Value

specialist dealer if you are searching for real hi-fi satisfaction

onus is now on the dealer to show what he can do. His first task is to ask the right questions to try and get some idea of what you might be after.

Asking the questions is the easy bit. The real skill comes in using the information to come up with a shortlist of likely contenders, and then conducting a demonstration so that you have a real chance to play a central role in the decision making process.

Putting together a successful hi-fi system might not be as difficult as it was twenty or thirty years ago, but it's just as easy to make a mess of things. Put the 'wrong' combination of components together and it'll still sound a lot better than any cute little mini system package. It might even

"If music is an essential ingredient in your daily diet, you owe it to yourself to become a member of the discriminating minority."

rate a five star review. But it won't match the potential of a carefully balanced and properly installed system, and it certainly won't cater for your own particular preferences and personality.

We British are notoriously indiscriminating consumers, at a mass market level at least. The majority of the population don't even bother to drive a car they're thinking of buying, never mind take the trouble to listen to hi-fi equipment.

The majority will therefore end up with hyperstore mediocrity, and hi-fi that's about as tasty as supermarket bread. But if music is an essential ingredient in your daily diet, you owe it to yourself to become a member of the discriminating minority.

You know full well that your music collection is as individual as your wardrobe, and just as precious too, so it's worth taking the time and trouble to search out the dealer and equipment

that will make that collection come alive, and give you a new buzz every time you play your favourite discs.

The independent specialist may not beat the chain store on price, but he continues to thrive in a hostile environment because real hi-fi is so much more than a matter of price. The people who work in these shops are themselves enthusiasts, often with many years of experience in meeting customer's needs, and the very necessary expertise to ensure that the whole thing is properly set up to deliver the best results.

The better the hi-fi, the more important it is to get the fine details right at the installation end of things, but even the least expensive equipment can be made to sound a whole lot better if good care is taken over the fine details - the support furniture, the cabling, the positioning of speakers and so on.

Without expert assistance even high class hi-fi can give mediocre results. With it you'll stand a very good chance of ending up with something rather more than a consumer durable - something which will be a source of considerable pleasure and genuine emotional satisfaction for decades to come.

I agreed to write this signed piece, irrespective of the specific sponsors, because I believe the independent specialist dealer plays a vital role in giving customers long term hi-fi satisfaction. The views and opinions expressed here are my own and not necessarily those of Hi-fi Choice.

Paul Messenger

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SUPER TEST

PRE/POWER AMPS

Richard Black cranks up his 'leccy bill to check out five of the latest pre/power amp combos.

THE CAST LIST

Musical Fidelity X-P100/X-A200	£800/£1,000
NAD S100/S200	£600/£1,400
Naim NAC102/NAP180	£1,000/£1,112
Rotel RC-995/RB-991	£525/£600
Technics SU-C1010/SE-A1010	£299.99/£349.99

There are various arguments for splitting an amp into two units – preamp and power – rather than going down the 'integrated', one-box route. First, the advantage of removing the high-power stages and their associated large mains transformer from sensitive small-signal stages, especially the phono stage. Second, the ability to place the power amp nearer the speakers and hence use shorter speaker cables and longer interconnects, something that often benefits sound quality. Third, aesthetics: not everybody actually wants the bulk of a high-power amplifier on display in their sitting

GLOSSARY

CLASS A: The way of using an amplification device with the minimum of distortion. However, an output circuit operating in Class A yields only about 20 per cent efficiency; it dissipates the other 80 per cent as heat. That's why Class A transistor amps run warm and offer relatively low power.

POWER SUPPLY (PSU): Alternating current (AC) from the mains swings between large positive and negative voltages. A hi-fi amp needs a few tens of volts at an unvarying level, ie direct current (DC). In crude terms, the amp steps down the mains, 'rectifies' the positive and negative alternating current to give fixed voltages, and finally smooths everything to be as clean as possible. The cleaner the power output, the better the sound!

WATTS PER CHANNEL (WPC): In electrical terms, one Watt is the result of multiplying one Amp of current with one Volt. An amp's power rating in WPC thus describes how much electrical energy it can dissipate into a loudspeaker for each channel.

MONOBLOCKS: Stereo amps have two channels of amplification, for left and right speakers. Monoblocks have only one amplification channel.

room – a power amp doesn't have to be in view because there are no controls on it. And finally, flexibility both to mix and match makes and to combine the features one might require.

For all these reasons, most makers switch from integrated to separate amps above a certain price, and despite a few oddities (the Audio Note Ongaku, for instance, one of the most expensive amps ever, is an integrated) the high end is dominated by separates. This test group is interesting,



"The business about cables and aesthetics still applies, and arguably flexibility is becoming more of an issue than ever."

though, not least because it straddles the break point between upmarket integrated and relatively modest separates. As such, with luck it will help answer the question: "Which option should I take?"

The answer to that has become less obvious since the rise of CD. Many integrated amps and preamps are now sold without a phono stage, and so many manufacturers have opted to build standalone phono stages: in turn, many users have elected to buy one of those anyway, perhaps even in addition to a preamp

which has a built-in (but less good) phono stage. In that case, phono effectively becomes another line level source just like CD, tuner and so on, and the first argument (above) for separate amps looks a lot less convincing.

The business about cables and the question of aesthetics still applies, though, and arguably flexibility is becoming more of an issue than ever. It looks as if surround sound for music may finally be happening (after several false starts) and the best way to build a surround system is with a

separate processor and power amps, albeit that the one-off cost of five channels of amps and speakers is a little daunting.

Of the equipment tested here, only the Technics preamp caters to the surround sound market and even it only has one six-channel input, but Rotel's power amp is THX-certified for home cinema use and basically any stereo power amp can be used for any pair of channels in a surround system. It's likely more preamps will appear with multi-channel inputs, so they can be used initially in stereo and later in surround with the addition of a power amp or two and extra speakers.

Monoblock amps (of which the MF units) are likely to come into their own for that very reason too, given that most surround systems need an odd number of channels of power.

Meanwhile, for the old 'steam stereo' lovers among us (like me) there are still definite quality advantages in most cases to a good pre/power combination. And, as you'll see, never before has so much amplifier been on offer at such good value.



HINTS & TIPS

If you're shelling out on a pair of amps, don't be too mean on the cables that link them. All cables are critical, but when you consider that everything you want to hear goes through the pre/power interconnects, their importance becomes clearer. The power amp can go out of the way on the floor, but be aware that it must be placed on a hard surface – not carpet! This can block ventilation and risk overheating. If possible, use an isolation platform for best results. If you get hum when you install separate amps, ask your dealer to check the earthing of the units. Manufacturers aren't consistent, some earthing the preamp, some the power amp, some neither, some both. There should ideally be one solid earth connection to the preamp and safety earths to the other units.

HOW THE TESTS WERE DONE

Each combination was treated principally as a fixed pair, although curiosity demanded a little wife-swapping. Replacing my regular reference of EAR 802 and 519, the amplifiers came between a Rotel RCD-971 CD player and ATC SCM20 speakers, with interconnects by Furakawa and speaker cables by Kimber (except for the Naim amps, which demand Naim cable). A Revox tuner, Pink Triangle LP deck (with SME arm and Highphonic cartridge) and Sony DAT deck took turns.

Listening consisted of both short excerpts, swapping amps as fast as possible in between, and longer, more relaxed periods of listening. Lab tests included distortion at various frequencies, output ability and frequency response, the results being reported only when something unusual turned up.

THE MUSIC WE USED:

PHILADELPHIA ORCH/SAWALLISCH – *Nature's Realm* (Water Lily WLA-WS-66-CD)

ASTOR PIAZZOLLA – *The Central Park Concert* (Chesky JD107)

DONALD BYRD – *A New Perspective* (Blue Note 7243 4 99006 2 2)

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MUSICAL FIDELITY X-P100/X-A200

These two units are part of MF's distinctive tubular range, which has grown like Topsy since its introduction a few years back. Grown, that is, both in scope and in the size of the units: these are a good deal bigger than the originals, as well as grander in specs. The power amps put out a hefty 200 Watts each and weigh accordingly, but I think most people will agree they're considerably more attractive than most high-power amps in their class.

Inside the one-piece extrusion that forms the body of the housing, a neatly laid-out circuit board connects the components, all of which are discrete. Three pairs of power MOSFETs make up the output stage, with the case itself acting as a more than adequate heatsink – you'd have to headbang hard for a very long time to warm these units up much. At the rear are two sets of output terminals for easy bi-wiring, and a pair of input sockets to allow looping through to a second power amp for bi-amping.

The X-P100 is constructed very much along similar lines, although to minimise hum its power transformer is housed in a separate plastic box. Again, the circuits all use discrete transistors rather than ICs; actually, the circuit board is marked out for nuvistors (as used in MF's late, lamented NuVista preamp – basically the same beast as the present suspect except for that difference) but high voltage semiconductors serve in this case.



“With plenty of detail and a pleasing ‘hear-through’ quality, long-term listening is enjoyable and rewarding.”

The use of relatively high voltages gives this preamplifier a fearsome maximum output, nearly 50V RMS from a low source impedance, which looks great on paper but is actually enough to damage the input of some power amplifiers under fault conditions such as an intermittent earth connection on a phono lead.

Throughout both units, component and build quality are good, as are general fit and finish, although the black powder coat paint scratches rather easily.

SOUND QUALITY

The predominant impression of these amps was of a distinctly fruity balance – not really bass-heavy, but just a shade weighted towards the ‘Barry White regions’ to add a little extra roundness to sounds. It's not at all unpleasant and, frankly, it's not necessarily going to be noticeable in isolation, and is unlikely to do MF any harm in the dealer's listening room. This really is the most harmless kind of coloration, but still, if your system and/or room are already inclined towards warmth this small extra amount could just tip the balance.

Apart from that, results were mostly good. There's a little brightness on some music, and front-to-back imaging isn't always the very best, but with plenty of detail and a pleasing ‘hear-through’ quality, long-term listening is enjoyable and rewarding.

And when the going gets tough, those 200 Watts are useful: the

sound stays clean and focused up to high levels, making the most of a Mahler symphony, for instance, when one of that composer's typical climaxes arrives at the peak of a long crescendo, building through all the sections of the orchestra and finally adding the percussion. There is no tendency to blur such musical moments and the tone of all the constituent instruments is never compromised.

Deep bass is generally truthful and well integrated, although just occasionally a rhythmic track would sound very slightly lazy, perhaps due to that fruitiness mentioned above. The phono input is a little veiled compared

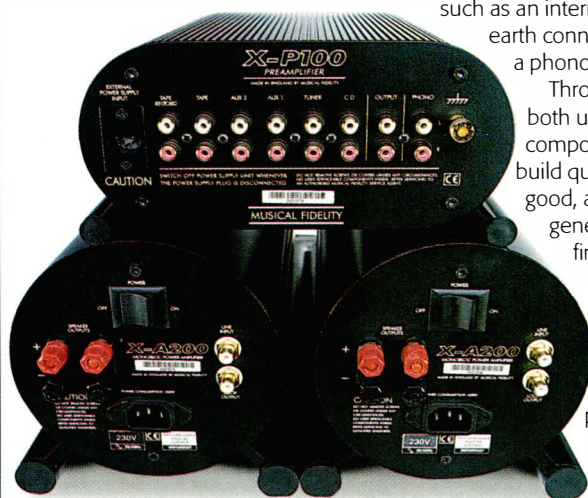
with the line inputs, although its tonal balance is very similar and it never sounds strained or harsh. Gain of the phono stage is fixed and is suitable for high output moving-coil cartridges as well as moving-magnet types, the

overload headroom being entirely adequate for the latter.

The cause of the fruitiness was not obvious on the test bench, although a small treble lift was found which correlates with the occasional brightness. Distortion is low from both units, everything seems well behaved and noise from the X-A200 is admirably low.

CONCLUSION

The combination scores highly in many areas but is not without its foibles. All things considered, however, it makes a promising package which is certainly worth a listen. Recommended. **RB**



VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £800/£1,000

Good long-term listening prospects here, with good detail and just a little fruitiness to the sound.

■ FIVE YEAR GUARANTEE

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NAD S100/S200

How are the mighty, er, reinvented. Well,

NAD, after all, was for so long the budget brand to watch: but the company has inched upwards by degrees, and now the Silverline series, as seen in these two beautifully smart units, has come to what one can only describe as "the high end".

If the outward appearance won't convince you of that, have a closer look at the solid aluminium casework, complete with friendly, deburred heatsinks and corners. Then take the lid off – especially off the S100 pre-amplifier – and admire the immaculate construction. Well, the components are not the ultra-tweaky names like Holco and UltraCap, but they're top quality parts for all that.

Meanwhile, the S200 revels in one of the biggest toroidal transformers I've ever seen – or picked up – accompanied by four pairs per channel of bipolar output transistors and enough heatsink area to make sure that the unit can meet its specified 200 Watt output pretty much indefinitely. Worse than that, though, is the thought that this beast can be bridged to turn it into an 800 Watt mono speaker-crusher. Duck!

NAD's never been big on frills, and the S100 offers little beyond selection from seven inputs (one of which can optionally be turned into a phono stage) and volume control. It does have a balanced output to connect to the balanced input on the S200, and whether you choose to go for that or the



"Where these amps clearly lead the present pack is with human voice, which is full, round and altogether believable."

unbalanced connection you may use cables of any length you like, thanks to the chunky output stages which can drive substantial current with negligible distortion.

The S200 carries the NAD trademark of 'soft clipping', a feature that's perhaps of less use on a high-power unit like this than on a 30W integrated – but it's switchable anyway. Apart from that, the balanced and unbalanced inputs and the bridging option, there's little to report. There's only one set of speaker terminals, but they'll accept two 4mm plugs each.

SOUND QUALITY

So, is NAD as good at the high end as the budget? It might yet prove to be. This pair started off by offering the most natural tonal

balance in the group and, thanks to some rather vigorous orchestral sounds, proceeded to demonstrate bass extension of a high order. All the same, although there was no doubting the depth of the bass, it wasn't quite as controlled as that from Rotel's offering.

How much this is likely to bother you depends quite a lot on the speakers you're using and the music you listen to, and we're not talking about any major loss of precision. It's most noticeable on my old favourite test of quiet pizzicato double bass, where the S200 just slightly misses the roundness and tunefulness of each note. Big sounds are actually often less revealing in this way, and something like power drumming is exciting and full of life. Treble is cleanly extended, open and sweet.

Where these amps clearly lead the present pack is with human voice, which is full, round and altogether believable, solo or in choirs. Imaging is also very good, with probably the best rendition of depth in the group, and generally resolution is only likely to be bettered by really high-end exotica. And, of course, big climaxes or music that's just plain loud is well served by the power on offer, easily 240 Watts in practice into

each channel with no sense of strain at all.

Nor does that power in any sense compromise performance at lower levels. It's often believed that big amplifiers tend to suffer from an inability to play quietly and subtly. In fact, there's really no intrinsic reason why that should be so, and the S200 is strong evidence that it needn't be. It's perfectly happy playing string quartets one minute and Aerosmith the next. In either case, detail is commendable, leaving little margin behind the best obtainable at considerably higher prices.

Measurements for both units are exemplary, with very low distortion from both, wide bandwidth, low noise and no odd behaviour to report.

CONCLUSION

There's certainly little to criticise here and the performance in all areas more than justifies the remarkably modest price. Strongly Recommended. **RB**



VERDICT

SOUND	★★★★☆
BUILD	★★★★★
VALUE	★★★★★
PRICE	£600/£1,400

Beautifully built equipment that sounds as good as it looks and offers heaps of power.

TWO YEAR GUARANTEE

Lenbrook UK, Unit 15, Faraday Road, Aylesbury, Bucks, HP19 3RY
 (01296) 482017

NAIM NAC102/NAP180



It's always nice to have a few iconoclasts around the industry, and Naim can surely be classed as one of those. Just look at the back of the units: not a phono socket in sight, only an assortment of DIN input and output sockets. Naim has always claimed sonic justification for this, but it does to some extent lock users into the Naim 'thing', and the numerous options available for connecting the preamp to the power amp and/or separate power supply are pretty confusing. In the review combination, a single DIN cable carries power from power amp to preamp and left and right signals the other way.

Naim was one of the original 'hair shirt' makes in the days when a multiplicity of features was more the norm, and although the NAC102 now sports electronic switching (via relays) and remote control, it doesn't do more than is absolutely necessary. There are six inputs, one of which can be converted to phono operation by a Naim dealer. Internal construction is neat and ingenious, and the circuits rely on discrete transistors.

Likewise tidily assembled is the NAP180. The inside is dominated by the huge toroidal transformer, while the relatively small audio boards again sport discrete transistors plus one pair of output devices per channel. There's no separate heatsink as such, with heat being dumped into the case. The output power rating is 60 Watts and, although the case does warm up during continuous high power operation, there's little danger of the thermal tripping operating in real use.

"Naim has always laid great stress on the foot-tapping aspect of hi-fi, and judged in those terms this combo has a lot to offer."

Output terminals are 4mm sockets, and Naim insists that only the company's own speaker cable should be used, in minimum lengths of 3.5m. This is because the circuit relies on the inductance of the cable (a wide-spaced pair type) to stabilise the feedback loop, and the use of high capacitance cables could, in theory, lead to high frequency oscillations which could damage both amp and loudspeaker.

I would argue that that's a rather questionable design decision, although in the event I found no problem when I briefly tried some Kimber cable. Even so, better follow Naim's advice.

SOUND QUALITY

Naim has always laid great stress (with one-time collaborator Linn) on the foot-tapping aspect of hi-fi, and judged in those terms this combination has a lot to offer. That's to say that raw excitement is pretty well conveyed, at least in the right kind of music.

But... well, it too often seems to mean 'raw' as in raw skin that's been chapped. I would argue

passionately that a bit more of that in a lot of music-making would be no bad thing, but it's not the job of a reproduction system to generate it: adding rawness to the sound should never do much for the emotion. But that said, there are many who find it does.

Now, I don't want to give the impression that this equipment is as rough as the proverbial: it isn't. Upgrading to it from a typical budget integrated, for instance, would result in a considerable improvement in detail, frequency extension, soundstaging and so on. It's in the context of other thousand-quid-plus gear that the character becomes more of an issue.

Take some big, romantic orchestration – a Brahms symphony, for instance. On a well loved recording by the arch-romantic Vienna Philharmonic, the Naim duo added a slight coarseness to the lower strings and some harshness on brass instruments which came between music and listener, reducing the sense of involvement and making it harder to maintain concentration over long periods. Big climaxes tended to 'shout' and stereo imaging was definitely compressed in both directions.

With pop and rock music the results are more favourable, but there's something of a compromise between the

undoubted drive of the rhythm and the lack of insight into complex sounds, a compromise which was highlighted by the superbly recorded album *Trampoline* by The Mavericks. Energy 110 per cent, but finer details of Raul Malo's voice and the imaginative scoring, more like 80 per cent.

CONCLUSION

Almost certainly a large part of the blame for this sound must rest with the NAP180, which in the lab showed up the classic symptoms of crossover distortion.

Ultimately, though, it seems clear that the 'Naim sound' is a music thing. I once, at a show, heard a record by The Justified Ancients of Wotsit (KLF) sounding terrific through a Naim system – but it's just the right kind of music for the job, with precious little in the way of subtlety.

Formal Recommendation would probably be out of place for such a niche product, but it has to be said that a lot of people, over the years, have liked and bought it. Give it a try at least. **RB**



VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £1,000/£1,112

More of a 'character act' than a truly neutral reproduction system, majoring on excitement at the expense of subtlety.

■ ONE YEAR GUARANTEE

☒ Naim Audio, Southampton Road, Salisbury, Wilts, SP1 2LN

☎ (01722) 332266

ROTEL RC-995/RB-991

Rotel has always been very careful to adopt a market profile that in many ways embodies the best aspects of Far Eastern mass market and Western specialist. Nowhere is that outlook better embodied than in these two units, which compete head-on in spec terms with British-built equipment, but at a considerably lower price.

The 'Made in China' badge explains most of that (although the power supply capacitors are made in the UK, which is a bit coals-to-Newcastle), but there are areas where costs have been cut in a way that most UK manufacturers would studiously avoid, component quality being a case in point.

Still, it's all relative, and there's nothing remotely crummy about either amp. The casework is nothing special, for instance, but it's perfectly adequate for its task, doesn't bend when you pick the units up, and is well finished and free of sharp corners.

The power amp is arguably the more impressive of the pair, and manages to exude an air of refined muscle. A THX-approved design, it offers 200 Watts per channel (a spec it exceeds in practice) and accordingly contains a large and heavy toroidal transformer and a lot of heatsinks – the front panel heatsink is decorative: the real ones lurk within the case. Discrete bipolar transistors provide the urge. Unbalanced and balanced (XLR) inputs are provided, the balanced ones being unbalanced by an additional op-amp circuit which is likely in many situations to negate the advantage of balanced working.



“Really deep bass is truly excellent, seeming to go down for ever and confident enough to keep its quality at any volume.”

The RC-995 has corresponding balanced outputs (balanced via yet another op-amp) alongside twin pairs of unbalanced ones. It also has seven inputs, including a phono stage that's switchable for MM or MC gain.

Input switching is via relays rather than switches, and the front-panel knobs in fact operate incremental encoders which control source selection indirectly, making for very user-friendly operation. The remote control is pretty funky, too.

SOUND QUALITY

The basic balance of this combo is not wholly unlike that of Musical Fidelity's offering, favouring as it does the mid-to-upper bass regions. However, really deep bass is truly excellent, seeming to go down for ever and confident enough to keep its quality at any

volume level. Again, the only real problem with this bass warmth is that with some music it can seem to slow the pulse, making the drums appear to drag behind the beat, for instance, in jazz or rock. But this is very slight and should be set against the considerable excitement that the great extension can generate.

Listening to well-made classical recordings, it sometimes seemed that stereo imaging, while generally plausible, was just a little forward overall. That can often be caused by brightness in the sound, but it was hard to convince oneself that the treble was anything but neutral. And because the relative positions of instruments in the orchestra were kept accurate, the forward placing soon became a matter of little relevance.

Detail resolution is a little inconsistent. Big, heavy textures – big band, full orchestra, etc – do well with clear rendition of everything that's happening, but small and moderate ensembles aren't always quite so clean. It's more a question of the tone of individual instruments than their separation from each other, and a little investigation showed that this is almost entirely due to the preamp.

In fact, the power amp, with various other partnering preamps (the MF X-P100 seemed a good match), scored very highly indeed

in this regard, combining an excellent grasp of the big picture with a real knack for small details such as isolated taps on a triangle. Evidently the preamp is slightly veiling the sound – particularly via the phono input, which is serviceable but not really up to the line stages where resolution is concerned.

Whatever may be causing that, it's not lack of bandwidth: the RC-995 passes the audio band and at least an octave either side with negligible deviation from flat response and the line stage reaches below 1Hz and above 1MHz with ease. The RB-991 also has a wide response and keeps distortion exceptionally low at all levels and frequencies.

CONCLUSION

A few reservations, then, and those mostly about the preamp. However, the price looks very tempting indeed and the power amp is good enough, I think, to warrant a Best Buy tag – just upgrade the pre first!

RB



VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £525/£600

■ The power amp is top stuff and stunning value; the pre a little less earth-shattering, but highly capable.

■ TWO YEAR GUARANTEE

✉ Gamepath, 28 Heathfield, Stacey Bushes, Milton Keynes, MK12 6HR

☎ (01908) 317707

TECHNICS SU-C1010/SE-A1010

Who said "retro"? Just because it's got big meters on

the front, that doesn't make it a throwback! But the similarities to some of the chunky amps of the '70s don't end there, as Technics has relied on multi-hybrid integrated circuits for the guts of the SE-A1010, a once-popular technique which seems to be coming back (it never went away in car radios). And it's certainly allowed the Japanese giant to offer a lot for a little, with a rated power of 100 Watts (which the unit doesn't quite meet), two sets of speaker outputs and inputs at fixed or variable level. But don't use the fixed inputs with the variable ones set to minimum – it loads the preamp down unacceptably.

Meanwhile, the SU-C1010 has a fair bit of old-time flavour to it. Its most unusual feature is an internal rechargeable battery which can be used to power the audio sections of the circuit, although since the unit can't operate unless the mains supply is connected and switched on, most of the interference rejection advantage of battery operation is lost. There are seven inputs in all, including phono (MM) and a six-channel DVD/surround input, the latter being subject to the volume control but not the tone controls.

That front panel badge, 'VGA', refers to the fact that the volume control affects the actual circuit gain rather than just attenuating the input, which gives a better signal-to-noise ratio – although it's not novel (the EAR 802 used the

"Bass is certainly tuneful and, if it does ultimately lack some grunt, it's still strong enough to drive along convincingly."

trick in the early '80s, and doubtless others have too) and not as effective here as it might be.

Construction of both units is pure mass-market – considerably less deluxe than the Rotel amps, for instance. The preamp uses mainly op-amps in the signal path, although switching is at least via relays rather than electronic switches, which all too often degrade the sound markedly.

An unusual feature in the power amp is a cooling fan which cuts in whenever the output exceeds a few Watts for more than about half a second, and cuts out immediately the level drops. This both avoids the noise of the fan in quiet music and helps lengthen its life, and it seems to work perfectly well in practice.

SOUND QUALITY

It might be tempting to approach these products with low expectations based on the price and appearance, but there's some good news here. You won't get the greatest transparency ever, but the basic tonality is neutral apart from a degree of bass-lightness.

Three main areas seem in need of improvement, and they're probably all down to much the same cause: there's sometimes a slight synthetic sheen on the sound, image depth is a little compressed and loud, thickly scored music can be a bit coarse and congested. In other words, essentially, detail is not wonderful.

However, much music comes through this combo sounding lively and wide-awake, and some notoriously tricky sounds in the upper treble, such as small percussion instruments and high woodwind, sound gratifyingly clear and open. Bass is certainly tuneful and, if it does ultimately lack some grunt, it's still strong enough to drive along a bit of rock'n'roll convincingly. Just occasionally there's a feeling that dynamics are being a bit squashed, mostly with complex sounds: simpler sounds such as solo piano fare better.

The phono stage is nothing special, but maintains a reasonable

semblance of detail. In fact, a little experimenting showed that the preamplifier generally seems more veiled-sounding than the power amp.

As far as measurements go, the power amp clips slightly unsymmetrically which will make for a 'thuddy' sound when it's really cranked up, but apart from that everything seems basically OK. The preamp's output is limited to 2V, so my advice would be to leave those variable inputs on the power amp alone or you may risk clipping the preamp prematurely.

CONCLUSION

There's fair value here and, although the sound isn't stunning, it's never offensive. I suspect that the power amp could turn out to be a really nifty gadget in surround systems, where its low cost will make it a good 'un on surround channels.

However, I'd counsel trying to step up from the preamp. **RB**



VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

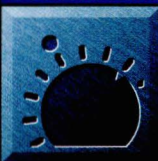
PRICE £299.99/£349.99

Although the sound's basically all there, it's arguable that a good integrated offers more for less.

ONE YEAR GUARANTEE

✉ Panasonic, Panasonic House, Willoughby Road, Bracknell, Berks, RG12 4PF

☎ (08701) 578577



CONCLUSIONS

PRE/POWER AMPS

This may only be a small test group, but in many ways it has turned out to cover a very great many hi-fi angles. We've had the traditional, big manufacturer, gizmo-laden cheapie (Technics), the original hard-nut audiophile with a defiantly individual outlook (Naim), the new independent (Musical Fidelity – not that new, I know, but certainly post-Naim), the middle-grounders (Rotel and NAD) and even a touch of the high-end behemoth (NAD's power amp). That's quite a cross-section, and they've arguably all behaved pretty much to type, too.

With the cheapest sample from Technics, the benefits of the separates approach are not entirely clear. Your money buys quite a lot of integrated amp, and there are some that offer similar output power and numbers of inputs. Manufacturers such as Arcam,

“This may only be a small test group, but in many ways it has turned out to cover a very great many hi-fi angles.”

Harman/Kardon and Denon all have a good reputation for such creatures, for instance. OK, there's the advantage of this particular system in terms of upgrading to surround, but that's still not a decisive attribute.

Rotel's system is considerably more expensive, but apart from the obvious additions (more than twice the power and an MC phono input) it really does move the game to a different league in terms of sheer sound quality.

Very few integrated amps out there will come close to this combination all round: a few of the better ones will match it for detail resolution, perhaps, but none I

can think of will combine that with similar power delivery. The preamp's a pretty good looking bit of kit, too – and that's an advantage I'm sure many will not overlook when comparing it with some of the large integrated amplifiers out there.

The remaining three systems come in pretty close together in price. Naim's amplifiers are aimed at a certain kind of audiophile – principally, indeed, at existing owners of complete Naim systems. They're fine as far as they go, but just don't fit into the larger scheme of things as neatly as the other two. They also offer considerably less power, about a third:

power rating can be misleading, but a factor of three can certainly be significant.

That said, be sure you have speakers that can actually do something sensible with 200 Watts, and that you do actually listen that loud, if only occasionally!

Musical Fidelity has consistently scored well for its amplifiers, and the trio tested here are no exception. It's not the purest tonal balance ever, but both units show every sign of having real ability to open music up and make it more immediate for the listener.

NAD can do the same, and really the differences between the MF and NAD systems come down to a matter of personal taste as much as hi-fi absolutes (if there really are any of those). Hearing both will give any prospective purchaser food for thought. And on that note, it's over to you!

THE BEST IN THE TEST



ROTEL RC-995/RB-991

The RB-991 power amp is the real star here, with loads of power – and very refined power at that. Really top value, it is only slightly restrained by the RC-995, which slightly lacks detail but copes well with a wide variety of music.



MUSICAL FIDELITY X-P100/X-A200

Additional flexibility offered by the only monoblock amps in this group, and a very engaging and listenable sound. Well matched to each other, the Nuvista-derived preamp and overgrown XA-A50 powers could form the heart of a very capable system.



NAD Silverline S100/S200

A stunning break with tradition by NAD, these two beauties offer flexibility, sound quality and some serious pride of ownership. Power with subtlety, good imaging and a winning way with the human voice all add up to a fine value package.

PRE / POWER AMPS COMPARISON TABLE

MAKE MODEL	MUSICAL FIDELITY X-P100/X-A200	NAD SILVERLINE S100/S200	NAIM NAC102/NAP180	ROTEL RC-995/RB-991	TECHNICS SU-C1010/SE-A1010
PRICE	£800/£1,000 (pair)	£600/£1,400	£1,000/£1,122	£525/£600	£299.99/£349.99
SOUND	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
BUILD	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
VALUE	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
GUARANTEE	5 years	2 years	1 year	2 years	1 year
SIZE (WXHXD, MM) PRE/POWER	230x100x305/160x175x430	450x80x300/450x190x405	435x85x310/435x85x310	440x75x330/440x140x395	430x90x295/430x160x335
WEIGHT PRE/POWER	3.5kg/7.5kg	5kg/28kg	6.5kg/11kg	6kg/18kg	4kg/9kg
RATED POWER	200W	200W	60W	200W	90W
NUMBER OF INPUTS	6	7	6	7	7
PHONO INPUT	MM only	Optional	Optional	MM/MC	MM only

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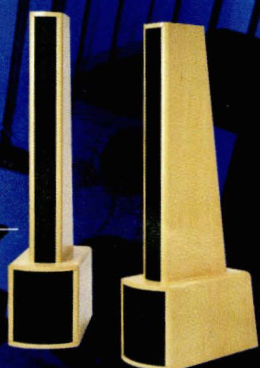
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No Compromise

So, the last few advertisements have explained our theory with regard to **'believability'** (see last months magazine) but how about putting all this into practice. **We have established our commitment to finding you the best products** and the most believable ones, but how does this all come together with our trading policies?

As you can see, this month we have featured a varied selection of loudspeakers from all over the world and at all price ranges. We believe that many of these are capable of producing **'believable'** sounds but this still needs confirming by you in your own particular environment and on your own particular hi-fi set up.

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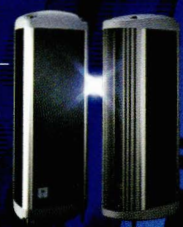


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SUPER TEST

INTERCONNECTS

Richard Black untangles the 'spaghetti' behind his kit to assess ten new connection cables.

THE CAST LIST

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DNM Reson	£40.00/1m
Insert Audio Image 5.1	£84.95/1m
Ixos 1000	£89.95/1m
QED Qnect Silver Spiral	£90.00/1m
SonicLink Violet	£85.00/1m
Straight Wire Encore II	£99.95/1m
Tara Labs Prism 55-i	£195.00/1m
TCI Viper	£54.99/1m
van den Hul D102 MkIII	£79.95/0.8m

Another year, another bunch of interconnects... without wishing to sound too world-weary, it's demonstrable that cable development is no longer advancing in leaps and bounds the way it once did. Practically all the obvious combinations of materials and configurations – and quite a few that are far from obvious – have by been tried and the process is now one of relatively subtle honing of existing designs. Ever-purer copper is a case in point, with at least one manufacturer now using

eight nines (99.999999 per cent pure) copper.

But there has been a degree of convergence among manufacturers in many ways (obviously with exceptions such as the ever-maverick SonicLink), and this shows subjectively in the narrowing difference between makes. Even better, prices are doing what prices will when a market matures – levelling out, even dropping, for a given level of performance. Sure, the silly money stuff is still there (I stopped taking much interest when prices for a set of cables got

this way: as has been repeatedly illustrated in these very pages, you get some highly worthy amplifiers and CD players at prices

even as low

as £200.

Such products will certainly have ample resolution to show the improvements due to decent cables. And it may very well be that a really good CD

the components it connects. The vast majority of components have pretty similar output and/or input stages which will interact similarly with any given cable. Maybe that's why the 'sound' of a cable does, in fact, tend to be quite consistent

between otherwise different systems. There's always the argument that slightly bright amps may be tempered by slightly warm cables, but that's getting into a potential minefield.

Still, there's always much to be said for testing any hi-fi component in your own system at home and this is where the specialist dealer comes in. These guys can really be more than worth their few per cent extra. Find a dealer who talks sense, ask for advice and try to arrange a home loan for a night or three. You'll find cable selection can even be fun!



GLOSSARY

CAPACITANCE, RESISTANCE, INDUCTANCE: Electrical parameters of a cable. Low resistance is good, although it arguably doesn't matter that greatly in an interconnect.

Capacitance and inductance vary in roughly inverse proportion and their importance for sound quality is subject to debate.

COAXIAL: The basic interconnect construction, with one conductor ('hot') surrounded first by insulation or 'dielectric', then by a twisted or braided screen which forms the ground conductor.

BALANCED, PSEUDO-BALANCED: In true balanced connection, the signal current travels out and back along two conductors beneath a separately connected screen. A phono plug hasn't got enough connections to support that, so in a pseudo-balanced cable the screen is connected to ground only at one end, giving electrostatic screening but avoiding signal current in the screen.

SOLID CORE, STRANDED: Most cables have several copper (or silver, or other) strands per conductor, twisted together. A few opt for single solid conductors to avoid alleged but unproven defects of stranded types.

"A good £250 CD player with a pair of £100 cables will more than outperform a £350 player with cheap'n'orrible cables."

past a grand), but apart from that it seems the performance that a couple of years ago might well have cost a good £150 is now not hard to find at less than £100.

It's therefore highly appropriate that for this group test we should be looking at cables in that ballpark. Now for many folks, a ton is still a fair chunk of money to blow on a pair of cables, but look at it

player, say, at £250, plus a pair of cables at £100, will more than outperform a £350 CD player with cheap'n'orrible cables.

A good deal of cable sound and success is commonly said to be down to 'synergy'. I always feel that it is possible to place too much stress on that aspect. Part of the reason lies in the electronic relationship between a cable and

HOW THE TESTS WERE DONE

The majority of listening was done with the cables connecting a Rotel RCD-971 CD player and an EAR 802 preamplifier, although other source components included a Sony DAT recorder, a Moth phono stage and a Revox FM tuner.

Comparisons were done both 'quick-fire', with excerpts only a couple of minutes long, and at a more leisurely pace. Other equipment included EAR 519 power amps and speakers by ATC (SCM20) and Quad (original ESL).

THE TEST MUSIC

JOSÉ ANTONIO GUZMÁN: *Ambrosio* (Sonora SACD101)

GRAINGER: *Piano music* - Hamelin (Hyperion CDA66884)

PENGUIN CAFE ORCHESTRA: *Concert Program* (Zopf ZOPFD 002)

SOHO ELECTRIC: *Wildin' ya funky spankin'* (pre-release demo)

HINTS & TIPS



CABLE MATCHING: cables are generally somewhat

dependent on the equipment they connect, both sending and receiving. It's wise, if possible, to try out any cable with the actual kit it will be linking. Although manufacturers would, of course, like to sell you matched interconnects and speaker cables, there's no strong reason to buy the two types from any one brand.

INTERFERENCE PICK-UP: shielded cables are no more immune to this than unshielded – sometimes, indeed, less. Radio pick-up is often best treated with ferrite sleeves or clamps. Hum pick-up can usually be avoided by making sure cables are well away from mains cables and transformers. It also helps to twist left and right cables together and keep all your interconnects near each other if possible. Even gold-plated plugs can oxidise slightly. Every few months, pull cables out and reinsert them, which cleans contact faces.

CABLE BURN-IN: some folks swear it's real. I side with those who argue that over a few hours or days your ears get accustomed to the defects of any equipment and filter them out.

AUDIOQUEST Coral

It may look like the flex from an iron, but there's actually quite a lot of technology in this interconnect. The novel feature is the use of 'Perfect Surface Copper', which involves plating copper on top of copper – sounds daft, but this kind of process is known in physics labs for obtaining a very pure, very smooth surface.

Then there's the 'Triple Balanced' construction, which sounds great but in practice still only means pseudo-balanced when phono connectors are used. The true benefits of Triple Balancing only appear when using XLR connectors, and even then only when connecting equipment with poor grounding design – but there's plenty of that about.

Audioquest's finest silver-plated copper phono plugs are fitted, and welded rather than soldered. Construction seems robust: shielding at the

"It offers good performance at the frequency extremes, with solid yet clear bass and clean, effortless treble."



plugs could be improved, but it's as good as most.

SOUND QUALITY

In what turned out to be a strong group of cables, this was one of the front runners. It offers good performance at the frequency extremes, with solid yet clear bass and clean, effortless treble. Detail is good going on very good, and tone is generally very neutral. Imaging also scores highly, but sometimes sounds – particularly solo voices – seem to come from surprisingly far forwards compared with many other cables. However, that's very subjective and hardly disturbing.

Large, complex sounds are for the most part well handled, and this gives the cable great assurance with orchestral material, heavy rock, big bands and the like. Perhaps

the sense of bass drive isn't always the most solid, but at least the bass is never overpowering. Far more importantly, long-term listening is unfatiguing and rich in detail.

CONCLUSION

With very little to criticise and excellent measured characteristics, albeit at a highish price, this cable seems to offer the sort of all-round performance that can be comfortably Recommended. **RB**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE **£99.00**

Slightly forward imaging hardly detracts from its excellent tonal qualities and detail.

LIFETIME GUARANTEE

Goldring Products, 8 Greyfriars Road, Bury St Edmunds, IP32 7SX

(01284) 701101

SPECIFICATIONS

- Topology: 'Triple Balanced' (pseudo-bal)
- Conductor: 'Perfect Surface Copper'
- Dielectric: Foamed polythene

DNM Reson

This is the classic solid-core cable and has been in production longer than most other hi-fi products currently on sale. What you see is what you get: two thin solid copper conductors, identical but for the colour of their insulation, spaced apart by a 'web' of polythene, with no screening.

Termination is in phono plugs which, apart from their gold plating, are about as cheap and cheerful as they come. Nevertheless, they are chosen by DNM for a reason – basically they have less metal in them than most other types.

DNM makes great play of its 'Field Effect' technology, which is all to do with the 'harmful effects' of magnetic fields associated with electric currents, and that includes magnetic fields set up by currents circulating in excessive amounts of metal. The hypothesis is open to question, and in fact it is arguable that a cable of this design actually maximises the magnetic field, but all those years in production would seem to suggest that subjectively DNM has it about right in the eyes (and ears) of many.

"No one musical style is favoured and the cable's uniquely low capacitance makes it suited to a wide variety of components."



SOUND QUALITY

There's an important rider to all the following comments: because of its construction, this cable has very little resistance to RF interference pickup. While I've no reason to believe that my system is particularly prone to RF problems, no kit is fully immune and I live in an RF-rich inner city area. Moral: try at home before you buy if possible.

That said, this cable seemed just a little harsh in tone, particularly with busy treble material (trumpet, orchestral violins, female choir) which has a knock-on effect in compromising imaging and detail at times. Bass and treble are generally well extended and simple musical material is admirably clean: it's the

big sounds that suffer most. No one musical style is particularly favoured and the cable's uniquely low capacitance makes it suited to the widest variety of components.

CONCLUSION

Despite its unusual construction, sound quality is on a par with many dearer cables, and its price is very reasonable. It's certainly worth a try – hence Recommended. **RB**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE **£40.00**

Seemed a little harsh in the test system, but can work well and should certainly be tried.

LIFETIME GUARANTEE

Virtual Reality Audio Systems, P.O. Box 383, Brentwood, Essex, CM14 4GB

(01277) 227355

SPECIFICATIONS

- Topology: Spaced pair
- Conductor: Solid copper
- Dielectric: Polythene

INSERT AUDIO Image 5.1

If the number 5.1 rings bells in the home cinema corner of your brain, that's about right – this cable is designed as the factotum of home entertainment. It can serve, says Insert, equally well for analogue or digital audio, composite video, component video, making the tea... sorry, got a bit carried away there.

Well, is this reasonable? Actually, yes – many folks insert, equally well for analogue or digital interconnects, in pairs, work very nicely for many analogue applications and the specification for digital is just the same as that for video. All you need is a nice, low loss 75 Ohm coaxial cable, and that's what this is.

Silver plated conductors, foamed PTFE dielectric, good, solid plugs and a flexible sheath make up the no-nonsense recipe, and it's good ol' sound engineering practice all the way. Sold singly for digital duty (and the rest), this cable costs £45 for each 1m (terminated) length.

“Detail in the midrange and treble is really in the top league, with very good stereo imaging, including depth.”



SOUND QUALITY

If there's a weakness with this cable it's the bass which, although detailed, sometimes seems a little distant and understated. Be it thumping or subtle, any bass that comes along is very subtly curtailed. But I do mean subtly, and it's only really noticeable in quick-fire comparisons with other cables: leave Image 5.1 in the system for half an hour or so and one adapts completely to its balance.

Otherwise it's really good news all the way, with detail in the mid-range and treble really in the top league and very good stereo imaging, including depth. Driving rhythms are clear and convincing, gentle

ballads peaceful and unforced – aided by an apparently quieter background than at least some other cables. Tonal quality on voices is not quite the roundest (this is doubtless due to the bass lightness) but then, that can be positively advantageous with some plummy loudspeakers.

CONCLUSION

A well judged cable that sets out to deliver everything and seems to succeed. Recommended. **RB**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE **£84.95**

Very good detail and imaging; perhaps a touch bass-light.

LIFETIME GUARANTEE

Glaiwe, Unit 7, Wren Industrial Estate, Coldred Road, Maidstone, Kent, ME15 9XN
(01622) 664070

SPECIFICATIONS

- Topology: Coaxial
- Conductor: Silver plated OFC
- Dielectric: Foamed PTFE

IXOS 1000

With an outer diameter of 10mm, this cable will certainly appeal to those who like their hi-fi chunky. It's actually quite flexible and extremely robustly fitted to the phono plugs (nice ones, with a split centre pin for tighter contact), and utilises Ixos' rather controversial 'Gamma Geometry', a not-quite-twisted-pair construction that's actually woven over a 'dummy' insulator core. Any cable fitted with phono plugs can only ever be pseudo-balanced, but it should still give an improvement in rejection of magnetic interference.

Electrostatic interference is kept at bay by a tightly braided screen. Ixos has also fitted an interference-blocking ferrite ring inside the phono plug at the receiving end. It's tiny, and being inside the plug will further limit its effectiveness, but it can't hurt.

SOUND QUALITY

Reactions to this contestant were a bit mixed. Perhaps the most damning word in my listening notes was 'bland' – hardly a

“The best results came with simpler music such as voice and piano, where the performers were clearly delineated.”

flattering adjective if one's the least bit passionate about music and



sound. That one was applied in the context of some jazz trumpet, which lost some of its edge and bite and, hence, excitement. By contrast, a big orchestral climax with plenty of percussion seemed if anything rather over-bright, even to the extent of being a little rough.

Clearly, the symptoms of this cable's malaise depend in detail upon the kind of sound it's passing, but it somehow never quite gels.

Everything's quite good – bass goes a pretty long way down, treble on the whole does not seem unduly limited, detail is moderate to good, imaging fair but not quite as precise or as widespread as the best. No one area is poor and the overall result is actually perfectly listenable, just not utterly convincing. The best results came with

simpler music such as voice and piano, where the performers were clearly delineated. Add too many layers, though, and some muddle soon creeps in.

CONCLUSION

The lab test results all look fine, but in this group of (mostly very capable) cables this one failed to shine sonically. **RB**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE **£89.95**

Nothing badly wrong here, just a little bit bland and outshone by others at a similar price.

LIFETIME GUARANTEE

Path Group, Unit 2, Desborough Industrial Park, Desborough Park Road, High Wycombe, Bucks, HP12 3BG
(01494) 441736

SPECIFICATIONS

- Topology: 'Gamma Geometry', screened
- Conductor: Silver plated OFC
- Dielectric: Fluoropolymer

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4 Feathers Lane

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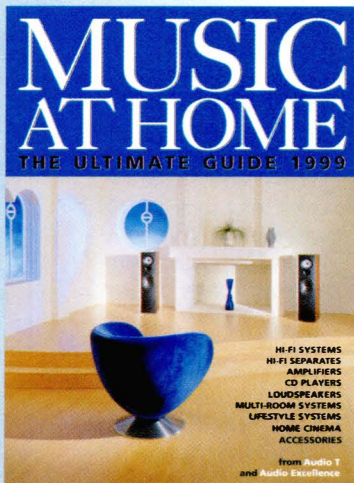
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QED Qnect Silver Spiral

The geometry of this cable is both novel – as far as I can remember – and rather cunning. That spiral consists of two coaxial cables, each with silver-plated conductors and dual (tape and braid) screen, with a couple of filler threads there to hold everything in place.

The two coaxials are joined together at both ends, giving the basic electrical characteristics of a single coaxial cable, albeit with rather high capacitance – more than four times that of several cables in this test.

However, twisting the coaxial elements in this way is likely to give slightly better magnetic interference rejection than a single coaxial can manage,

“One can really feel the sweep towards a big musical climax, with little or no veiling of detail or loss of frequency extremes.”

in a similar way to pseudo-balanced construction.

It's a compromise: current still flows in the screen and performance

will certainly not be as good as a true balanced connection, but at least the screen is truly continuous. It would be interesting to see some really detailed tests of interference rejection comparing this and other types of construction.

Assembly is to QED's usual high standards, with particularly good phono plugs, split centre pin and all.

SOUND QUALITY

Subjective results would seem to vindicate QED's design. The sound through this cable is good in all areas, with the only complaint being of some occasional, and slight, dryness and sibilance on voices, particularly male ones. However, bucking the trend for characteristics of that nature to worsen with increasing musical complexity and level, things actually improve as more instruments join in, making this a fine choice for lovers of big symphonies, opera and progressive rock.

One can really feel the sweep towards a big musical climax, with little or no veiling of detail or loss of frequency extremes. And in smaller groups the instruments are clearly picked out and, for the most part, rendered with natural tone and good stereo positioning.

CONCLUSION

Another good 'un from QED suited to most situations bar use in long runs from a passive preamp. Recommended. **RB**



VERDICT	
SOUND	★★★★★
BUILD	★★★★★
VALUE	★★★★☆
PRICE	£90.00
<p>■ A great interconnect for lovers of big sounds.</p> <p>■ TWO YEAR GUARANTEE</p> <p>✉ QED Audio Products Ltd, Ridgeway House, Ridgeway Close, Lightwater, Surrey, GU18 5XU</p> <p>☎ (01276) 451166</p>	
SPECIFICATIONS	
■ Topology:	Dual coaxial
■ Conductor:	Silver plated OFC
■ Dielectric:	Foamed polythene

SONICLINK Violet

We tested (and recommended) the Violet almost 100 issues ago, but times have changed, even in the world of cables. How will it fare now?

But for the funky colour, one might think that this cable is one of several on the market simply taken from the catalogue of some aircraft-grade data cable manufacturer. However, I don't think any of them uses nickel as a conductor, as SonicLink does in this case.

Designer Graham Nalty is a great proponent of unusual materials for cables, both conductors and insulators – although this particular cable uses relatively conventional fluoropolymer insulation. Nickel is not, to most people, an obvious choice for electrical conductor duty, because its resistance is about five times that of copper: not only that, but it's ferromagnetic, which makes the infamous 'skin effect' much more pronounced. In fact,

“The Violet got off to a flying start with some Mahler: lots of deep bass, impeccably reproduced.”

this is the only cable in which I've been able to measure it with confidence!

This cable is an otherwise conventional enough pseudo-balanced design, thin but quite springy, fitted with decent phono plugs.

SOUND QUALITY

Violet got off to a flying start with some Mahler: lots of deep bass, impeccably reproduced. The bottom octaves are full, rich and clear, without smudging or over-emphasis, unfazed by anything noteworthy higher up the spectrum.

But as for what happens to those higher sounds... well, they're often not quite so happy. It's that old cable bugbear, a suggestion of hardness and dryness affecting instruments that should be nicely rounded in the mid-band and clear as a bell in the treble – human voice, orchestral violins, alto sax,

small percussion instruments. At the same time, stereo imaging suffers, particularly in the depth direction. However, detail within complex sounds is generally good.

CONCLUSION

Measured results are a bit unusual due to the nickel conductors, but I'd hesitate to ascribe its sound entirely to its high resistance. However, in this company it's not truly in the top flight. **RB**



VERDICT	
SOUND	★★★★☆
BUILD	★★★★☆
VALUE	★★★★☆
PRICE	£85.00
<p>■ Better bass than treble – a little dry in the upper octaves</p> <p>■ TWO YEAR GUARANTEE</p> <p>✉ SonicLink, Derwent Business Centre, Clarke Street, Derby, DE1 2BU</p> <p>☎ (01332) 361390</p>	
SPECIFICATIONS	
■ Topology:	Pseudo-balanced
■ Conductor:	Nickel
■ Dielectric:	PTFE

STRAIGHT WIRE Encore II

The cable itself is quite attractive, but it's the packaging that wins my 'beauty' vote – it's in the shape of a treble clef. Very clever.

Technically, this is a pseudo-balanced star-quad cable: this means that there are four conductors twisted instead of just two, giving a slight improvement on the basic twisted pair principle.

It's the usual sort of recipe, with high purity copper and low-loss insulation, a tape and braid screen to keep out interference and a fabric braid over the top to 'dampen' mechanical resonances and reduce microphonics, something which is doubtless further aided by the soft PVC outer jacket. The plugs are quality fare too, having a split centre pin and a nice, grippable barrel.

SOUND QUALITY

The sound of this cable seemed to improve through the main listening period. I

"Give it thumping bass along the lines of eight orchestral double basses or a good danceable beat and it'll do the business."



almost thought that I'd at last discovered evidence of cable burn-in, but it turned out that I'd started, purely by chance, with Encore's Achilles Heel – deep but subtle bass. Give it thumping bass along the lines of eight orchestral double basses or a good danceable beat and it'll do the business willingly enough, but the cable seems a little shy of a lone plucked bass, jazz-style, or quiet piano.

That apart, there's nothing seriously amiss here: a little dryness from time to time on instruments rich in harmonics such as trumpet and harpsichord, and perhaps a degree of front-to-back image compression, but no problems with detail or handling of dense climaxes.

This makes it something of a music-specific cable, and it's likely to prove near ideal for

lovers of most pop music genres: maybe a little less so for jazz folks and those tending towards the chamber-music end of classical.

CONCLUSION

Measured capacitance is highish but not problematic, and everything else is fine. In any other company, withholding a gong from this cable would seem a little churlish, but it's facing stiff competition in this group, at this price and therefore just misses the mark. **RB**

VERDICT

SOUND	★★★★☆
BUILD	★★★★★
VALUE	★★★★☆
PRICE	£99.95

Slightly variable bass performance is a weakness in this otherwise capable cable.

TWO YEAR GUARANTEE

✉ CSE, Unit 9, Centre Park Holdings, The Airfield, Tockwith, Yorks, YO5 8QF
☎ (01423) 359054

SPECIFICATIONS

- Topology: Pseudo-balanced star-quad
- Conductor: OFC
- Dielectric: Foamed polypropylene

TARA LABS Prism 55-i

Tara Labs is an American company with a broad range of cables in its bulging portfolio. Prism accounts for the most affordable end of the brand's scale, so you won't be surprised to hear that its more ambitious offerings break the two thousand pound mark.

Tara's extensive literature boasts of 'eight nines' copper (that's state-of-the-art pure or 99.99999999 per cent if you want to be pedantic), low-loss insulation and solid-core construction.

However, no one has yet proved or disproved conclusively that these things actually matter.

Meanwhile, the pseudo-balanced construction is conventional enough, and the 55-i – the top interconnect of six in Tara's Prism range – has a good stout screen, good phono plugs and cotton filler to prevent undue kinking of the conductors, although that also contrives to add some capacitance loss factor, the

"It has its good points, not least an extended and pleasingly rounded bass and a sure hand with difficult instruments."

parameter which I would argue has the strongest correlation with sound quality.

SOUND QUALITY

Considering that this is by far the dearest cable here, it's disappointing that it fails to trump the others. It has its good points, not least an extended and pleasingly rounded bass and a sure hand with the tone of difficult instruments like trumpet and oboe, but it's not the most detailed sound to be had.

The bass is slightly woolly, for a start, which can also lead to driving rhythms sounding very slightly leaden and slow, and overall there's a feeling that although detail is basically all there it needs a bit of aural exercise to find it – it's not there for the taking but needs digging out. As so often, some music works better than others

and gentle jazz comes up smiling, as does most laid-back material. The exciting stuff is less convincing. Dynamically there's no problem, with scale kept intact across a wide range, but the sound does tend to harden a bit as the volume rises.

CONCLUSION

Fairly typical measurements imply no compatibility problems, but the sound lacks the all-round excellence needed for Recommendation. **RB**

VERDICT

SOUND	★★★★☆
BUILD	★★★★☆
VALUE	★★★★☆
PRICE	£195.00

Good with laid-back music, but seems lazy with more exciting material.

LIFETIME GUARANTEE

✉ Sound Image UK, 52 Milton Road, London, SW14 8JR
☎ (020) 8255 6868

SPECIFICATIONS

- Topology: Pseudo-balanced
- Conductor: Solid OFC
- Dielectric: 'Aero PE'



STRAIGHT WIRE ENCORE II

TARA LABS PRISM 55-I

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TCI Viper

T rue Colour Industries is a youngish audio cables specialist based in Belfast. The company literature is relatively modest and claims no bizarre or implausible qualities for its cables: in fact, Viper is a simple pseudo-balanced cable using two stranded conductors, low-loss insulation and a braided screen.

An unusual luxury at this price is the inclusion of locking phono plugs which, together with their split earth pin, give about as good a contact as one can make on a standard phono socket. Quality of construction is good, and with its moderate size and soft sheath the cable handles well.

SOUND QUALITY

Although one of the cheaper interconnects in this group, the Viper was subjectively among the most successful. If it has a weakness it's the treble, where the slightest hint of

"The tonal palette remained in proportion through all the changes in dynamics of any kind of music I could find to throw at it."



sibilance creeps in on vocal solos and orchestral violins can sometimes sound a little hard and unforgiving. Apart from that minor quibble, the sound is admirable all round.

Bass is particularly extended, clean and detailed, be it subtle as in dinner jazz or massive as in reggae, and the tonal palette remained in proportion through all the various changes in dynamics of any kind of music I could find to throw at it.

Imaging is good, with a particularly demanding passage from an opera, one of my regular imaging references, showing fine differentiation between near and far sounds and excellent lateral spread. Finally, tricky percussive

instruments like triangle and xylophone showed that, despite the slight reservations noted above about treble, simpler sounds have a pleasingly airy quality.

CONCLUSION

In measured terms, this cable has slightly above-average capacitance, but nothing worrying or remarkable. At its price it seems very fine value and should be a Best Buy. **RB**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £54.99

Fine performance in all areas: just the smallest hint of sibilance. Very good value.

THREE YEAR GUARANTEE

True Colour Industries, Unit A103, Portview Trade Centre, 310 Newtownards Road, Belfast, BT4 1RX

(0771) 019 6949

SPECIFICATIONS

■ Topology: Pseudo-balanced

■ Conductor: Silver-plated OFC

■ Dielectric: Polythene

VAN DEN HUL D102 MkIII

Most cable manufacturers make great claims for their choice of materials, but few take the business as far as van den Hul. Most radical is the use of the company's trademarked Linear Structured Carbon – basically, carbon fibres. Some of the really alarmingly expensive cables use only LSC, but this one is a hybrid, combining silver-plated copper and LSC to give a combination of the former's low resistance and the latter's lack of 'metallic sound'.

Also on the materials front, the sheath is of halogen-free 'Hulliflex', a more environmentally-friendly compound than PVC which also allegedly gives better protection against atmospheric pollutants. It certainly makes for a conveniently flexible cable, and looks very smart.

Good quality collet-type phono plugs with a split centre pin are used, and the insulation is a low-loss type. A

"Imaging is good, dynamics are wide and assured, and tone remains true on any kind of music."



pseudo-balanced type, this cable was supplied for review as a 0.8m pair (all others were 1m).

SOUND QUALITY

It's unusual for vdH to produce a dog of a cable... and this certainly isn't one. Actually, I seem to have reviewed this one once before, a couple of years ago, when it led the pack. Assuming it hasn't changed since then (and I'm still using most of the same equipment with it), the overall standard of cables coming my way must have risen a little, since it no longer seems to shine with quite the same brilliance.

There's no doubting the assurance of its bass or the extension and sweetness of its treble, but on the detail front it is equalled, perhaps even slightly bettered, by a couple of others here. Imaging is

good, dynamics are wide and assured, and tone remains true on any kind of music, but the ability to hear into the middle of a mix is not absolutely the best.

CONCLUSION

All that said, this is still a very good cable, and its middle-of-the-road electrical parameters make it broadly compatible. It is therefore Recommended. **RB**

VERDICT

SOUND ★★★★★

BUILD ★★★★★

VALUE ★★★★★

PRICE £79.95

A fine cable, but the competition has crept up and it no longer leads the pack.

LIFETIME GUARANTEE

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SPECIFICATIONS

■ Topology: Pseudo-balanced

■ Conductor: Hybrid silver-plated copper and LSC

■ Dielectric: Foamed polythene

CONCLUSIONS

INTERCONNECTS

This has turned out to be one of those groups where almost every product could probably have merited a gong if tested in other company. None of these cables is by any reckoning 'bad', and although there have been a few cables around over the years which were pretty, er, strange, it's nice to think that natural selection might have seen most of those off by now. This has been a group distinguished largely by its all-round high level of achievement.

Nevertheless, there are still differences to justify a little searching

out among products. I'm sometimes asked what kind of differences one should particularly listen out for when comparing cables. (That's not a stupid question: just as, for instance, an experienced garage mechanic will quickly spot the fault on an old car that would gradually drive a day-to-day driver to distraction, so the business of listening out for audible deficiencies can perfectly well be learned.)

I find that one of the best tests is stereo imaging, especially in the front-to-back direction – but of

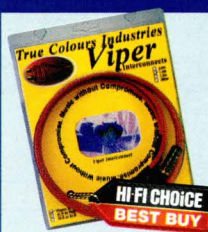
course, that requires a recording that is really good in that sense, and they're pretty rare. Also helpful is something with deep but subtle bass (listen for the definition of pitch and the 'body' of the sound), and one can tell a lot about a cable's detail by listening to a big orchestral crescendo from soft to full-on, preferably complete with percussion: many cables will squash the sound together spatially, texturally and dynamically as it grows.

These are quite subtle areas, but they can have a major overall

effect on how music sounds over a long listening period, so in a very real sense they can make or break a system. On the other hand, comparing the ten cables in this group, plus a small handful of long-term references of varying quality, definitely suggested that most of them are not only relatively similar, but good in absolute terms.

It may be a statistical blip, but it seems to point to a moral: the 'wrong' cable decision is unlikely to be *horribly* wrong. In other words, don't panic.

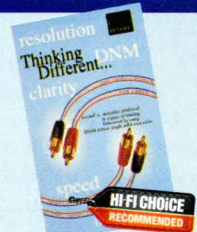
THE BEST IN THE TEST



TCI Viper
Lovely, rich bass and extended treble with the merest hint of sibilance. Great imaging and that ideal 'airy' quality on delicate percussion mark this out as a true winner – good price, too!



AUDIOQUEST Coral
This cable's imaging can be a little forward, but it has a pleasing, listenable quality and is very confident with large-scale sounds. Clean, extended treble is a bonus.



DNM Reson
Unscreened and therefore potentially vulnerable to RF interference, which may explain a degree of harshness in the test system. However, it's very neutral tonally and offers good value.



INSERT AUDIO Image 5.1
A cable for all seasons, fit for audio, digital and video duty. Its only drawback is very slightly light bass: otherwise it offers fine detail and tonality and good stereo imaging.



QED Qnect Silver Spiral
An unusual design which revels in bold musical sweeps. It can seem a touch dry-sounding, but has a firm grasp over the full frequency spectrum and bags of detail.



VAN DEN HUL D102 MkIII
A cable fully capable of exploring the outer reaches of the audio spectrum, although detail, while good, is not always the uttermost. A well balanced performer.

INTERCONNECTS COMPARISON TABLE

MAKE	AUDIOQUEST	DNM	INSERT AUDIO	IXOS	QED
MODEL	CORAL	RESON	IMAGE 5.1	GS1000	QNECT SILVER SPIRAL
PRICE	£99.00	£40.00	£84.95	£89.95	£90.00
SOUND	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
BUILD	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
VALUE	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
GUARANTEE	Lifetime	Lifetime	Lifetime	Lifetime	2 year
TOPOLOGY	Pseudo-balanced	Spaced pair	Coaxial Screened 'Gamma Geometry'	Dual coaxial	Dual coaxial
CONDUCTOR	'Perfect Surface Copper'	Solid copper Silver-plated OFC	Silver-plated OFC	Silver-plated OFC	Silver-plated OFC
DIELECTRIC	Foamed polythene	Polythene	Foamed PTFE	Fluoropolymer	Foamed polythene

INTERCONNECTS COMPARISON TABLE

MAKE	SONIC LINK	STRAIGHT WIRE	TARA LABS	TCI	VAN DEN HUL
MODEL	VIOLET	ENCORE II	PRISM 55-I	VIPER	D102 MKIII
PRICE	£85.00	£99.95	£195.00	£54.99	£79.95 (0.8m)
SOUND	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
BUILD	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
VALUE	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
GUARANTEE	2 years	2 years	Lifetime	3 years	Lifetime
TOPOLOGY	Pseudo-balanced	Pseudo-balanced star-quad	Pseudo-balanced	Pseudo-balanced	Pseudo-balanced
CONDUCTOR	Nickel	Oxygen-Free Copper	Solid-core OFC	Silver-plated OFC	Hybrid SPC and carbon
DIELECTRIC	PTFE	Polypropylene	'Aero PE'	Polythene	Foamed polythene

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 HOME ENTERTAINMENT: January 2000

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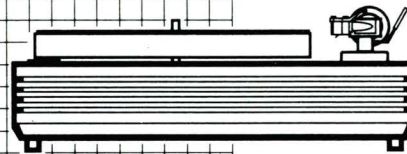
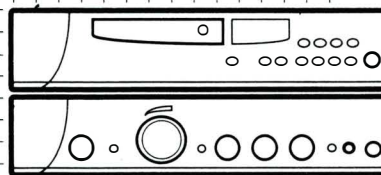
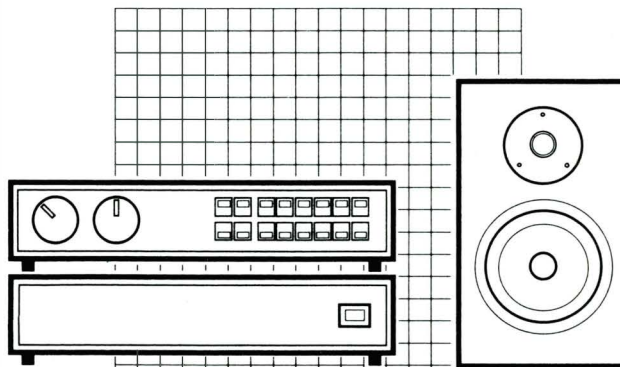
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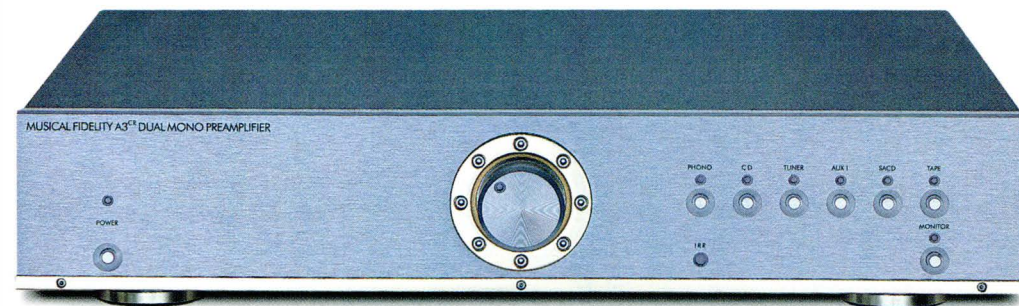
Musical Fidelity says its new pre/power amplifier is the best it has ever designed. Tim Bown takes a look at the brand's history and concludes: the best is yet to come.

If power corrupts, Anthony Michaelson is going straight to hell. The man behind Musical Fidelity has turned out some of the UK's most powerful audio-ophile amps in his time, ploughing a distinctive furrow since he began tinkering with hi-fi on a kitchen table in 1981. It was a hobby at first, a project he slaved over in his spare time and gradually built into a business with the help of loans from his wife, his mother-in-law and his ever-faithful credit card. He went full-time at the end of '82, and Musical Fidelity was born – a company forever entwined with the legend of British hi-fi.

The firm's first product was The Preamp, a budget model forged from the maxim, "high-end performance at a modest price". The Power Amp followed, then in 1985 came Musical Fidelity's landmark design: the A1 integrated amplifier. This brought with it world renown, and became one of the biggest-selling components in the history of high-end hi-fi. From this platform the brand sprang forward, creating new product lines and selling its booty until the decade drew to a close.

In 1990, things changed. Musical Fidelity's kit had been deliberately engineered to sound sweet, but this approach no longer garnered the acclaim it once did, and the company's financial fortunes took a turn for the worse. Time for a rethink: absolute neutrality became the sonic goal. Then, in 1995, a new concept was launched that would mould the brand's future – the X-10D was a valve-based product designed to sit between a CD player and an amp. Crucially, it was housed in a one-piece aluminium extrusion, a cost-effective way of producing a rigid metal case, and sold more than 100,000 units world-wide.

More products arrived using the same technique, creating the familiar and hugely successful 'X' range, now in its second generation. But while many punters adore these products for their cylindrical and ovoid shapes, others prefer to stick with traditional



rectangular boxes. For these individuals, Michaelson created the 'A' range. Launched last year, this rapidly expanding line uses technology derived from existing 'X' and NuVista products, then adds a twist. A CD player and two integrated amps are already out, and there's plenty more to come.

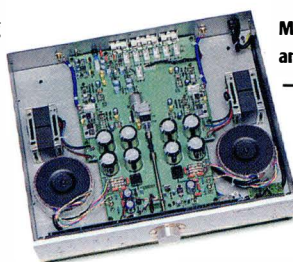
THE A3^{CR}

Which brings us to MF's latest products – a preamp and a power amp, now joining the A3 range

price have nothing to do with true high-end hi-fi, so he turned the list on its head.

"I decided to take the gloves off and develop the best sounding products we could," he says. "Then we had to find a way to make them at viable cost."

The 'CR' is an abbreviation of 'choke regulation', a technology



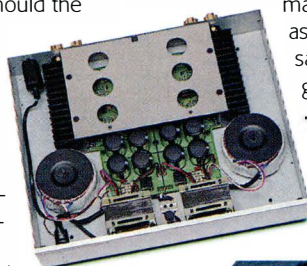
MF's A3^{CR} preamp (above) and in the altogether (left).

championing his own creations, yet his confidence in the A3^{CR} combo is astounding even for him. He describes

the preamp as "the best we've ever made", while the power amp is "as good as any within its power limits, at any price". Both are designed to handle SACD-type bandwidths out to 100kHz, while the power amp is rated at a suitably hefty 160 Watts per channel. And the price? £999.

"I decided to take the gloves off and develop the best sounding products we could."

under the 'CR' suffix. The aim was simple: "to offer some of the best technical and sonic performance to be found anywhere in the world, regardless of price". Before work could begin, the company asked: "what makes an amp high-end?" Its conclusion, starting with the most important factor, was: brand image, physical attributes, price, sound and technical performance. However, as Michaelson says, cosmetics, glitz, hype and



MF's A3^{CR} power amp (below) and what goes on inside (left).

used in Musical Fidelity's magnificent NuVista 300 power amp and originally culled from the world of valves. It refers to the dual-mono power supply configuration of both pre and power amps, which use a mix of conventional reservoir capacitors with choke regulation (a large coil or transformer). This provides an additional "reservoir" of energy, while reducing the sort of ripple commonly associated with huge power supplies, and clarifying the interaction between power supply and circuit.

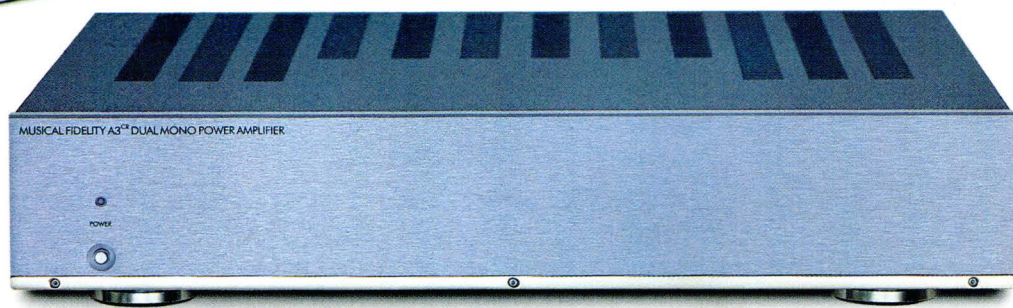
The claimed result is vastly superior fine detail. "All you hear are the notes and the arena. Nothing else," Michaelson says.

He's never been shy about

THE FUTURE

In the field of electronics, no British hi-fi company has been more prolific in the past few years. The MF portfolio continues to expand at speed, with new products arriving at an almost monthly rate. Come the summer, we'll hear its first foray into multi-channel realms, with a preamp and five-channel power amp due for launch in July. Then, in September, there's the enticing prospect of a Musical Fidelity NuVista SACD player. Yum.

"Our religion is music and hi-fi," says Michaelson, grabbing the last word (as usual). "Our aim is to deliver high-end performance at a price people can afford. That is our mantra."



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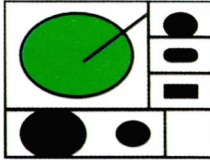
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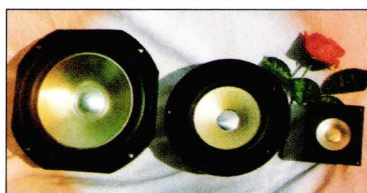
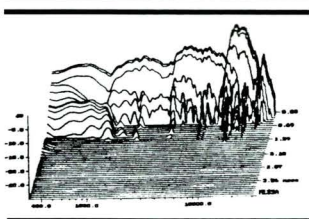
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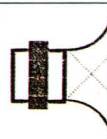
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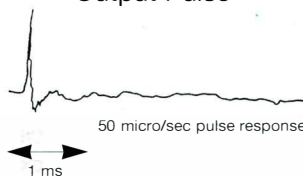
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MISCELLANEOUS

Nakamichi RX 505 3 Head Auto Reverse Cassette Deck	£650
Audio Research 2.5 Meter Litzlink Interconnect	£195
Mobile Fidelity Pines of Rome UHQ Sealed Box	£200
Michell ISO Phonostage	£249
Revox PR99 MK2 Tape Deck Trolley Mounted	£1495
Sonic Frontiers Jitta Bug	£495
Van den Hul CS122 Hybrid Speaker Cable 2.5 Meter Sets	Set/£50
Teac A33405 Tape Recorder	£595
Naim Hi-Cap Boxed	£450
Mark Levinson ML25S Phono Stage with Power Supply, Mint/Boxed	£3250

TURNTABLES CARTRIDGES & TONEARMS

Audio Technica OC9 MC Cartridge, New/Boxed	£275
CEC Turntable & PSU	£495
Helius Silver Wired Tonearm	£995
Roksan Xerxes The mechanic pick-up arm	
Linn Tricka Cartridge	£795
Roksan Xerxes Turntable	£595
VPI TNT Turntable	£3495
Roksan Xerxes with Tabriz Tonearm (Boxed)	£650

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S3TL	Paper IPL 6.5", 1" Seas treb	903x230x350	£186.00	£9.00
S3TLM	Metal IPL 6.5", 1" Seas treb	903x230x350	£233.00	£9.00
S3TLM RIB	Metal IPL 6.5", A&R Ribbon	903x230x350	£389.25	£9.00
S4TL	Audax 8" bass, Morel 1" treb	960x320x400	£215.00	£10.00
S5TL	Audax 10", 5" HDA mid, 1" treb	1080x320x400	£383.00	£11.00
S5TL GOLD	Audax 10", 5" HDA mid, Gold treb	1080x320x400	£565.56	£11.00

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Website: www.marketsquare.co.uk/ilfracombe/ipl-acoustics.htm

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Sony MD74	£1.35
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BASF MD74	£1.15
Maxell MD74	£1.25
Samsung MD74	from £0.99
Sony MD80	£1.99
TDK MD80	£1.99
Sony ES74	£1.99
TDK Studio 74	£2.75
Mini Data Disc	£8.99

CD-Rs

AUDIO CD-Rs	
TDK 74mins	£1.45
Traxdata 74mins	£1.25
Samsung 74mins	£1.25
Unbranded 74mins	£0.89
Traxdata 80mins	£1.35
Traxdata CD-RW74	£2.95
COMPUTER DATA CD-Rs	
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SA90	£0.79
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MA90	£1.75
Maxell - call for all lengths	
UR90	£0.59
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XL-IIS90	£1.29
CD90	£1.49
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Classified

HOW TO USE THE BUYERS' GUIDE

Best Buys, Recommendations & Editor's Choices

B BEST BUYS: Awarded to group-tested products which display an unbeatable blend of performance and value for money.

R RECOMMENDED: Top performers in group tests: perhaps not the cheapest but possibly more sophisticated than Best Buys.

E EDITOR'S CHOICE: Components which have outstanding sound quality but do not qualify for BB or R because of non group testing.

Our Three Step Guide to Buying Hi-Fi

The **Hi-Fi Choice Price Guide and Directory** are extremely simple to use, but contain all the information you need to select and buy the perfect hi-fi system. Here's how it works.

STEP 1 DISCOVER which products fall within your budget by using our Price Guide, which starts on this page. The product listing is updated using manufacturers' data every other month, and aims to include every hi-fi component currently available in the UK. (But please fax us on (020) 7317 2686 with any omissions!) It is an alphabetical listing divided into different types of hi-fi component, and also into price bands.

STEP 2 PRODUCTS whose names are printed in **RED** are those we have reviewed, which you can read about in the Directory (starts after the Price Guide). Here you will learn which items have been singled out for our famous Best Buy, Recommended or Editor's Choice awards, denoting products of exceptional quality and value. The Directory is sorted by product type and listed alphabetically, and the beginning of each section provides essential information about each kind of hi-fi component.

STEP 3 FIND your nearest hi-fi store in our Dealer Directory (at the end of the Directory) to book a demonstration of the hi-fi equipment you want to hear. Remember to take your own software!

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AMPLIFIERS INTEGRATED

KEY

Ⓢ – Number of line-level inputs.
'20W' – Rated RMS output power per channel into a nominal 8 Ohm load.

UP TO £250

Arcam Alpha One	Ⓢ	35W	230
Ariston AX910	Ⓢ	30W	60
Cambridge A1 Mk III	Ⓢ	30W	100
Cambridge A1 Mk3 SE	Ⓢ	30W	120
Cambridge A100	Ⓢ	40W	140
Cambridge A300	Ⓢ	40W	150
Cambridge A3i	Ⓢ	60W	200
Cambridge A500RC	Ⓢ	50W	200
Denon PMA-250SE	Ⓢ	30W	140
Denon PMA-350SE	Ⓢ	50W	180
Denon PMA-535R	Ⓢ	50W	230
Denon PMA-100M	Ⓢ	80W	240
Goodmans Delta 900A	Ⓢ	100W	150
H/K HK630	Ⓢ	40W	200
H/K HK3270	Ⓢ	65W	250
JVC AX-A372BK	Ⓢ	40W	200
JVC AX-R5BK	Ⓢ	45W	200
Kenwood KA-1080	Ⓢ	60W	140
Kenwood KA-3080R	Ⓢ	70W	170
Kenwood KAF-3010R	Ⓢ	70W	180
Marantz PM-48	Ⓢ	50W	150
Marantz PM-57	Ⓢ	50W	200
Marantz SR-47	Ⓢ	40W	200
Marantz PM6010 OSE	Ⓢ	50W	250
Marantz PM-66SE	Ⓢ	50W	250
Musical Fidelity E1	Ⓢ	30W	199
NAD 310	Ⓢ	20W	100
NAD C320	Ⓢ	40W	200
NAD 312	Ⓢ	25W	200
Pioneer A-105	Ⓢ	30W	130
Pioneer A-204R	Ⓢ	25W	160
Pioneer A-300R	Ⓢ	50W	200
Pioneer A-305R	Ⓢ	50W	200
Pioneer A-407R	Ⓢ	45W	250
Pioneer A-405R	Ⓢ	45W	250
Rotel RA921	Ⓢ	20W	100
Rotel RA931	Ⓢ	35W	150
Rotel RA971 Mk II	Ⓢ	60W	225
Sansui AUX-410R	Ⓢ	50W	150
Sansui AUX-510R	Ⓢ	70W	230
Sherwood AX 4050R	Ⓢ	50W	150
Sherwood AX-7030R	Ⓢ	95W	230
Sony TA-FE230	Ⓢ	40W	100
Sony TA-FE330R	Ⓢ	60W	130
Sony TA-FB730R	Ⓢ	40W	200
Teac A-E2000	Ⓢ	50W	180
Teac A-R600	Ⓢ	90W	200
Technics SU-V300	Ⓢ	25W	130
Technics SU-V500	Ⓢ	30W	160
Technics SU-A600 Mk3	Ⓢ	37W	200
Technics SU-V620	Ⓢ	70W	230
Technics SU-A707	Ⓢ	70W	250
Technics SU-A700 Mk3	Ⓢ	45W	250
Yamaha AX-392	Ⓢ	60W	170

£251 TO £500

Arcam Alpha 7R	Ⓢ	45W	300
Arcam Alpha 8R	Ⓢ	50W	380
Arcam Alpha 9	Ⓢ	70W	500
Audio Analogue Puccini	Ⓢ	40W	475
Audiogram MB1	Ⓢ	40W	493
Creek 4330	Ⓢ	40W	279
Creek 4330R	Ⓢ	40W	355
Creek 5250	Ⓢ	50W	450
Cymbal CA1	Ⓢ	40W	499
Denon PMA-735R	Ⓢ	65W	300
Denon PMA-1500R	Ⓢ	70W	500
Edmund Audio ES110	Ⓢ	85W	400
EMF Audio Sequel	Ⓢ	50W	450
H/K HK650	Ⓢ	60W	330
Kenwood KA-5090R	Ⓢ	65W	300
Magnum IA120	Ⓢ	65W	265
Magnum IA170	Ⓢ	96W	330
Magnum IA170SE	Ⓢ	90W	430
Marantz PM-68	Ⓢ	90W	300
Marantz PM-66 KJ Sig	Ⓢ	50W	400
Monnio Asty	Ⓢ	55W	400
Musical Fidelity E11	Ⓢ	60W	300
Musical Fidelity X-A1	Ⓢ	50W	480
Musical Fidelity A2	Ⓢ	25W	500

Myryad T-40	Ⓢ	50W	400
NAD 314	Ⓢ	35W	260
NAD C340	Ⓢ	50W	270
NAD 317	Ⓢ	80W	400
Onkyo A9210	Ⓢ	40W	260
Onkyo A921	Ⓢ	50W	350
Onkyo A922	Ⓢ	70W	400
Pioneer A-607R	Ⓢ	60W	300
Pioneer A-400X	Ⓢ	50W	300
Pioneer A-605R	Ⓢ	80W	400
Pioneer A-300R Precision	Ⓢ	35W	400
Rega Big Brio	Ⓢ	35W	298
Rega Luna	Ⓢ	40W	375
Rega Mira	Ⓢ	60W	450
Roksan Kandy	Ⓢ	60W	475
Shearpe 2.5	Ⓢ	35W	499
Sony TA-FB920R	Ⓢ	65W	300
Sony TA-FA30ES	Ⓢ	70W	400
Sony TA-F3000ES	Ⓢ	40W	500
Talk Electronics Storm 1	Ⓢ	50W	500
Teac AH-500	Ⓢ	50W	280
Technics SU-A808	Ⓢ	55W	300
Technics SU-A909	Ⓢ	100W	400
Thule Spirit IA60	Ⓢ	60W	449
Token K50	Ⓢ	55W	350
Yamaha AX-592	Ⓢ	100W	280

£501 TO £700

Alchemist Kraken APD6A	Ⓢ	55W	600
Alchemist Nemesis	Ⓢ	80W	700
Audio Analogue Puccini SE	Ⓢ	40W	635
Audio Note Kanji Line SE	Ⓢ	9W	699
Audio Note First integrated	Ⓢ	40W	699
Audiogram MB2	Ⓢ	60W	599
AVC EL34	Ⓢ	30W	600
CR Dev CR324se	Ⓢ	150W	569
CR Dev Kalypto	Ⓢ	15W	599
CR Dev CR325	Ⓢ	175W	699
Creek 5250SE	Ⓢ	60W	665
Cyrus IIIi	Ⓢ	50W	598
Cyrus 7	Ⓢ	100W	700
Densen Beat B-100 MkII	Ⓢ	60W	650
Gamma Gemini	Ⓢ	12W	699
H/K HK690	Ⓢ	60W	530
Hi Q Sound MCI	Ⓢ	30W	565
LFD Integrated 0	Ⓢ	50W	549
Linn Majik (Line)	Ⓢ	33W	650
Lynwood Opal	Ⓢ	80W	685
Magnum IA200	Ⓢ	100W	599
Magnum Class A	Ⓢ	85W	690
Musical Fidelity A220	Ⓢ	50W	700
Myryad M1 120	Ⓢ	60W	700
Naim Nat 3	Ⓢ	30W	590
Primare A20 Mk II	Ⓢ	40W	600
Rose Scion	Ⓢ	65W	615
Shearpe Phase 2	Ⓢ	50W	689
Sugden Audition T	Ⓢ	65W	549
Talk Electronics Cyclone 1	Ⓢ	60W	550
Talk Electronics Storm 2	Ⓢ	60W	650
Teac AB-X7R	Ⓢ	50W	700
Thule Spirit IA100	Ⓢ	100W	600
Thule Spirit IA60B	Ⓢ	60W	699
YBA Complete Integre	Ⓢ	50W	699

£701 TO £1,000

Alchemist Nexus	Ⓢ	799	
Alchemist Forseti Integrated	Ⓢ	100W	1,000
Arcam Alpha 10	Ⓢ	100W	800
Aria S2	Ⓢ	12W	1,000
Audio Note Oto Line PP	Ⓢ	12W	950
AVI S2000MI	Ⓢ	100W	999
Copland CSA8	Ⓢ	60W	899
Credo IMP702	Ⓢ	70W	850
Credo IMP703	Ⓢ	70W	1,000
Electrocompaniet ECI-2	Ⓢ	50W	995
Exposure XX Super	Ⓢ	60W	800
Exposure XV Super	Ⓢ	60W	900
Exposure RXXV	Ⓢ	60W	1,000
LFD 0 LE Integrated	Ⓢ	60W	799
Linn Majik (Phono)	Ⓢ	33W	800
Magnum Class A SE	Ⓢ	80W	795
Marantz PM-17	Ⓢ	60W	900
Meridian 551	Ⓢ	55W	795
Musical Fidelity A3	Ⓢ	85W	849
Musical Fidelity X-A100R	Ⓢ	75W	999
Naim Nat 3 R	Ⓢ	30W	780
Opera Aida	Ⓢ	60W	795
Pioneer A-07	Ⓢ	60W	999
Plinius 2100i	Ⓢ	995	
Roksan Caspian	Ⓢ	70W	795
Shearpe Phase 2 Reference	Ⓢ	50W	799
Sonneteer Alabaster	Ⓢ	50W	900
Sugden A21a Int	Ⓢ	25W	799
Sugden Audition C	Ⓢ	60W	799
TAG McLaren 60i	Ⓢ	60W	800
TAG McLaren 60iRV	Ⓢ	60W	999
Thule Spirit IA150B	Ⓢ	150W	999

£1,001 TO £2,000

Aria Simply Four P	Ⓢ	24W	1,595
Aria Simply Four T	Ⓢ	11W	1,650
ATC SIA2-150	Ⓢ	150W	1,984
Audio Note Soro Line PP	Ⓢ	20W	1,200
Audio Note Oto Line SE	Ⓢ	12W	1,200

Audio Note Oto Phono SE	Ⓔ	12W	1,500
Audio Note Soro Line SE		18W	1,699
Audio Valve Assistant-S 20	Ⓛ	20W	1,250
BB Audio BB 30-60	Ⓔ	30W	1,495
Beam-Echo SA-50	Ⓔ	50W	1,950
Bow Technologies Wazoo	Ⓔ	50W	1,795
Bryston B-60	Ⓔ	60W	1,281
Copland CSA14	Ⓔ	60W	1,199
Copland CSA28	Ⓔ	60W	1,249
Copland CTA402	Ⓔ	35W	1,698
CR Dev Romulus V3	Ⓔ	35W	1,198
CR Dev Athena	Ⓔ	38W	1,499
CR Dev Remus V3	Ⓔ	60W	1,989
Credo LIM 702			1,191
Credo LIM 703			1,249
Densen DM-10	Ⓔ	75W	1,375
EAR 859	Ⓔ	13W	1,999
EAR 834	Ⓔ	40W	1,999
Golden Tube Audio S1-50 MkII	Ⓔ	50W	1,100
Graaf Venticque	Ⓔ	20W	1,790
Jadis Orchestra	Ⓔ		1,345
LFD Integrated 1	Ⓔ	65W	1,099
Lundahl Mag Amp	Ⓔ	23W	1,735
Marantz PM-17K1 Sig	Ⓔ	60W	1,300
Meracur Intrare	Ⓔ	60W	1,095
NAD S300	Ⓔ	100W	1,900
Papworth MIH-200	Ⓔ	200W	1,200
Papworth MVH-200	Ⓔ	200W	1,200
Plinius 8150			1,895
Pracisca Sonoro	Ⓔ	100W	1,800
Primare A30.1	Ⓔ	100W	1,500
Restek Fantasy 2	Ⓔ	100W	1,499
Sonic Frontiers Anthem Integrated	Ⓔ	25W	1,299
T+A R1200R	Ⓔ	90W	1,750
Thule Space IA250B	Ⓔ	250W	1,799
Woodside ISA230 Line	Ⓔ	30W	1,099
Woodside ISA230 Disc	Ⓔ	30W	1,249
YBA a Integre Line	Ⓔ	50W	1,095
YBA a Integre DT Line	Ⓔ	50W	1,395

OVER £2,000

Adyton Opera	Ⓔ	50W	2,595
AMP Flux System 2	Ⓔ	50W	3,000
Aria Simply 845	Ⓔ	24W	3,195
Art Audio Integra	Ⓔ	25W	2,400
Audio Note Meishu Line		9W	2,750
Audio Note Ongaku	Ⓔ	26W	56,000
Audio Research CA50	Ⓔ		3,399
Belcanto SET40		40W	4,450
Belcanto Orfeo 30S1		35W	5,450
Cary CAD-300SEI	Ⓔ	15W	3,395
Conrad-Johnson CAV-50	Ⓔ	50W	2,495
EAR V20	Ⓔ	24W	2,495
Electrocompaniet EC1-1	Ⓔ	100W	2,195
Gamma Rhythm	Ⓔ	18W	2,499
Gamma Rhythm Ref	Ⓔ	20W	3,499
Gamma Motion	Ⓔ	40W	19,999
Jadis DA30	Ⓔ	30W	2,690
Jadis DA60	Ⓔ	60W	4,483
Krell KAV300i	Ⓔ	150W	2,495
Krell KAV300r	Ⓔ		3,333
Krell KAV500i	Ⓔ	250W	5,000
McIntosh MA6400E	Ⓔ	100W	3,999
McIntosh MA6800E	Ⓔ	150W	5,999
Meracur Onesta	Ⓔ	75W	2,595
Musical Fidelity A1001	Ⓔ	200W	2,500
Pioneer A-09	Ⓔ	45W	4,000
Rowland Concentra	Ⓔ	100W	5,500
Sonus Faber Musica			2,295
T+A R1500R	Ⓔ	135W	2,015
Tube Tech Unisig Sig. Int.	Ⓔ	30W	2,300
Tube Tech Synergy PPS	Ⓔ	150W	6,900
Wavac MD811	Ⓔ	15W	2,995
Wavac MD300B-ST	Ⓔ	10W	5,575
Wavac MD300B WE	Ⓔ	10W	6,750

AMPLIFIERS PREAMPS

KEY
 Ⓔ (etc) - Number of line-level inputs.
 Ph - Phono input fitted as standard (may be an option on some other models).
UP TO £500

Arcam Alpha 9C	Ⓔ		400
Aria Simply Phono	Ⓔ	Ph	500
Audio Analogue Bellini	Ⓔ	Ph	495
Audio Note M Zero	Ⓔ		299
AVC Pre 3	Ⓔ		500
Beam-Echo PP-21	Ⓔ	Ph	499
Bryston BP1	Ⓔ	Ph	438
CR Dev Themis	Ⓔ	Ph	349
Creek OBH-9	Ⓔ		160
Creek P43/R	Ⓔ		350
Creek P52	Ⓔ		499
Crimson CS610C	Ⓔ	Ph	450
Cyrus aEQ7	Ⓔ	Ph	498
Densen DP-Drive/DP-02	Ⓔ		350
DPA Enlment phono	Ⓔ	Ph	275
EAR 834P	Ⓔ	Ph	349
EAR 834L	Ⓔ		449
EAR 834P/MC	Ⓔ	Ph	499

Electrocompaniet ECP-1	Ph	495
Henley HMC50		150
Henley HMC100		350
Hi Q Sound LCP2		149
LFD Mistral Linestage	Ⓔ	449
LFD LSO Linestage	Ⓔ	499
Lumley PP70	Ⓔ	345
Lumley PP1	Ⓔ	345
Magnum MP120	Ⓔ	330
Magnum MP660	Ⓔ	500
Magnum MP330	Ⓔ	500
Monrio ADN-N	Ⓔ	295
Monrio Asty L	Ⓔ	500
Moth 30 Passive	Ⓔ	149
Moth 30 Phono	Ⓔ	249
Moth 30 Line stage	Ⓔ	349
Musical Fidelity X10-D	Ⓔ	120
Musical Fidelity X-LP	Ⓔ	130
Musical Fidelity X-PRE	Ⓔ	200
Musical Fidelity E20	Ⓔ	400
NAD PP-1	Ⓔ	40
NAD 114	Ⓔ	270
NAD 116	Ⓔ	430
Naim Prefix	Ⓔ	360
Naim NAC92	Ⓔ	485
Parasound P/HP-100	Ⓔ	130
Parasound P/HP-850	Ⓔ	400
Plinius Jarrah	Ⓔ	450
QED Dissaver DS-1	Ⓔ	35
Rega EOS	Ⓔ	398
Rega Cursa	Ⓔ	450
Roksan Artaxerxes 10	Ⓔ	395
Rose RV-23	Ⓔ	450
Rotel RQ970BX	Ⓔ	130
Rotel RC971	Ⓔ	150
Rotel RC972	Ⓔ	225
Sunfire Phono	Ⓔ	430
Talk Electronics Hurricane 1	Ⓔ	500
Technics SU-C1010	Ⓔ	300
Thule Spirit PR100	Ⓔ	400
Trilogy 905	Ⓔ	375
Trilogy 904	Ⓔ	375
Trilogy 900	Ⓔ	499

£501 TO £2,000

Adyton Chorus	Ⓔ		1,995
Alchemist Kraken Pre	Ⓔ		549
Alchemist Forseti Pre	Ⓔ		999
Alchemist Signature Pre	Ⓔ		1,499
Aria Feather One	Ⓔ		795
Aria Mystery Two	Ⓔ		1,750
Aria Mystery One	Ⓔ		1,750
Art Audio Vinyl One MM	Ⓔ	Ph	916
Art Audio VPS Line	Ⓔ		963
Art Audio Vinyl One MM/MC	Ⓔ	Ph	1,307
Art Audio VPS Phono	Ⓔ	Ph	1,460
Art Audio Conductor Phono MC	Ⓔ	Ph	2,000
Audio Note M1 Line	Ⓔ		550
Audio Note M1 RIAA	Ⓔ		999
Audio Note M2 Line	Ⓔ		999
Audio Note Discovery	Ⓔ		999
Audio Note M2RIAA	Ⓔ	Ph	1,099
Audio Prism Mantissa	Ⓔ		1,995
Audio Research LS8	Ⓔ		1,449
Audio Research PH3	Ⓔ	Ph	1,490
Audio Research LS9	Ⓔ		1,949
Audio Synthesis Pro Passion	Ⓔ		595
Audio Synthesis Passion	Ⓔ		695
Audio Synthesis Passion 8S	Ⓔ		1,295
Audio Synthesis Passion 8M	Ⓔ		1,695
Audio Valve Eclipse	Ⓔ		1,650
AVI S2000MP	Ⓔ		949
AVI S2000MP+P	Ⓔ	Ph	1,199
Beam-Echo SP-21	Ⓔ	Ph	1,116
Bryston BP20	Ⓔ		1,126
Bryston BP-25	Ⓔ		1,326
Bryston BP-25P	Ⓔ	Ph	1,592
Canary Audio CA-606	Ⓔ		1,295
Canary Audio CA-601	Ⓔ		1,595
Cary SLP-50 Mk II	Ⓔ		1,195
Cary PH-301	Ⓔ	Ph	1,695
Chord Phono	Ⓔ	Ph	1,898
Chord CPA 1800	Ⓔ		1,905
Concordant Exhilarant	Ⓔ		900
Concordant Exquisite	Ⓔ		1,950
Conrad-Johnson PV-10AL	Ⓔ		995
Conrad-Johnson PV-10A	Ⓔ	Ph	1,295
Conrad-Johnson PV-12AL	Ⓔ		1,990
Conrad-Johnson EF-1	Ⓔ	Ph	1,990
Conrad-Johnson PF-2	Ⓔ	Ph	1,990
Copland CSA303	Ⓔ	Ph	1,099
Copland CTA301 MKII	Ⓔ	Ph	1,249
CR Dev Carmenta	Ⓔ		659
CR Dev Argentio	Ⓔ	Ph	699
Credo CMP004	Ⓔ		1,246
Credo CMP005	Ⓔ		1,876
Cyrus aCA7	Ⓔ		798
Cyrus aEQ7/PSX-R	Ⓔ	Ph	826
Densen Beat B-200	Ⓔ	Ph	1,000
Densen DM-20	Ⓔ		1,200
DNM 3 Start	Ⓔ	Ph	1,000
DNM 3A Start	Ⓔ	Ph	1,650
DPA Enlightenment pre	Ⓔ		795
Dynavector L200	Ⓔ		995
Dynavector P100	Ⓔ	Ph	1,495
Dynavector L100	Ⓔ		1,995

ECA Vista S	Ⓔ		760
ECA Vista HD	Ⓔ		880
ECA Prisma	Ⓔ	Ph	880
Electrocompaniet EC-4.5	Ⓔ		1,195
Electrocompaniet EC-4.6	Ⓔ		1,750
Exposure XII	Ⓔ		800
Exposure XIX	Ⓔ		800
Exposure XVII	Ⓔ	Ph	850
Exposure RC XXI	Ⓔ		1,000
Gate PR101P	Ⓔ		1,195
Golden Tube Audio SEP-2	Ⓔ		990
Golden Tube Audio SEP-3	Ⓔ		1,995
Graaf WFB Two	Ⓔ	Ph	1,350
Graaf WFB One	Ⓔ	Ph	1,750
Henley HMC200	Ⓔ		600
Hi Q Sound MCB2	Ⓔ	Ph	545
Hi Q Sound MCL2	Ⓔ		645
Jadis DPL2	Ⓔ		1,590
Krell KAV250p	Ⓔ		1,999
LFD MC1 PhonoStage	Ⓔ	Ph	949
LFD LS1 Linestage	Ⓔ		999
LFD MC2 PhonoStage	Ⓔ	Ph	1,499
LFD LS2 Linestage	Ⓔ		1,599
LFD LS3 Linestage	Ⓔ		1,999
Linn Wakonda	Ⓔ		750
Linn Linto	Ⓔ		850
Linn Kairn	Ⓔ		1,400
Lumley LV1.5	Ⓔ		895
Lumley LV1	Ⓔ		1,150
Lumley PV1.5	Ⓔ	Ph	1,700
Lumley PV1	Ⓔ	Ph	1,700
Matisse Atom	Ⓔ		1,000
McIntosh C712	Ⓔ	Ph	1,999
Meracur Ingredi	Ⓔ		925
Meridian 501	Ⓔ		695
Meridian 562	Ⓔ		765
Meridian 562V	Ⓔ		995
Meridian 520	Ⓔ		1,295
Michell Delphini	Ⓔ	Ph	895
Michell Orca	Ⓔ		1,650
Muse Model 3	Ⓔ		1,990
Musical Fidelity F25	Ⓔ	Ph	1,500
Myryad MP100	Ⓔ		600
NAD 118	Ⓔ		1,000
Naim NAC92R	Ⓔ		650
Naim NAC72	Ⓔ		745
Naim NAC102	Ⓔ		1,080
Quad 99 Pre	Ⓔ	Ph	800
Rega Hal	Ⓔ	Ph	998
Roksan Artaxerxes X/DS1.5	Ⓔ	Ph	1,150
Roksan ROK-L2.5	Ⓔ		1,250
Rose RV-235	Ⓔ	Ph	525
Rotel RC995	Ⓔ		525
Shearman Phase 6 Pre	Ⓔ		999
Shearman Phase 1 Pre Ref	Ⓔ		1,499
Siemel MC20	Ⓔ	Ph	650
Siemel MM20	Ⓔ	Ph	650
Siemel TU10	Ⓔ		1,599
Siemel TR20	Ⓔ		1,599
Sonic Frontiers Anthem Pre 1P	Ⓔ	Ph	899
Sonic Frontiers Phono 1	Ⓔ	Ph	1,999
Sonographe SC26	Ⓔ		995
Sugden Audition Pre	Ⓔ		549
Sugden Masterclass Pre	Ⓔ		1,995
Sumo Athena II Line	Ⓔ		767
Sumo Athena IIB/II LS	Ⓔ		987
Sumo Athena III	Ⓔ		987
Sumo Artemis uP	Ⓔ		1,595
Sunfire The Classic	Ⓔ		1,630
T+A P1200R	Ⓔ		965
TAG McLaren PA10	Ⓔ	Ph	849
TAG McLaren PPA20	Ⓔ	Ph	1,499
TAG McLaren PA20R	Ⓔ		1,499
Talk Electronics Hurricane 2	Ⓔ		650
Talk Electronics Hurricane 3	Ⓔ		900
Talk Electronics Hurricane 4	Ⓔ		1,550
Talk Electronics Hurricane 5	Ⓔ		1,900
Thorens TTP-2000P	Ⓔ	Ph	699
Thule Spirit PR150B	Ⓔ		699
Trilogy 901	Ⓔ		750
Trilogy 906	Ⓔ	Ph	995
Tron Retro	Ⓔ		1,595
Tube Tech Seer Line	Ⓔ		1,500
Tube Tech Mac Phono	Ⓔ	Ph	935
Tube Tech Prophet	Ⓔ		1,150
Tube Tech Prophet van den Hul Pre-amp	Ⓔ		1,970
Wilson Benesch Stage One	Ⓔ		1,800
Woodside SC27 Line	Ⓔ	Ph	995
Woodside SC26 Line	Ⓔ		949
Woodside SC26 Line	Ⓔ		1,557
XTC PRE-1	Ⓔ		1,350
YBA 3a Line	Ⓔ		995
YBA 2a Line	Ⓔ		1,450

OVER £2,000

Adyton Temper	Ⓔ		2,495
Adyton Modus	Ⓔ		2,695
Art Audio VPS Dual Mono Line	Ⓔ		2,350
ATC SCA2	Ⓔ		2,599
Atma-Sphere MP-3	Ⓔ		3,795
Atma-Sphere MP-1	Ⓔ	Ph	7,600
Audio Note M3Line	Ⓔ		2,650
Audio Prism Avanti	Ⓔ		7,995
Audio Research LS15	Ⓔ		3,399
Audio Research LS25	Ⓔ		4,999
Audio Research REF 1	Ⓔ		8,495

Audio Valve Fanfare	Ⓔ		4,995
Audiolabor 511	Ⓔ		6,775
Balanced VK-50	Ⓔ		3,995
Boulder L3AE	Ⓔ		2,100
Boulder L5AE	Ⓔ		3,400
Boulder L5M	Ⓔ		3,800
Boulder 2010	Ⓔ		22,000
Canary Audio CA-801	Ⓔ		3,750
Cary SLP-98L	Ⓔ		2,395
Chord CPA 2200	Ⓔ		2,530
Chord CPA 3200	Ⓔ		3,785
Chord CPA 4000	Ⓔ		6,675
Conrad-Johnson PF-R	Ⓔ		2,49

H I - F I P R I C E G U I D E

Musical Fidelity X-CANS	0.1W	130
Musical Fidelity E30	100W	500
Musical Fidelity X-A50	50W	500
Myryad T-60	50W	300
Myryad MA 120	60W	500
NAD 912	30W	200
NAD 214	80 W	370
NAD 216THX	125W	470
Naim NAP90/3	30W	460
Parasound HCA-750A	75W	450
Quad 99 Stereo Power	85W	500
Rega Maia	85W	450
Rotel RB971	70W	200
Rotel RB981	130W	300
Rotel RB991	200W	500
Shearpe 3.5	35W	489
Talk Electronics Tornado 1	50W	450
Technics SE-A1010	100W	350

£501 TO £2,000

Alchemist Kraken Pwr	55W	549
Alchemist Forseti Pwr	150W	1,399
Alchemist Signature Power	100W	1,999
Arcam Alpha 10P	100W	600
Aria Power 35	35W	1,500
Art Audio Quartet	15W	1,753
Art Audio Concerto	25W	1,960
Audio Analogue Donizetti	60W	595
Audio Note The P	40W	550
Audio Note P Zero	8W	599
Audio Note P1	12W	750
Audio Note PI5E	12W	999
Audio Note P2	20W	1,000
Audio Note P2SE	18W	1,499
Audio Note Conqueror	8W	1,599
Audio Prism Antares	35W	1,695
Audio Research D130	130W	1,890
Audio Research VT60	35W	1,999
Audio Valve RKV	0.1W	595
Audio Valve PPP25	25W	1,095
Audio Valve PPP45	45W	1,395
AVC PSE 300B	18W	1,200
AVI S2000MM	150W	1,399
Beauhorn Obligato	7W	1,175
Bryston 2B-LP	75W	750
Bryston 3B-ST PRO	150W	1,160
Bryston 3B-ST	150W	1,160
Bryston THX3B	150W	1,262
Bryston 4B-ST PRO	300W	1,756
Bryston 7B-ST	500W	1,815
Bryston 7B-ST PRO	500W	1,815
Bryston THX4B	300W	1,850
Bryston THX7B	500W	1,886
Canary Audio CA-706	40W	1,950
Canary Audio CA-708	50W	1,950
Chord SPM 400	100W	1,425
Chord SPM 600	130W	1,850
Conrad-Johnson MV-55	50W	1,995
Copland CSA515	150W	1,299
Copland CTA505	67W	1,899
CR Dev Amphion	12W	1,949
Credo PMP 804	12W	1,876
Creek AS25E	100W	599
Crimson CS630C	100W	800
Cyrus aPA7	150W	1,900
Densen B-300	100W	800
Densen DM-30	100W	1,200
DNM PA Start	45W	1,000
DNM PA1 Start	45W	1,650
DPA Enlightenment pwr	100W	995
Dynavector HX75	75W	1,995
ECA Lectern S	50W	880
ECA Lectern HD	50W	1,480
Electrocompaniet AW60FTT	60W	1,095
Exposure XVIII Super	75W	900
Exposure XVIII Mono	60W	1,800
Golden Tube Audio SE-40	40W	1,100
Golden Tube Audio SE-300B MKII	8W	1,790
Graaf Venticinque P	25W	1,425
Hi Q Sound MCM	70W	715
Jadis DA5	40W	1,749
Krell KAV150a	150W	1,990
Lexicon 212	120W	1,850
LFD PA1 Powerstage	60W	999
LFD PA2 Powerstage	75W	1,599
LFD PA2M Powerstage	90W	1,999
Linn LK100	50W	650
Linn LK240	120W	750
Linn AV5105	100W	1,200
Lynwood Ruby	120W	985
Magnum MF330	150W	685
Magnum MF660	125W	825
Magnum AS00SE	200W	1,485
Magnum AS05E	200W	1,595
McIntosh MC7100	100W	1,999
Meracur Ciere	60W	1,095
Meridian 555	60W	750
Meridian 556	100W	895
Meridian 557	200W	1,400
Meridian 505	160W	1,590
Micelli Alecto Stereo	50W	1,150
Micelli Alecto Mono	100W	1,950
Monrio Asty P	100W	950
Moth Stereo 60	60W	599
Moth 30 Mono/100	100W	879
Muse Model 100	100W	1,490

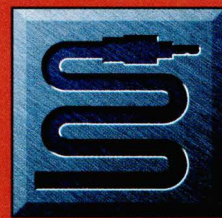
Musical Fidelity X-A200	200W	1,000
Myryad MA240	120W	1,000
NAD 218THX	200W	850
Naim NAP140	45W	770
Naim NAP180	60W	1,090
Naim NAP135	75W	1,705
Naim NAP250	70W	1,705
Papworth TVA50	50W	1,425
Parasound HCA-1000A	125W	600
Parasound HCA-1500A	205W	1,000
Quad 909	140W	900
Quad 99 Monoblock	150W	1,300
Rega Exon	125W	796
Roksan Caspian Power	70W	595
Roksan ROK-S1.5	100W	1,495
Rose RP-190 (Dual Mode)	75W	550
Shearpe Phase 3	50W	639
Shearpe Phase 3 Reference	50W	749
Shearpe Phase 5 Mono	100W	1,598
Sonic Frontiers Anthem Amp 1	40W	1,299
Sonographe SA250	125W	1,195
Sonographe SA400	220W	1,695
Sugden Audition Power	549	549
Sugden A21a Power	25W	649
Sumo Polaris III	164W	950
Sumo Model Five	60W	1,975
Sumo Andromeda III	240W	1,975
T+A A1210	90W	875
T+A PA1220R	100W	1,445
T+A A1500	140W	1,535
T+A PA1500R	135W	1,665
TAG McLaren 60P	60W	849
TAG McLaren 100P	100W	1,099
Talk Electronics Tornado 2	65W	600
Talk Electronics Tornado 3	100W	750
Talk Electronics Tornado 4	110W	1,100
Thorens TTA-2000	30W	599
Thule Spirit PA100	100W	600
Thule Spirit PA150B	150W	699
Thule Space PA250B	250W	1,699
Trilogy 948	50W	1,895
Trilogy 948T	22W	1,895
Tube Tech Syrinx	45W	1,150
Tube Tech Unisis Sig. Pwr	30W	1,900
Woodside SA240	40W	1,199
Woodside MA100	100W	1,735
Woodside STA50	50W	1,880
XTC POW-2	150W	1,600
YBA 3a DT Stereo	45W	1,455

OVER £2,000

Adyton Cordis 1.6	120W	3,495
Adyton Cordis 3B	280W	12,995
Ania Smart 845	24W	3,500
Ania Smart 300B	24W	4,250
Art Audio Symphony	7W	2,500
Art Audio Tempo	30W	2,714
Art Audio Maestro	60W	3,884
Art Audio Diavolo	13W	4,000
Art Audio Jota	18W	6,000
Art Audio Ellesse	100W	8,500
Art Audio Chiara	25W	10,000
ATC SPA2-200PRO	200W	2,056
ATC SPA2-150	200W	2,699
Atma-Sphere S-30 Mk II	30W	2,450
Atma-Sphere M-60 Mk II	150W	4,195
Atma-Sphere MA-1 Mk II	60W	7,995
Audio Note P3	9W	2,150
Audio Note Quest	9W	2,750
Audio Note Yubi	18W	3,850
Audio Note Conquest	18W	4,450
Audio Note Tomei	30W	8,500
Audio Note Neiro	7W	11,360
Audio Note Ankoru	60W	14,500
Audio Prism Debut Mk II	35W	2,495
Audio Prism Mana	100W	12,995
Audio Research VT50	50W	2,950
Audio Research 100.2	100W	3,395
Audio Research VT100 MKII	100W	4,950
Audio Research VT200	200W	8,790
Audio Synthesis Desire Decade	200W	2,495
Audio Valve Avalon	60W	2,195
Audio Valve Challenger 115	115W	2,995
Audio Valve Challenger 140	140W	3,495
Audio Valve Challenger 300	300W	7,995
Audio Valve Baldr 200 Plus	149W	8,995
Audiolabor 500	230W	5,998
Beam-Echo DL7-35	30W	3,525
Belcanto SET40	40W	3,450
Belcanto Orfeo 30S	35W	4,750
Belcanto SET80	80W	6,750
Border Patrol 300B SE	9W	3,395
Border Patrol 300B SE (WE)	10W	4,495
Boulder 102AE	100W	2,800
Boulder 102M	100W	3,100
Boulder 500AE	150W	4,995
Boulder 500M	150W	5,500
Boulder 2060	600W	25,000
Boulder 2050	999W	43,500
Bryston THX8B	150W	2,385
Canary Audio CA-304	40W	2,695
Canary Audio CA-301	22W	2,995
Canary Audio CA-303	24W	5,495
Cary CAD-572SE	20W	2,250
Cary CAD-2A3 SE	5W	3,150
Cary CAD-300SE	12W	4,495

Cary CAD-805C	50W	7,995
Chord SPM 1000B	200W	2,920
Chord SPM 1200B	250W	3,790
Chord SPM 1200C	350W	4,210
Chord SPM 1400B mono	350W	8,420
Chord SPM 5000	415W	14,570
Conrad-Johnson MF2250	130W	2,295
Conrad-Johnson MF-2500	250W	3,495
Conrad-Johnson Premier 11A	70W	3,500
Conrad-Johnson Premier 12	140W	6,900
Conrad-Johnson Premier 8X5	150W	17,000
Conrad-Johnson Premier 8A	275W	17,000
CAT J1.1	100W	17,550
CR Dev Artemis	35W	4,995
Credo LPO 804	2,456	2,456
Credo PMP 155	2,676	2,676
Credo LPO 455	4,975	4,975
Credo LPO 155	6,983	6,983
DNM PA3	2,500	2,500
DNM PA35	3,750	3,750
Dynavector HX1.2	130W	3,995
EAR 861	32W	3,599
EAR 509 Mk II	100W	3,999
EAR 519	100W	4,699
EAR 549	100W	6,499
Electrocompaniet AW120DMB	120W	2,695
Electrocompaniet AW250R	250W	3,995
Electrocompaniet AW180MB	180W	4,595
Exposure IV	90W	2,199
Exposure XVI	125W	4,000
Gamma Aeon	20W	4,999
Gamma Space Ref	18W	7,999
Gamma Aeon Ref	70W	49,999
Gate TR201A	22W	3,335
Golden Tube Audio SE-100	100W	2,495
Graaf 5050	50W	2,100
Graaf GM20	60W	2,850
Graaf GM100	100W	4,250
Graaf GM200	200W	7,500
Jadis DA8	80W	2,990
Jadis DA7	100W	4,790
Jadis JA30	30W	5,180
Jadis SE300B	10W	7,980
Jadis JA80	60W	9,580
Jadis JA100	100W	10,298
Jadis JA200	160W	13,980
Jadis JA500	400W	19,990
Krell KAV250a	250W	3,145
Krell KAV500/2	100W	3,195
Krell FPB200	200W	5,998
Krell FPB250m	250W	8,994
Krell FPB300	300W	9,500
Krell FPB600	600W	12,900
Krell FPB350m	350W	15,994
Krell FPB650m	650W	23,800
Lexicon 225	250W	2,500
Lexicon 501	500W	5,000
Linn Klout	80W	2,400
Linn Klimax 500	500W	11,200
Lumley M125	120W	3,750
Lumley M250	250W	7,500
Magnum Class A mono	180W	2,450
Magnum A200SE	275W	3,750
Mana Stealth	300W	4,500
Madrigal 334	125W	5,495
Madrigal 335	250W	7,495
Madrigal 336	350W	8,995
Madrigal 33H	150W	19,395
Matisse Ref Monoblocks	180W	8,000
McIntosh MC150	150W	3,499
McIntosh MC300	300W	3,999
McIntosh MC500	500W	8,999
McIntosh MC1000	999W	14,999
Meracur Tentare	75W	2,245
Meracur Cantare	-W	8,995
Muse Model 160 Ser. II	160W	2,290
Muse Model 150	125W	2,690
Muse Model 175 Ser. II	175W	3,490
Muse Model 300 Ser. II	300W	3,990
Musical Fidelity F16	200W	2,500
Musical Fidelity F19	300W	4,000
Papworth M100	100W	2,645
Papworth M200	3,825	3,825
Plinius SA50/3	2,750	2,750
Plinius SA100/3	3,450	3,450
Plinius SA250/3	5,850	5,850
Roksan ROK-M1.5	2,250	2,250
Rowland Model 2	75W	4,999
Rowland Model 6	150W	10,999
Rowland Model 8T	250W	12,499
Rowland Model 9T	350W	27,999
Shearpe Phase 1 Pwr Ref	100W	2,399
Siemel TA20	50W	2,350
Sonic Frontiers Power 1	55W	2,499
Sonic Frontiers Power 2	110W	4,999
Sonic Frontiers Power 3	220W	8,599
Sony TA-N1	200W	4,500
Sugden Masterclass Power	75W	2,995
Sumo Model Ten/M	240W	4,200
Sunfire Load Invariant	300W	2,280
Sunfire Signature	600W	2,600
T+A A3000	190W	7,800
TACT Millennium II	150W	2,050
TAG McLaren 125M	145W	2,399
Talk Electronics Tornado 5	200W	2,100
Trilogy 958T	45W	3,395
Trilogy 958	100W	3,395

Tron Type PX25	5W	6,150
Tron Type KR300B	8W	6,400
Tron Type WE300B	8W	6,550
Tron Type PX25 Mono	5W	9,500
Tron Type WE300B Mono	8W	9,700
Tron Type KR 300B Mono	18W	9,700
Tube Tech Genesis Sig.	100W	4,700
Tube Tech Synergy DMA	150W	6,400
van den Hul Power amp	65W	2,500
Wavac MD572	50W	6,250
Wavac EC300B	10W	16,500
Wavac EC838	35W	21,750
Wavac HE 4304	15W	24,750
Wavac HE 833	100W	27,500
Wavac HE 805	45W	27,500
XTC POW-1	200W	2,500
YBA 2a HC Stereo	70W	2,350
YBA 3a Mono	45W	2,425
YBA 2a HCDT Stereo	70W	3,050
YBA 1a HC Stereo	85W	4,400
YBA 2a HCDT Mono	70W	5,000
YBA 1a HC Mono	85W	6,650
YBA Sig. Stereo	100W	6,995
YBA Passion Mono	250W	8,775
YBA Sig. Mono	100W	9,995
YBA Sig. HC Mono	100W	16,650



CABLES Analogue Interconnects

KEY

- ⊗ - Stranded construction.
- ⊙ - Solid

Connections UK Ultra	28.00
Connections UK Midas	39.00
Connections UK HD	46.00
DBF Acoustics Black Velvet	30.00
DBF Acoustics Black Velvet SE	40.00
DBF Acoustics Azure SE	75.00
DNM-Reson TCC75	35.00
DPA Slink	41.00
DPA White Slink	75.00
DPA Black Slink	220.00
Ecosse Ref CA1	65.00
Ecosse Ref CS1	75.00
Ecosse Ref MA2	155.00
Ecosse Ref MS2	165.00
Ecosse Ref US1	550.00
Expressive Tech IC-1	700.00
Gamma Wow Balance	799.00
Goertz M1 Interconnect	145.00
GT Audio Intercon	130.00
Harmonix HS-102	195.00
Harmonix HS-101	265.00
Henley HSP10	20.00
Henley HSP50	35.00
Henley HSP100	65.00
Henley HSP200	95.00
Henley HSP250	150.00
Heybrook Black Flash	39.00
Insert Audio Focus 1.2	21.50
Insert Audio IC100 Mk II	46.95
Insert Audio Image 5.1	84.95
Insert Audio Status 3.4	160.00
Ixos 104	20.00
Ixos 1003	30.00
Ixos Gamma 1002	39.95
Ixos 103	45.00
Ixos 102	60.00
Ixos 101	100.00
Ixos 100X03	150.00
Kimber PBJ/Ultraplata	68.00
Kimber KC1	96.00
Kimber Hero	110.00
Kimber Silver Streak	180.00
Kimber KCAG	390.00
Kimber KCTG	720.00
LAT International IC-50	37.00
LAT International IC-80 MkII	58.00
LAT International IC-100 MkII	95.00
LAT International IC-200 Mk II	151.00
Lieder Chanson	340.00
Lieder Lek	420.00
Lieder Het Lied	420.00
Lieder Song	580.00
Lieder Maas	620.00
Lieder Rijn	1,000.00
Lieder Waal	1,400.00
Lumley Silver 12/2	115.00
Lumley Silver 14/4	175.00
Monster Interlink 100	110.00
Monster Interlink 200	23.00
Monster Interlink 300 MkII	40.00
Monster Interlink 400 MkII	50.00
Moth Leyline Black	100.00
Moth Leyline Grey	200.00
Nordost Magic	35.00
Nordost Black Knight	60.00
Nordost Solar Wind	84.95
Nordost Blue Angel	98.00
Nordost Blue Heaven I/C	150.00
Nordost Red Dawn	300.00
Nordost SPM	825.00
Nordost Quattrofil	1,250.00
Ortofon 7N Interconnect	250.00
Precious Metals SS50	50.00
Precious Metals SS55	50.00
Precious Metals SS52	70.00
Precious Metals SS53	90.00
Precious Metals SS100	100.00
Precious Metals SS102	130.00
Precious Metals SS103	160.00

Precious Metals SS104	190.00
Precious Metals SS200	220.00
Precious Metals SS202	290.00
Precious Metals SS203	360.00
Precious Metals SS204	430.00
Prowire Silver	60.00
PAD Elementa	145.00
QED Qneq 2	30.00
QED Qneq 45	70.00
Roksan ROK-Intercon	75.00
Shinpy Red Devil	80.00
Shinpy Red Star 2	120.00
Shinpy Black Star 2	240.00
Shinpy Pulsar 2	495.00
Shinpy Quasar 2	850.00
Siltech MC2-12	308.00
Siltech MC4-245	400.00
Siltech FTM-35	730.00
Silver Sounds SS2	99.00
Silver Sounds SS1	199.00
Silver Tone Ex-Static	35.00
Silver Tone Sci-Fi	95.00
SME S2LB-4	46.18
SME S3LB-4	52.06
SME 4900A	76.83
SME 5900A	102.57
SonicLink Red	25.00
SonicLink Silver pink	35.00
SonicLink Black	50.00
SonicLink Lilac	65.00
SonicLink Violet	85.00
SonicLink Maroon	125.00
SonicLink Blue Nickel	150.00
SonicLink Vermilion	195.00
SonicLink Red earth	300.00
SonicLink Black earth	450.00
SonicLink Blue earth	695.00
SonicLink Black Rhodium	995.00
Straight Wire Chorus	40.00
Straight Wire Sonata	80.00
Supra DAC-X	60.00
Supra EFF-ISL	80.00
Supra EFF-XLR	90.00
Tara Prism 5	21.95
Tara Prism 55i	100.00
Tara RSC Axiom	137.00
Tara RSC-Prime Gen/2	170.00
Tara RSC-Ref Gen. 2	224.50
Tara RSC Air 3	336.00
Tara RSC Air 2	560.00
Tara RSC Air 1	790.00
Tara ISM The Three	894.00
Tara ISM The 2	1,144.00
Tara ISM The One	2,175.00
Transparent Cable Musichord	48.00
Transparent Cable The Link	92.00
Transparent Cable Music Link	119.00
Trichord Pulsewire 75	169.00
Vampire Wire CC	24.00
Vampire Wire CCC/II	58.00
Vampire Wire SC/II	98.00
Vampire Wire SC/IV	144.00
Vampire Wire AI/2	259.00
Vampire Wire SL	412.00
van den Hul Storm II	29.99
van den Hul PB5 HB	50.00
van den Hul Source HB	65.00
van den Hul D102 III	80.00
van den Hul Thunderline HB	145.00
van den Hul First Classic	240.00
van den Hul Second	275.00
van den Hul First Ultimate	320.00
van den Hul MC Gold	550.00
van den Hul MC Silver IT	1,400.00
van den Hul MC Silver IT Bal	1,750.00
Wireworld Orbit	30.00
Wireworld Solstice II	40.00
XLO Type ER-6	30.00
XLO Type ER-2	30.00

XLO Pro 125	40.00
XLO Type ER-1	40.00
XLO Type ER-5	50.00
XLO Pro 150	70.00
XLO Type ER-4	99.00
XLO Pro 100	119.00
XLO Pro 102	129.00
XLO Ultra 1	169.00
XLO Ultra 2	199.00
XLO Ref 2	330.00
XLO Signature 1.1	625.00
XLO Sig 2.1	675.00
XLO Sig 3.1	750.00
XLO Limited Ed'n	2,200.00

Precious Metals SD35	20.00
Precious Metals SD100	50.00
Precious Metals SD200	110.00
Precious Metals SD202	145.00
QED Digiflex	20.00
QED Optiflex	25.00
QED Qneq OT	30.00
Roksan ROK-Intercon	45.00
Shinpy Digital	265.00
Siltech HF-6	1450.00
SonicLink Green	600.00
Supra ZAC	44.95
Theta EFF-ID	45.00
Supra DAC-XLR	45.00
Tara Prism D-1	59.99
Tara Prism D-2	119.99
Tara RSC Air Dig. 75	345.00
Tara RSC Air Dig. 110	450.00
Tara ISM The One Dig. Theta ATAT	995.00
Transparent Cable PDL Trichord Pulsewire 75D	550.00
Vampire Wire DV/1	199.00
van den Hul Source HB	75.00
van den Hul Videolink	150.00
van den Hul AES-EBU 110	70.00
van den Hul First	75.00
van den Hul Second	140.00
van den Hul First Ultimate	150.00
XLO Pro 104	180.00
XLO Ultra 4	60.00
XLO Ref 2	89.00
XLO Sig 4.1	180.00
XLO Sig 4.1	325.00
XLO Limited Ed'n	1,100.00

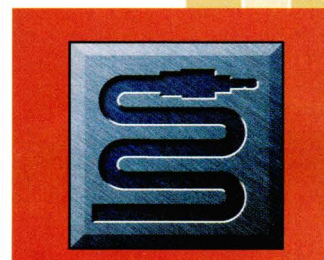
Acoustic Energy AESC-C3	11.95
ALR/Jordan QMM	5.00
Apertura Silver	82.50
Argento Copper	35.00
Argento Copper Ref	65.00
Argento Silver	125.00
Argento Silver Ref	380.00
Art Yam Church M2000	470.00
Art Yam Church 5000	795.00
Audio Note AN-D	4.50
Audio Note AN-B	16.50
Audio Note AN-L	29.50
Audio Note AN-SP	150.00
Audio Note AN-SPx	450.00
Audioquest Type 2	3.50
Audioquest F-18	3.60
Audioquest Type 6+	9.00
Audioquest Indigo +	15.00
Audioquest Crystal +	25.00
Audioquest Forest +	75.00



CABLES Digital Interconnects

KEY
 ☉ – Stranded construction.
 ● – Solid-core construction.
 Prices of interconnects are for a one-metre terminated pair.

Apertura Model B	139.00
Apertura Model A	255.00
Art Yam Church 5000	275.00
Audioquest Digital/video 1	30.00
Audioquest Digital/video 2	60.00
Audioquest Optlink X	90.00
Audioquest Digital PRO	100.00
Audioquest Optlink Pro	150.00
Audioquest Optlink X	180.00
Audiosource Petros Blue Plus 5	35.00
Audiosource Stratos Ser. 2	59.00
Cable Talk Digital 2	78.00
Cardas Audio Lightning	190.00
ChordCo Cadac	38.00
ChordCo Optichord	40.00
ChordCo Prodac	50.00
DNM-Reson DIG100	26.00
DPA Opti-link	20.00
DPA Digi-link	27.50
Ecosse Ref MD2	71.50
Harmonix HS-101 DIG	240.00
Insert Audio Datalink 500	24.95
Insert Audio Optic 2.1	29.95
Insert Audio Datalink 700	39.95
Insert Audio Image 5.1	44.95
Ixos 105	25.00
Ixos 106	30.00
Kimber Opti-link	50.00
Kimber Illuminati DV-30	70.00
Kimber Illuminati D-60	325.00
Kimber Illuminati DX-50	350.00
Kimber Illuminati Orchid	750.00
LAT International DI-20-D	79.00
Monster Datalink 100	47.00
Monster Lightspeed 100	47.00
Moth Leyline Datalink	140.00
Nordost Moonglo	155.00
Nordost Silver Shadow	335.00



SPEAKER CABLES

KEY
 ☉ – Stranded construction.
 ● – Solid-core construction.
 Price per mono metre, unterminated.

Apertura Model B	139.00
Apertura Model A	255.00
Art Yam Church 5000	275.00
Audioquest Digital/video 1	30.00
Audioquest Digital/video 2	60.00
Audioquest Optlink X	90.00
Audioquest Digital PRO	100.00
Audioquest Optlink Pro	150.00
Audioquest Optlink X	180.00
Audiosource Petros Blue Plus 5	35.00
Audiosource Stratos Ser. 2	59.00
Cable Talk Digital 2	78.00
Cardas Audio Lightning	190.00
ChordCo Cadac	38.00
ChordCo Optichord	40.00
ChordCo Prodac	50.00
DNM-Reson DIG100	26.00
DPA Opti-link	20.00
DPA Digi-link	27.50
Ecosse Ref MD2	71.50
Harmonix HS-101 DIG	240.00
Insert Audio Datalink 500	24.95
Insert Audio Optic 2.1	29.95
Insert Audio Datalink 700	39.95
Insert Audio Image 5.1	44.95
Ixos 105	25.00
Ixos 106	30.00
Kimber Opti-link	50.00
Kimber Illuminati DV-30	70.00
Kimber Illuminati D-60	325.00
Kimber Illuminati DX-50	350.00
Kimber Illuminati Orchid	750.00
LAT International DI-20-D	79.00
Monster Datalink 100	47.00
Monster Lightspeed 100	47.00
Moth Leyline Datalink	140.00
Nordost Moonglo	155.00
Nordost Silver Shadow	335.00

the **D1** series

- 2-way design
- 30 - 20,000Hz
- 6mm wall aluminium extrusion
- Nominal power holding up to 130 Watts rms
- Solid wood fronts

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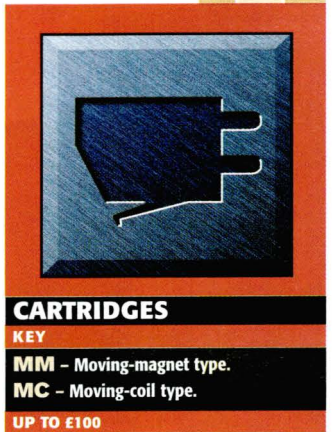
speaker systems

Sonic Elegance:
Curved space for a flat frequency response

Audioquest Argent +	125.00
Audioquest Clear 3	200.00
Cable Talk Theatre 2	1.75
Cable Talk Flat 1	2.00
Cable Talk Talk 3.1	2.50
Cable Talk Talk 1 Biwire	4.00
Cable Talk Talk 4.1	4.50
Cable Talk Talk 3.1 Biwire	5.00
Cable Talk Flat 2	5.00
Cable Talk Concert 2.1	8.00
Cable Talk Talk 4.1 Biwire	9.00
Cable Talk Flat 2 Biwire	10.00
Cable Talk Symphony 3	14.00
Cable Talk Concert 2.1 Biwire	16.00
Cardas Audio 300B-Microtwin SC	35.00
Cardas Audio Quadlink-Five SC	59.00
Cardas Audio Cross SC	99.00
Cardas Audio Hexlink-Five SC	109.00
Cardas Audio Hexlink Golden5 SC	175.00
Cardas Audio Golden Cross SC	789.00
ChordCo Carnival	3.00
ChordCo Myth	6.00
ChordCo Legend	15.00
ChordCo Odyssey	17.00
DNM-Reson LSC	6.95
DNM-Reson LSCB	13.95
Ecosse Ref FS2.16	1.75
Ecosse Ref CS2.2	2.50
Ecosse Ref CS2.3	3.75
Ecosse Ref CS2.15	5.75
Ecosse Ref MS2.2	15.00
Ecosse Ref MS2.3	20.00
Ecosse Ref MS2.15	30.00
Ecosse Ref US2	450.00
Gale XL105	1.00
Gale XL189	1.00
Gale XL315	2.00
Gale XL160-2	2.50
Gale XL315-2	3.99
Gamma Wonder Line	99.00
Goertz M1	16.00
Goertz M2	32.00
Goertz Big Boy	64.00
GT Audio Speaker	50.00
Harmonix Harmonic-Strings	30.00
Harmonix HS-101T-1	56.00
Harmonix HS-101T-1C	88.00
Ixos 607	2.00
Ixos 6004	3.00
Ixos 6003	3.00
Ixos 605	3.00
Ixos Gamma 6006	5.00
Kimber 4PR	5.00
Kimber 4VS	9.00
Kimber 4TC	19.60
Kimber 8TC	32.70
Kimber 4AG	394.00
Kimber 8AG	656.00
LAT International SS 800	16.00
LAT International BIWIRE	23.00
LAT International SS 1000	36.00
Lieder Pad	133.00
Lieder Bel Canto	188.00
Lieder Spoor	253.00
Lieder Straat	463.00
Lieder Weg	663.00
Linn K20	4.00
Linn K400	10.00
Linn K600	15.00
Lumley Silver 12/2	35.00
Lumley Silver 14/4	40.00
Monster XP Clear	2.20
Monster XP Navajo	2.40
Monster Superflat Mini	2.75
Monster XP HP	3.70
Monster Original	4.40
Monster New Monster	5.50
Naim NAC A5	5.70
Nordost Octava	3.00
Nordost 4-Flat	9.95
Nordost Solar Wind Bi-wire	27.95
Nordost Blue Heaven Spk	58.95
Nordost Red Dawn	110.00
Nordost SPM	325.00
Ortofon SPK100	3.00
Ortofon SPK200	5.00
Ortofon SPK300	8.00
Precious Metals SL32	7.50
Precious Metals SL102	10.00
Precious Metals SL34	15.00
Precious Metals SL104	20.00

Precious Metals SL106	30.00
Precious Metals SL108	40.00
Puresonic OFC 7892	1.20
Puresonic OFC 7844	1.65
Puresonic OFC 7845	1.95
Puresonic OFC 7891	2.85
Puresonic OFC 7816	3.75
Puresonic OFC 7832	3.75
Puresonic OFC 7812	3.75
Puresonic OFC 7825	6.95
Puresonic PSOCC 7801	9.50
Puresonic PSOCC 7802	18.00
Puresonic PSOCC 7803	27.00
QED Qudos Micro	1.25
QED Qudos micro 4 core	2.00
QED Qudos 4 core	4.00
QED Qudos Bi-Wire	4.50
QED Qudos Silver	5.00
QED Profile 4x4	9.00
QED Profile Silver 12	15.00
Rega Speaker	1.58
Rega SC42	19.98
Roksan ROK-Speaker	6.00
Shinpy Red Devil	30.00
Shinpy Red Star 2	39.00
Shinpy Black Star 2	62.00
Shinpy Pulsar 2	104.00
Shinpy Quasar 2	208.00
Siltech LS2-45	109.00
Siltech FT-12 Mk1	240.00
Siltech LS4-120	549.00
Silver Sounds 12 Gauge	15.00
Silver Sounds 10 Gauge	35.00
Silver Sounds 8 Gauge	75.00
Silver Tone Silver-Sonic	10.00
Silver Tone Silver-Sonic HC	15.00
Silver Tone Silver-Voice	55.00
Silver Tone Silver-Voice Ultra	85.00
SonicLink AST50	1.95
SonicLink AST60	2.50
SonicLink AST75	2.95
SonicLink AST200	5.95
SonicLink AST200x2	9.95
SonicLink S300	18.00
SonicLink S130x2	20.00
SonicLink S300x2	40.00
SonicLink S900	60.00
SonicLink S600x2	80.00
SonicLink Black Rhodium 4	1,000.00
Straight Wire Rhythm	6.00
Straight Wire Quartet	8.00
Supra Classic 2.5	2.49
Supra Linc 2.5 Flex	3.49
Supra Classic 4.0	3.95
Supra Classic 6	4.95
Supra Ply 2.0	4.95
Supra Linc 4.0 Flex	4.95
Supra Ply 3.4	6.95
Supra Quattro 4x4	8.95
Tara Klara	2.95
Tara Prism 2+2	7.95
Tara Prism Nexa	9.95
Tara Prism Bi-Wire	18.00
Tara RSC Prime 500	43.00
Tara RSC Prime 1000	73.00
Tara RSC Ref Gen/2	118.00
Tara RSC Prime 1800	150.00
Tara RSC Digital 75	230.00
Tara RSC Air 2	291.00
Tara RSC Air 1	466.00
Tara ISM The Two	708.00
Tara ISM The One	941.00
Tech + Link SPC 79	1.20
Transparent Cable Musichord	11.00
Transparent Cable The Wave	23.00
Transparent Cable Music Wave	25.00
Vampire Wire SC-384	11.00
Vampire Wire SC-554	15.00
Vampire Wire ST-I	30.00
Vampire Wire SC-1108	30.00
Vampire Wire ST-II	48.00
Vampire Wire ST-III	73.00
van den Hul Skyline HB	3.99
van den Hul Snowline	5.49
van den Hul Skytrack HB	5.99
van den Hul Clearwater	7.99
van den Hul Snowtrack	10.99
van den Hul Royal Jade	10.99
van den Hul CS122 HB	13.49
van den Hul Cleartrack	14.99
van den Hul D352 HB	21.00
van den Hul Teatrack HB	23.99
van den Hul SCS12	36.00
van den Hul Magnum HB	40.00
van den Hul The Wind HB	44.00
van den Hul Revolution HB	80.00
van den Hul Revelation HB	120.00
van den Hul The Third	1,000.00
XLO CDA 16/2	4.45
XLO CDA ER-14 THX	5.81
XLO CDA 16/4	8.60
XLO CDA ER-11 THX	11.62
XLO Pro 600	16.60
XLO CDA ER-12 THX	23.24
XLO Pro 1200	33.20
XLO Ultra 6	41.50
XLO Ultra 12	83.00

XLO Ref 2	216.00
XLO Sig 5.1	398.00
XLO Limited Ed'n	1,660.00



CARTRIDGES

KEY
MM - Moving-magnet type.
MC - Moving-coil type.

UP TO £100

Audio Note IO1	MM	99
Audio Technica AT-91	MM	15
Audio Technica AT-95E	MM	20
Audio Technica AT-110E	MM	28
Audio Technica AT450E	MM	70
Audio Technica AT440ML	MM	90
Benz-Micro MC20EII	MC	70
Denon DL110	MC	70
Denon DL160	MC	90
Denon DL103	MC	100
Goldring Elan	MM	19
Goldring Elektra	MM	29
Goldring 1006	MM	59
Goldring 1012GX	MM	79
Goldring 1022GX	MM	99
Grado ZCE+1	MM	27
Grado ZFE+1	MM	37
Grado ZFE+1	MM	48
Grado Prestige Black	MM	49
Grado Prestige Green	MM	59
Grado Prestige Blue	MM	69
Grado ZFI+	MM	83
Grado Prestige Red	MM	99
N'h'am Tracer I	MM	98
Ortofon OM 3E	MM	16
Ortofon OM 5E	MM	20
Ortofon OM 10	MM	30
Ortofon 510	MM	40
Ortofon OM DJ	MM	50
Ortofon OM 20	MM	70
Ortofon 520	MM	70
Ortofon MC1 Turbo	MC	75
Ortofon Concorde DJ	MM	80
Ortofon OM 30	MM	90
Ortofon 530	MM	100
Pickering TE-15	MM	20
Pickering VE-15	MM	25
Pickering T-E	MM	25
Pickering V15-DJ	MM	28
Pickering TL-E	MM	35
Pickering TL-2E	MM	45
Pickering XV15-625E	MM	50
Pickering XV15-150-DJ	MM	50
Pickering TL-2S	MM	55
Pickering XV15-7575	MM	60
Pickering XV15-625DJ	MM	60
Pickering XV15-1800S	MM	70
Pickering TL35	MM	80
Pickering XEV-3001E	MM	95
Pickering XLZ-3500	MM	100
Pickering TL-4S	MM	100
Rega Bias	MM	39
Rega RB78	MM	39
Rega Super Bias	MM	59
Rega Elys	MM	85
Shure M70BX	MM	21
Shure M92E	MM	22
Shure SC35C	MM	29
Shure M447X	MM	35
Shure M44GX	MM	35
Stanton 500AL II	MM	35
Stanton 500EL	MM	44
Stanton 680AL/X	MM	59
Stanton 680EL/X	MM	74
Sumiko Oyster	MM	30
Sumiko Black Pearl	MM	50
Sumiko Pearl	MM	70
Sumiko Blue Point	MC	100

OVER £100

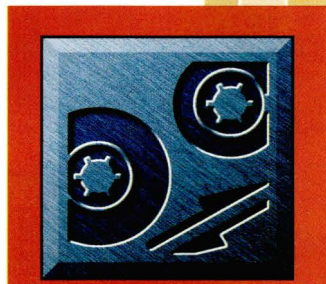
Allaerts MC1 Eco	MC	850
Allaerts MC1 B	MC	1,250
Allaerts MC1 B MkII	MC	2,200
Allaerts MC2 Finish	MC	2,995
Audio Note IO2	MM	139
Audio Note Soara	MC	795
Audio Note IO1V	MC	1,095

Audio Note IO1 Ltd	MC	4,500
Audio Technica AT-OC9ML	MC	330
Audio Technica AT-33PTG	MC	489
Benz-Micro Reference	MC	600
Benz-Micro Reference Ruby	MC	1,100
Benz-Micro Ruby Open Air	MC	1,500
Clearaudio Alpha Mk 2	MM	1,600
Clearaudio Beta Mk 2	MM	135
Clearaudio Beta-5 Mk 2	MM	190
Clearaudio Virtuoso	MM	250
Clearaudio Sigma	MM	295
Clearaudio Gamma-S	MC	590
Clearaudio Victory	MC	810
Clearaudio Signature	MC	960
Clearaudio Accurate	MC	1,540
Clearaudio Insider	MC	2,515
Clearaudio Insider Ref.	MC	5,165
Denon DL304	MC	6,810
Dynavector 10XII	MC	208
Dynavector DV20XH	MC	189
Dynavector DV-20XL	MC	299
Dynavector DV20XL	MC	299
Dynavector 17D2	MC	450
Dynavector XX-1L	MC	998
Dynavector XX-I	MC	998
Dynavector Te-Katora	MC	1,698
Goldring Eroica LX	MM	110
Goldring Eroica	MM	110
Goldring 1042	MM	120
Goldring Elite	MC	220
Goldring Excel VX	MC	525
Grado Prestige Silver	MM	119
Grado Prestige Gold	MM	149
Grado Signature Junior	MM	150
Grado Signature BMZ	MM	250
Grado Signature MCZ	MM	375
Grado Signature TLZ	MM	650
Grado Signature XTZ	MM	975
Grado Reference	MM	995
Koetsu Red T	MC	1,359
Koetsu Red K Sig	MC	1,899
Koetsu Urushi	MC	1,999
Koetsu Signature	MC	2,999
Koetsu Gold PR	MC	5,498
Linn K9	MM	125
Linn Klyde	MC	500
Linn Arkiv	MC	1,000
London Decca Maroon	MM	299
London Decca Gold	MM	359
London Decca Maroon Dp	MM	379
London Decca S Gold	MM	439
London Decca Gold Dp	MM	519
London Decca Jubilee	MM	999
Lyra Lydian Beta	MC	599
Lyra Clavis Da Capo	MC	995
Lyra Parnassus DCT	MC	1,895
N'h'am Tracer II	MM	310
N'h'am Tracer III	MM	410
N'h'am Tracer IV	MM	660
Ortofon MC15 Super II	MC	140
Ortofon 540	MM	140
Ortofon MC3 Turbo	MC	150
Ortofon MC25E	MC	200
Ortofon MC25FL	MC	250
Ortofon MC10 Supreme	MC	300
Ortofon MC20 Supreme	MC	450
Ortofon MC30 Supreme	MC	550
Ortofon MC2000II	MC	800
Ortofon MC Rohmann	MC	1,000
Ortofon MC3000 II	MC	1,200
Ortofon MC Jubilee	MC	1,250
Ortofon MC7500	MC	2,000
Pickering TL-3003	MM	145
Pickering XLZ-4500	MM	150
Pickering TL-4004	MM	175
Pickering XSV-5000U	MM	200
Pickering XLZ-7500	MM	200
Pickering TLZ-7500-S	MM	200
Rega Super Elys	MM	150
Rega Exact	MM	248
Reson Mica	MM	185
Reson Recca	MM	250
Reson Aciore	MC	299
Reson Etile	MC	455
Reson Lexe	MC	1,300
Roksan Conus Black	MM	150
Roksan Shiraz	MC	990
Shure V15XMR	MM	295
Stanton 890AL/X	MM	120
Sumiko Blue Point Special	MC	250
Transfiguration Esprit	MC	950
Transfiguration Spirit	MC	950
Transfiguration Temper Supreme	MC	2,250
van den Hul DDT-II	MC	600
van den Hul MC-10	MC	750
van den Hul MC-One	MC	900
van den Hul MC-ONE Super	MC	1,050
van den Hul MC-Two	MC	1,200
van den Hul The Frog Low o/p	MC	1,500
van den Hul The Frog HO	MC	1,700
van den Hul Grasshopper IISLN	MC	2,000
van den Hul Grasshopper IISLA	MC	2,000
van den Hul White Beauty S-X	MC	2,500
van den Hul White Beauty HO	MC	2,500
van den Hul Grasshopper IIIGLN	MC	2,800

HI-FI HELP

Let our experts help with your hi-fi problems. Send your query to 'Help' at the usual address.

van den Hul Grasshopper IIIICLA 2,800
 van den Hul Grasshopper IIIICMN 2,800
 van den Hul Grasshopper IIIICHN 2,900
 van den Hul Grasshopper IIIICLA 3,000
 van den Hul Black Beauty 3,000
 Wilson Benesch Matrix 786
 Wilson Benesch Analog 1,572
 Wilson Benesch Carbon 1,573



CASSETTE DECKS

KEY

↔ - Autoreverse - no need to remove and turn around the tape.
3-H - 3 heads, i.e. separate record and replay heads.

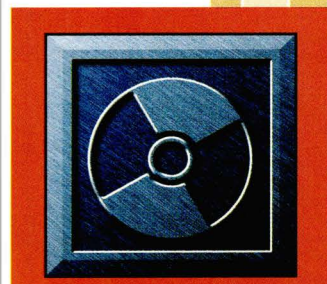
UP TO £200

Ariston WX-510	70
Denon DRM-550	160
Denon DRW-585	200
Goodmans Delta 801	130
H/K DC520	200
JVC TD-X372BK	170
JVC TD-R472BK	200
Kenwood KX-W4080	160
Kenwood KX-3080	160
Kenwood KX-W6080	200
Kenwood KX-5080S	200
Marantz SD-455	170
Marantz SD-57	199
Onkyo K 185	200
Pioneer CT-S250	150
Pioneer CT-W205R	160
Pioneer CT-W505R	180
Pioneer CT-S450S	200
Pioneer CT-W606DR	200
Sony TC-WE435	130
Sony TC-KE230	130
Sony TC-WE635	150
Sony TC-KB820S	180
Sony TC-WE835	200
Teac W-416	100
Teac V-615	130
Teac RH-300	160
Teac W-790R	170
Teac V-1050	180
Teac RH-500	200
Technics RS-BX501	170
Technics RS-TR373	180
Technics RS-TR474	200
Technics RS-AZ6	200
Yamaha KX-393	130
Yamaha KX-W321	170
Yamaha KX-493	180

OVER £200

Denon DRM-650S	230
Denon DRM-740	270
Denon DRS-810	310
H/K TD 420	250
JVC TD-V662BK	270
JVC TD-W718BK	300
NAD 613	230
NAD 614	270
NAD 616	300
Nakamichi DR-10	800
Onkyo TA 6210	230
Onkyo TARW 211	270
Onkyo TARW 311	320
Onkyo TA 6310	330
Onkyo KR 609	350
Onkyo KW 606	370
Onkyo TARW 411	370
Onkyo K 611	460
Pioneer CT-S550S	250
Pioneer CT-W806DR	300
Pioneer CT-S550S Precision	340
Pioneer CT-S830S	500
Pioneer CT-95	1,000
Rotel RC9608X	250
Sony TC-KA6ES	600
T+A CCI200R	1,180
Teac W-860R	230
Teac W-6000R	450
Teac V-6030S	550
Teac V-8030S	650
Technics RS-AZ7	270

Technics RS-TR575 280
 Yamaha KX-580SE 250



CD PLAYERS

KEY

⇒ - Multiplayer: can be loaded with more than one disc.
 □□10 - Electrical (coaxial) digital output.
 Many players also include an optical (Toslink) output.

UP TO £250

Ariston CDX700	50
Ariston CDX710	70
Ariston CDX720	80
Cambridge CD5	100
Cambridge D100	120
Cambridge CD4	150
Cambridge CD4SE	200
Denon DCD-435	130
Denon DCD-635	180
Denon DCD-735	230
Eclipse CD101a	40
H/K HD720	200
H/K FL8350	200
JVC XL-V120BK	110
JVC XL-V130BK	120
JVC XL-V230BK	140
JVC XL-F116BK	180
JVC XL-F216BK	200
JVC XL-Z574BK	250
Kenwood DP-1080	110
Kenwood DP-2080	130
Kenwood DP-R3090	140
Kenwood DP-R4090	160
Kenwood DP-3080	170
Kenwood DPF-3010	180
Kenwood DP-R6090	200
Kenwood DP-4090	250
Marantz CD-38	130
Marantz CC-38	200
Marantz CD-48	200
Marantz CD-57	230
Marantz CD-67II	250
NAD 522	170
NAD 510	200
NAD 524	250
NAD 525	250
NAD 512	250
Pioneer PD-106	130
Pioneer PD-206	150
Pioneer PD-S507	190
Pioneer PD-F606	200
Pioneer PD-M603	200
Pioneer PD-F706	250
Rotel RCD-930AX	180
Sansui CD220	120
Sherwood CD-4030R	180
Sherwood CDC680	180
Sherwood CDC6050R	180
Sony CDP-XE220	90
Sony CDP-XE330	100
Sony CDP-M305	120
Sony CDP-XE530	130
Sony CDP-CE335	160
Sony CDP-XB720E	200
Sony CDP-CX57	250
Synergy CDJ1210	120
Teac CDP-1120	100
Teac CD-P1820	130
Teac CD-P1440	200
Teac CD-P3450SE	200
Teac PD-D2400	200
Teac PD-H500I	240
Technics SL-PG390A	90
Technics SL-PG490A	100
Technics SL-PG590A	120
Technics SL-PD6	140
Technics SL-PD8	160
Technics SL-PS670D	200
Technics SL-PS770D	250
Yamaha CDX-393 II	130
Yamaha CDC-575	180
Yamaha CDX-493	180
Yamaha CDC-675	230
Arcam Alpha MCD	350

£251 TO £500

Arcam Alpha 7 SE	350
Arcam Alpha 8	450
Arcam Alpha 8SE	500
Cambridge CD6	300
Cyrus dAD1.5	399
Denon DCD-835	280
Denon DCM-260	300
Denon DCD-1550AR	350
H/K HD740	300
H/K FL8550	300
H/K HD760	500
JVC XL-Z674BK	300
Kenwood DP-R7080	300
Kenwood DP-9090	300
Kenwood DP-5090	300
Kenwood DP-7090	400
Marantz CD-67SE MkII	300
Marantz CD6000 OSE	300
Marantz CC-870	400
Marantz CD-63IIK1	400
Musical Fi elity E60	300
Musical Fi elity A2 CD	500
Musical Fi elity E624	500
Myryad T-10	400
NAD 513	290
NAD 515	350
NAD 514	370
NAD 517	400
Nakamichi MB10	399
Onkyo DX 7210	260
Onkyo C721	290
Onkyo DXC 320	380
Onkyo DX 7510	400
Onkyo CM 716	450
Parasound C/DP-1000	499
Pioneer PD-S707	300
Pioneer PD-F805	300
Pioneer PD-S705	300
Pioneer PD-F906	350
Pioneer PD-S904	400
Pioneer PD-S505 Precision	460
Roksan Kandy	475
Rotel RCD-951	300
Rotel RCD-971	350
Sony CDP-XB930E	300
Sony CDP-CX350	350
Sony CDP-XA20ES	450
Sony CDP-X3000ES	500
Sony CDP-CX260	500
Synergy CDJ2010	300
Technics SL-MC7	300
Yamaha CDX-993	400

£501 TO £1,000

Acurus ACD11	899
Alchemist Nexus	600
Arcam Alpha 9	800
Audio Analogue Paganini	750
Audio Note CD1	599
Audio Note AN-CD2	999
Audiomeca Obsession	999
AWI S2000MC 24 Ref	999
Creek CD43	599
Cyrus dAD3	898
Cyrus dAD3Q	898
Denon DCD-1650AR	700
DPA Renaissance int CD	950
Helios Model 3	700
Helios Model 2	950
Linn Mirmik	875
Linn Genki	995
Magnum CD2020	595
Marantz CD-17	800
Monrio Asty PL	675
Monrio Privilege	995
Musical Fidelity X-RAY	799
Musical Fidelity A3 CD	799
Myryad T-20	600
Myryad MC100	800
Pioneer PDS-06	550
Primare D20	700
Quad 99	600
Roksan Caspian	895
Rotel RCD-991	750
Sony CDP-XA555ES	1,000
Sugden Audition	649
Talk Electronics Thunder 2	700
Talk Electronics Thunder 3	1,000
Teac VRDS-8	600
Teac VRDS-9	700
Teac VRDS-25X	1,000
Thule Spirit CD100	600
Thule Spirit CD150B	699
Trichord Genesis	569
Trichord Digital Jukebox 25	619
Trichord Digital Jukebox 50	669
Trichord Digital Jbox 100	719
Trichord Revelation	819
YBA Complete	649
YBA Special	695

OVER £1,000

Acoustic Precision Eikos	1,850
Advantage CD15	3,995
Alchemist Kraken CD	1,249

Alchemist Forseti Int.	1,249
Alchemist Forseti	1,995
Audio Research CD2	3,399
Audiolabor 531	7,550
Audiomeca Keops	1,500
Audiomeca Talisman	2,150
Audiomeca Talisman SE	2,300
Balanced VK-D5	3,995
Cary CD-301	2,350
Classe CDP-3	1,395
Conrad-Johnson DF-2	1,695
Conrad-Johnson DV-2b	2,495
Copland CDA-266	1,199
Copland CDA277	1,649
Copland CDA289	1,898
Copland CDA288	1,999
Cymbal CDP12	1,299
Exposure CD Player	1,050
Helios Model 1	1,250
Helios Stargate	2,250
Jadis Orchestra	1,345
Krell KAV250cd	2,490
Krell KAV300cd	3,599
Krell KPS25s	19,995
Linn Ikemi	1,950
Linn Sondeck CD12	12,000
Marantz CD-17KIS	1,100
Marantz CD-7	5,500
Madrigal 39	4,995
McIntosh MCD7009	3,699
Meracus Tanto	1,395
Meracus Imago Player	4,495
Meridian 506	1,100
Meridian 508	1,995
Myryad MCD500	1,300
NAD S500	1,100
Naim CD3.5	1,050
Naim CDX	2,200
Naim NACDSII/XPS	5,625
Oracle CD Player	9,499
Pink Triangle Numeral	1,049
Pink Triangle Litaural	2,200
Primare D302	1,500
Proceed CD5	3,395
Resolution CDP50	2,995
Roksan Attessa-DS5P	1,495
Shearman Phase 7	1,499
Sherwood CD1	1,100
Sonic Frontiers Anthem CD1	1,699
Sonic Frontiers SFCD-1	3,799
Sony SCD-1	2,700
T+A CD1210R	1,185
T+A CD1220R	1,540
TAG McLaren CD20R	1,250
Theta Miles SE	2,390
Tube Tech Fusion	1,100
Tube Tech Fulcrum	2,800
Wadia 860	7,450
XTC CDP-1	1,350
YBA Intégré a	1,095
YBA CD3a	1,850
YBA CD2a	2,950
YBA CD1a	3,895



CD TRANSPORTS

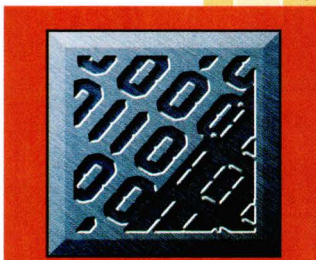
KEY

□□10 - Electrical (coaxial) digital output.
 Many players also include an optical (Toslink) output.

Alchemist Forseti Drive	1,100
Altis CDT III	4,995
Audio Note CDT Zero	399
Audio Synthesis Transcend Decade	3,295
Audiomeca Damnation	999
Audiomeca Damnation SE	1,100
Audiomeca Talisman	1,850
Audiomeca Talisman SE	1,999
Audiomeca Talisman DOB	2,250
Conrad-Johnson DR-1	1,795
DPA Enlightenment Drv	775
Jadis JD3	1,999
Jadis JDI	9,190
Linn Kank	1,850
Madrigal 37	3,995
Madrigal 31.5	9,295
Meracus Imago	3,995
Monrio Bitmatch	950

Muse Model 5	1,800
Muse Model 8	3,500
Oracle CD Drive	7,399
Pink Triangle Cardinal II	909
Resolution VT960	3,500
Roksan Attezza-DP3	1,295
Sonic Frontiers Transport 3	5,999
T-A CM1200R	875
TAG McLaren CDT20R	1,499
Teac VRDS-T1	550
Teac P-30	2,500
Theta Pearl	1,349
Theta Jade	2,650
Thorens TCD-2000	999
Trichord Digital Turntable	719
Wadia 8	3,195
Wadia 20	4,370

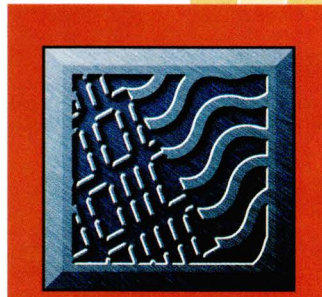
Woodside DVAC-18 1,499



DIGITAL RECORDERS

KEY
MD - MiniDisc
DAT - Digital Audio Tape
 - Portable

Denon DMD-1000	MD	500
Kenwood DMF-9020	MD	499
Kenwood DM-7090	MD	500
Kenwood DM-9090	MD	550
Marantz CM635	MD	500
Marantz DR700	MD	600
Onkyo MD-121	MD	450
Onkyo MD 122	MD	700
Philips CDR770		1
Philips CDR775		1
Philips CDR570		1
Philips CDR951		1
Pioneer MJ-D707	MD	199
Pioneer PDR-555RW		480
Pioneer PDR-04		700
Pioneer D-05	DAT	900
Pioneer PDR-05	DAT	1,000
Pioneer D-C88	DAT	2,000
Sharp MD-R1 MkII	MD	180
Sharp MD-R3H	MD	300
Sharp MD-R2	MD	300
Sharp MD-MS200H	MD	350
Sharp MDXV300H	MD	1,000
Sony MZ-R55	MD	1
Sony MDS-540	MD	1
Sony MZ-R37	MD	1
Sony MZ-R55T	MD	1
Sony MDS-JE530	MD	200
Sony MDS-JB930	MD	300
Sony MDS-JA20ES	MD	500
Sony MDS-JA555ES	MD	650
Teac MDH300	MD	300
Teac MD-H500i	MD	350
Teac MD-8	MD	600
Teac MD-5	MD	600
Teac MD-10	MD	900
Traxdata Traxaudio 900		399
Yamaha MDX-595	MD	250
Yamaha CDR-S1000		400



DIGITAL TO ANALOGUE CONVERTERS (DACs)

KEY
4 - Number of digital inputs.

Alchemist TS-D-1		300
Alchemist Forseti DAC	4	1,100
Altis Reference	4	4,995
Audio Note DAC Zero		369
Audio Note DAC1		675
Audio Note DAC2		1,099
Audio Note DAC3		1,750
Audio Research DAC5	4	2,335
Audio Research DAC3 MkII	4	3,999
Audio Synthesis DAX Decade	4	2,795
Audiomeca Elixir	1	799
Audiomeca Ambrosia		1,850
Boulder 2020	6	21,000
Chord DSC900		1,850
Chord DSC1100	1	2,765
Chord DSC1500	1	4,800
Conrad-Johnson D/A-3	1	1,195
Conrad-Johnson D/A-2b		1,990
dCS Elgar	4	8,500
DPA Little Bit 3		325
DPA Renaissance DAC		595
DPA Enlightenment DAC		850
DPA SX128		2,000
DPA SX256		4,000
DPA SX512		8,000
Harmonix Reimyo DAP-77		2,790
Jadis JS2		2,499
Jadis JS1	3	6,990
LFD DAC2		1,950
LFD DAC3		3,000
Linn Numerik		1,500
Madrigal 360	6	4,395
Madrigal 360S	6	6,895
Madrigal 30.6		16,495
Meracur Auriga		1,295
Meracur Flagrare		2,495
Meridian 566		1,095
Monrio 18B2	3	795
Muse Model 2		2,190
Muse Model 2 Plus	4	2,500
Muse Model 2/96	4	3,000
Musical Fidelity X-ACT		200
Musical Fidelity X-24K		300
Musical Fidelity X-DAC		300
Onkyo DX 7310		330
Resolution D92	7	1,500
Roksan Attezza-DA2	4	595
Sonic Frontiers Processor 3	5	5,999
Sumo Theorem II		945
Sumo Theorem IIb		1,155
TAG McLaren DAC20	7	1,249
Teac D-T1	4	500
Theta Chroma 396 Std		799
Theta Pro Geny		1,099
Theta Pro Prime IIa		1,699
Theta Pro Basic IIIa		2,990
Theta Casablanca LS		6,158
Thorens TDA-2000	3	700
Thorens TDA-2000		1,395
Trichord Pulsar Ser One		1,395
Wadia 12		1,530
Wadia 15		3,790
Wadia 64.4		4,750
Wadia 16		7,395
Wadia 7		9,995
Wadia 9		12,790



HEADPHONES

KEY
'D' - Dynamic type, compatible with virtually all normal headphone outputs.
'E' - Electrostatic type; generally includes a separate power supply.
 - Open-back construction.
 - Closed-back construction.
UP TO £40

AKG Rox	D	30
Aural Envelope DX200	D	20
Aural Envelope DX220	D	30
Beyer DT111	D	15
Beyer DT211	D	31
Beyer DT211 TV	D	35
Hama SL273	D	20
Hama SL275	D	25
JVC HA-CD88	D	18
JVC HA-D525	D	20
JVC HA-F65	D	20
JVC HA-D626	D	25
Kenwood KPM-310	D	18

Kenwood KPM-410	D	25
Maxell HP-2000	D	20
Pioneer SE-A40	D	20
Pioneer SE-A20V	D	23
Pioneer SE-M250	D	25
Pioneer SE-M350	D	30
Sennheiser HD56	D	18
Sennheiser HD433	D	20
Sennheiser HD400	D	25
Sennheiser HD470	D	35
Sennheiser HD60TV	D	40
Sony MDR-250V	D	18
Sony MDR-A34L	D	18
Sony MDR-ED228LP	D	18
Sony MDR-G52LP	D	20
Sony MDR-E848LP/MP	D	20
Sony MDR-EQ238ML	D	22
Sony MDR-G56V	D	25
Sony MDR-G62LP	D	25
Sony MDR-G59G	D	30
Sony MDR-G72LP	D	30
Sony MDR-V300	D	30
Sony MDR-IF130K	D	30
Sony MDR-EX70LP	D	35
Sony MDR-ED268LP	D	35
Stanton ST Pro	D	25
Technics RP-HT355	D	20
Technics RP-F200	D	25
Technics RP-F400	D	30
Technics RP-HT550	D	35
Technics RP-F500	D	40
Vivanco SR200	D	20
Vivanco SR150	D	20
Vivanco SR250	D	20
Vivanco IR5700	D	30
Vivanco IR5800	D	40

OVER £41

AKG K301	D	70
AKG K240DF	D	100
AKG K222IR	D	100
AKG K401	D	120
AKG K501	D	150
AKG K333IR	D	150
AKG K444IR	D	180
AKG K290S	D	250
AKG K1000	D	700
Audio Technica ATH910PRO	D	80
Audio Technica ATHD40FS	D	100
Audio Technica ATH-M40	D	120
Audio Technica ATH911	D	120
Beyer DT311	D	50
Beyer DT411	D	63
Beyer DT351	D	65
Beyer DT431	D	81
Beyer DT511	D	106
Beyer DT801	D	125
Beyer DT851	D	140
Beyer DT811	D	145
Beyer DT100	D	160
Beyer DT901	D	160
Beyer DT911	D	170
Denon AH-D210	D	45
Denon AH-D350	D	65
Denon AH-D550	D	80
Denon AH-D650	D	95
Denon AH-D750	D	130
Denon AH-D950	D	150
Grado SR40	D	45
Grado SR60	D	79
Grado SR80	D	100
Grado SR125	D	150
Grado SR225	D	200
Grado SR325	D	300
Grado RS2	D	495
Grado RS1	D	695
Hama SL276	D	50
Hama IR Cordless	D	60
Jecklin Float Model 1	D	79
Jecklin Float Model 2	D	99
Jecklin Float ELS	E	399
JVC HA-D727	D	43
JVC HA-D50	D	45
JVC HA-W60	D	49
JVC HA-D910	D	65
JVC HA-W200RF	D	75
JVC HA-DX1	D	200
JVC HA-DX3	D	250
JVC HA-D1000	D	250
JVC HA-F25	D	699
Koss TD/80	D	50
Koss R/100	D	100
Philips SBC 3396	D	70
Philips SBC HP9000	D	90
Pioneer SE-M550	D	50
Pioneer SE-M750	D	60
Precide Ergo Model 1	D	120
Precide Ergo Model 2	D	140
Sennheiser HD200	D	50
Sennheiser IS 380	D	50
Sennheiser HD490	D	50
Sennheiser HD495	D	60
Sennheiser HD500	D	70
Sennheiser RS400	D	80
Sennheiser HD270	D	80
Sennheiser HD25 SP	D	90

Sennheiser HD570 Symphony	D	90
Sennheiser HD545 Ref	D	100
Sennheiser IS450	D	110
Sennheiser HD265 Linear	D	125
Sennheiser HDC 451-1	D	130
Sennheiser HD250II	D	150
Sennheiser HD590	D	150
Sennheiser HD565 Ovat'n	D	150
Sennheiser HD25-13	D	160
Sennheiser HD25	D	160
Sennheiser HD 580 P'cision	D	200
Sennheiser HD600	D	250
Sennheiser IS850	D	859
Sennheiser HE60/HEV70	E	998
Sennheiser Orpheus	E	9,652
Sony MDR-V500DJ	D	50
Sony MDR-RF830RK	D	60
Sony MDR-V700DJ	D	100
Sony MDR-D77	D	130
Sony MDR-F1	D	200
Sony MDR-CD1700	D	200
Sony MDR-DS5000	D	400
Stanton DJ Pro 101/1/1B	D	65
Stanton DJ Pro 1000	D	95
Stanton DJ Pro 1001	D	150
Stax SR-001	E	280
Stax SR-Lambda Nova C	E	370
Stax SR-Lambda Nova Basic	E	449
Stax SR-Lambda Nova S	E	450
Stax Omega	E	1,896
Technics RP-F800	D	50
Technics RP-HC100	D	55
Technics RP-DJ1200	D	130
Vivanco SR650	D	45
Vivanco FMH 3000	D	50
Vivanco SR750	D	50
Vivanco SR850	D	50
Vivanco FM7980	D	60
Vivanco SR950	D	80
Vivanco FM8180	D	99
Vivanco SR2000IFL	D	100




EQUIPMENT SUPPORTS Hi-Fi Tables

KEY
4 - Number of shelves.

Avik Furniture A4	4	350
Alphason SM17	1	49
Alphason VSM17	1	85
Alphason GSM17	1	85
Alphason GMV1P	1	110
Alphason R17/17	3	120
Alphason GMH1P	1	150
Alphason VR17/17	3	190
Alphason GR17/17-AS	4	275
Apollo Soprano	4	275
Arcici Air Head 1	1	275
Arcici Air Head TNT	1	725
Arcici Suspense 5	5	1,895
Atacama Europa	4	240
Audiophile Base 01	1	79
Audiophile S4T120	4	280
Audiophile S4T120P	4	560
Audiophile Furniture Base	4	615
Avid Isoshelf	5	1,100
BCD Model 1006/8	1	795
BCD Model 1000	3	1,250
Custom Design Aspect 650	4	250
Custom Design Aspect 850	5	280
Custom Design e'lite E5	5	280
Custom Design Aspect 500AV	3	290
Custom Design e'lite XES	5	300
Custom Design e'lite AVE	8	350
Deadrock 701	1	60
Deadrock 802	2	90
Deadrock 705	3	130
Deadrock 705	5	230
Deadrock 704	4	250
Elemental Isotube X1	1	169
Elemental Isotube BS	1	199
Elemental Isotube TS	1	209
Elemental Isotube IS	1	209
Elemental Reference B1	1	329
Elemental Isotube X2	2	379
Elemental Isotube X3	3	489
Elemental Reference BS	1	499
Elemental Reference X1	1	499
Elemental Reference TS	1	549
Elemental Reference IS	1	549

Elemental Reference X2	2	799
Elemental Isotube X4	4	849
Elemental Isotube X4/Ref	4	1,199
Elemental Reference X3	3	1,199
Elemental Isotube X4Rse	4	1,349
Elemental Reference X4	4	1,599
Fi-Rax R4	6	399
Finite Elemente A03 pagode	4	479
Finite Elemente E03 pagode	4	649
Finite Elemente HD03	4	1,995
Frameworks H175	1	139
Frameworks FS1	1	150
Frameworks H500	3	265
Frameworks FT2	2	285
Frameworks FT3	3	350
Frameworks H700	3	355
Frameworks H900	3	389
Impulse Iso-plate		190
JPW 3 Tier	3	80
JPW 5 Tier	5	100
Linn K3000		85
Mana Sound Frame		125
Mana Mini Table		150
Mana Power supply table		150
Mana Reference flat top		150
Mana Sound Shelf		175
Mana Sound Stage		200
Mana Sound Table		235
Mana Ref Shelf		325
Mana Reference Table		350
Mana 2 Tier Stand		375
Mana 3 Tier Stand		450
Mana 4 Tier Stand		500
Mana 5 Tier Stand		600
Mana 6 Tier Stand		700
Mana 7 Tier Stand	7	800
Mana 8 Tier Stand	8	900
Mission Stance		100
Optimum G4/Pedestal	5	130
Optimum OPT 3406	3	149
Optimum G5/Pedestal	6	150
Optimum OPT 4906	4	199
Optimum OPT 3000	3	200
Optimum OPT 6606	5	249
Optimum OPT 340	3	249
Optimum OPT 5000	5	280
Optimum OPT 490	4	299
Optimum OPT 440	4	299
Optimum OPT 10206	6	299
Optimum AV 300	3	329
Optimum OPT 700	5	349
Optimum OPT 610	5	349
Optimum OPT 660	4	349
Optimum OPT 1020	6	399
Optimum OPT 8000	8	400
Optimum OPT 1190	7	450
Projekt A3	3	145
Projekt A4	4	215
Projekt A5	5	235
Projekt B3	6	255
Projekt A6	6	280
Projekt B3i	6	300
Projekt B4	8	340
Projekt B Multi	8	345
Projekt B3ii	7	345
Projekt C3	9	375
Projekt D3	12	420
Projekt C3i	8	420
Projekt B5	10	425
Projekt C3iii	11	465
Projekt C3ii	10	465
Projekt D3i	12	500
Projekt C4	12	500
Projekt C3iv	10	510
Projekt D3ii	14	545
Projekt C Multi	9	555
Projekt D4	16	560
Quadraspire Q4S mini shelf	1	65
Quadraspire Q4S shelf	1	65
Quadraspire QKS Cabinet shelf	1	80
Quadraspire QAV shelf	1	130
Quadraspire Q4M mini table	4	250
Quadraspire Q4 table	4	250
Quadraspire Q4SP Table	4	320
Quadraspire QAV table	3	350
Quadraspire QAVSP Table	3	400
Quadraspire QK Cabinet	4	450
Reson DOMOPS	1	195
Reson DOMOWS	1	195
Solid Steel Model B	1	141
Solid Steel Model A	1	152
Solid Steel Series 3	4	220
Solid Steel Series 5	4	310
Solid Steel H3	5	372
Solid Steel H5	5	517
Sound Org Z022	1	65
Sound Org Z021	2	78
Sound Org Z030	3	100
Sound Org Z060	4	120
Sound Org Z038	5	155
Sound Org Z540	4	140
Sound Org Z560	5	160
Sound Org Z545	4	160
Sound Org Z530	3	170
Soundstyle X300	3	180
Soundstyle X305	3	210
Soundstyle X053	4	210
Soundstyle X050	4	210
Soundstyle X6300	3	215
Soundstyle X100	4	230
Soundstyle X6110	4	230
Soundstyle X058	5	240
Soundstyle X310	3	250
Soundstyle X105	5	250
Soundstyle X6053	4	255
Soundstyle X6100	4	265
Soundstyle X6310	3	275
Soundstyle Radius SR100	4	280
Soundstyle X6058	5	290
Soundstyle X6105	5	300
Soundstyle Finewoods W105	5	320
Standesign Design 4	4	190
Stands Unique Isolation Platform	1	55
Stands Unique Sound Support	4	260
Stands Unique Sound Tower	5	299
Stands Unique Compact Sound Supp	4	329
Stands Unique Sound Support 10	4	329
Stands Unique Sound Twr Cabinet	5	389
Stands Unique Ref Wall Support	1	560
Stands Unique Ultimate Tower	10	720
Stands Unique Ref Floor Support	6	840
Target B5	5	175
Townshend Seismic Sink 1-CD		110
Townshend Seismic Sink 1-3D		400
Townshend S/Sink Stand 1-4		999
Townshend Seismic Sink Stand	4	1,245
Vibraplane Passive	1	1,895
Vibraplane Active	1	3,600
Wilson benesch Standard Shelf	1	130
Wilson benesch Mono Block	1	265
Wilson benesch Kevlar Shelf	1	270
Wilson benesch Asside Basic	4	590
Wilson benesch Asside	4	720
Wilson benesch Triptych	1	990



EQUIPMENT SUPPORTS Speaker Stands

KEY
60 – Height of stand in cm.

Acoustic Solutions Platform Eight		180
Aliante Base		425
Aliante Vela		750
Alphason NCI	60	47
Alphason Akros 1	60	49
Alphason RS1	120	49
Alphason NCIi	60	84
Alphason HDS	60	85
Alphason Titan S	60	125
Apollo Olympus	60	75
Apollo A26	66	80
Atacama BD21	50	55
Atacama BD17	50	55
Atacama BD25	60	60
Atacama SE16	65	65
Atacama SE12	65	67
Atacama SX500	65	65
Atacama F2	70	70
Atacama F1	70	70
Atacama SX600	70	70
Atacama SL200	70	70
Atacama SE24	61	70
Atacama SE20	70	70
Atacama SX700	73	73
Atacama SL300	73	73
Atacama TP600	75	75
Atacama TP500	75	75
Atacama SE615	75	75
Atacama SE515	75	75
Atacama SE415	75	75
Atacama SL400	76	76
Atacama SE1000S	80	80
Atacama R724	60	150
AVF Tower P6144BP	60	35
BCD Model 1010	60	595
Black Box Speaker Stand	100	797
Credo STD 001	60	284
Custom Design R/S 300	60	75
Custom Design M Range	56	85
Custom Design Ref. stands	60	200
Deadrock 903	60	60
Deadrock 902	47	60
Deadrock 901	39	60
Elemental Reference SB1	8	399
Elemental Isotube SZ	49	499
Elemental Isotube SZse	61	599
Elemental Isotube SCZ	49	699

Elemental Isotube SCZse	49	799
Elemental Reference SZ	52	999
Elemental Reference SCZ	52	1,499
Harbeth HL-Stands	21	249
Heybrook Stand-56	63	69
JPW MS2	45	45
JPW MS3	61	55
JPW MS1	46	80
JPW HS1	61	120
JPW HS2	45	120
Mana Sound Base		175
Opera WS1/E	60	235
Opera S1	60	295
Opera S2	60	345
Partington A-4	60	119
Pioneer CP-7		50
Pioneer CP-8		80
Projekt Signature	55	80
Royd Royd	55	99
Russ Andrews Torlyte	61	599
Silverado Silverado 1 Stand	60	350
Solid Steel SL	63	186
Solid Steel SS	63	333
Solid Steel SS801	63	366
Sonus Faber Ironwood	25	475
Sonus Faber Stonewood		497
Sound Org Z037		55
Sound Org Z026		55
Sound Org Z518		65
Sound Org Z524	45	69
Soundstyle X6118	42	100
Stands Unique Speaker support	59	165
Stands Unique Tuned Spkr Support	59	230
Stands Unique Tuned Carbon Fibre	59	299
Stands Unique Vivas CF Spkr Supp	60	349
Target TR60	60	68
Target R1	53	280



LOUDSPEAKERS

KEY
 1 – Floorstander; larger models requiring no separate stand.
 2 – Stand mount; smaller models designed to be raised above the floor.
 3 – Wall mount; designed to be sited on or near the wall.
 4 – Box type, including infinite baffle, reflex and transmission line types.
 5 – Horn type; mostly large and very efficient.
 6 – Panel type, including electrostatic and planar magnetic types.

UP TO €130

Allison Micro Monitors	1	95
Allison Mini References		120
Ariston MSX 03		30
Ariston MSX 05		50
Celestion 12i		119
Denon SC-M2		80
Denon SC-E313SE		130
Gale Mini Monitors		70
Gale Gold Monitors		90
Gale 2i		130
Genexxa GX300		80
Genexxa GX330		80
GLL Arena		90
GLL Imagio IC208		100
Goodmans Active 75		65
Heybrook Prma 2		129
Interaudio XL1000		130
Jamo Studio-80		70
Jamo D-110		100
Jamo SAT-170		110
Jamo Studio-110		110
Jamo Artina		120
Jamo D-115		120
Jamo 28		125
Jamo Cornet 145		130
JBL CM40		90
JBL MX300		90
JBL Control 1X		100
JBL CM42		130
JPW ML110i		90
JPW ML210i		100

JPW ML310i		120
JPW ML410i		130
JVC SX-SC1VBK		60
JVC SP-V50		80
JVC SP-X220TBK		100
JVC SP-X550BK		150
KEF Coda 7		129
Kenwood LS-90UK		130
Mission 700		130
NAD 801		100
Paradigm Micro v2		100
Paradigm Atom v2		120
Pioneer CS-3030		120
Polk AB410		100
Realistic Minimus 26		56
Realistic Minimus Pro-77		100
Sony SS-86E		100
Tangent Monitor 3		60
Tangent Monitor 5		80
Tannoy Mercury M1		120
TDL Nucleus 1		75
TDL Nucleus 2		130
Teac LX-8 Mk II		80
Technics SB-CS65		80
Wdale Valdis 100		80
Wdale Diamond 7.1		100
Wdale Valdis 200		110
Wdale Modus Micro		110

€131 TO €200

Acoustic Energy Aegis Centre		340
Acoustic Energy Aegis One		150
Acoustic Energy AE100i		200
Allison Model 4A		170
B&W DM502 Ser II		150
B&W DM601 Ser II		199
Bose 201 IV		200
Boston CR6		149
Boston 325		149
Boston Micro 80 Sat		169
Boston Runabout		169
Boston 335		179
Boston 351		189
Boston CR7		199
Boston Runabout II		200
Celestion 15i		199
Cerwin-Vega CT-165		200
Eltax Liberty 3+		149
Genexxa GX650		140
Genexxa Pro		160
GLL Imagio IC218		140
GLL Imagio IC318		200
Heybrook HB1/2000		150
Heybrook Heylette B		199
Heybrook HB2/2000		200
Interaudio XL2000		200
Jamo Cornet 165		150
Jamo 38		150
Jamo 525		150
Jamo 560		150
Jamo 660		170
Jamo Studio 180		180
Jamo D165		200
Jamo D8		200
Jamo 892		200
JBL CM52		170
JBL MX1000		150
JBL LX20		200
JBL MX1500		200
JM Lab Tantal 505		199
JPW ML510i		150
JPW ML610i		180
KEF Cresta 2		149
KEF Coda 8		188
KEF Model 60S		199
KEF Q15		200
Kenwood LS-200G		179
Magnat Vector 22		200
Mission 701		160
Mission 771e		200
Mission 702e		200
M-A Monitor 1		200
Mordant-Short MS206		200
Paradigm Mini Monitor		170
Pioneer CS-5030		200
Polk M2		180
Polk RT3		200
Polk AB610		200
Royd A7X		155
Sequence 200		199
Sony SS-126EB		150
Sony SS-176E		200
Tangent Monitor 9		150
Tangent Monitor 11		180
Tannoy Mercury M2		140
Tannoy Revolution R1		200
TDL Nucleus 3		200
Technics SB-CS95		150
Technics SB-M20		200
TLC Maestro 705		159
Wdale Valdis 300		150
Wdale Diamond 7.3		150
Wdale Modus Music Two		200
Wdale Diamond 7.2 Ann'y		200
Wdale Valdis 400		200
Yamaha NS-45E		200

Yamaha NS-100	200
£201 TO £300	
Arcadyis Baby 1	299
Audio Gem Opal	230
B&W DM602 Ser II	300
Blueroom Minipod	250
Bose 151	220
Bose 301 IV	300
Boston 361	219
Boston CR8	239
Boston 381	259
Boston CR9	279
Boston Voyager	299
Celestion C1	299
Celestion 25i	299
Cerwin-Vega VS-8	250
Cerwin-Vega CT-330	300
Chario Syntar 100	249
Chario Ref 100	299
Chario Hipor 1000	300
Dali 102B	260
Dali 150	300
Eltax Linear Response	249
GLL Imagio IC238TL	250
Heybrook Optima	259
Heybrook Heylos	269
Heybrook HB3/2000	300
Interaudio XL3000	230
Interaudio XL4000	260
Jamo Cornet 175	230
Jamo Classic 4	250
Jamo Art	300
Jamo D265	300
JBL CM62	250
JM Lab Tantal 507	299
JPW ML710i	250
JPW ML810i	300
JVC SX-SW10	300
KEF Coda 9	299
KEF Model 70S	299
Linn Kan	295
Mission 750	248
Mission 772	250
Mission 703	300
M-A Monitor 2	250
M-A Silver 3	300
Mus Tec Kestrel SE	300
NAD 802	280
Paradigm Monitor 5	250
Paradigm Monitor 7	300
Pioneer CS-7030	230
Pioneer CS-9030	280
Pioneer S-LC1	300
Polk AB505	220
Polk M3 II	220
Polk RT5	250
Polk RT7	300
Polk M5	300
Promenade SP1	299
Rega Aria	250
Royd The Envoy	249
Royd Minstrel	275
Ruark Epilogue	239
Sequence 300	249
Sony SS-176EB	250
Tannoy Mercury M3	230
TDL Nucleus 4	300
TLC Maestro 130S	289

TLC Voyager 350	289
Wdale Modus Music Four	230
Wdale Valdius 500	300
Yamaha NS-200	300
ZYP A1	229
ZYP A2S	299
£301 TO £500	
Acoustic Energy AE105SE	350
Acoustic Energy AE109	350
Acoustic Energy Aegis Three	500
Acoustic Energy AE120	500
Allison Model 2A	420
Arcadyis Baby 2	399
Arcadyis ASC	399
Arcadyis AK1	449
Audiovector C1	399
AVI Neutron	499
AVI NuNeutron	500
B&O Beovox CX50	325
B&O Beovox CX100	425
B&W DM305	350
B&W CDM25E	400
Bandor Pictures	352
Boston Micro 90 Sat	369
Boston Micro 80 Sys	369
Boston VR20	380
Castle Inversion 15	425
Celestion 25i	399
Celestion 30i	449
Celestion 35i	499
Cerwin-Vega VS-10	350
Chario Syntar 100T	399
Chario Ref 1000	499
Dali 104B	370
Dali Royal Menuet MkII	400
Dali 606	400
Dali Royal	500
Def Tech Celsius	395
Dynaudio Audience 40	399
Epos ES12	499
GLL Imagio IC248TL	350
GLL Imagio IC258TL	450
GLL Imagio IC348TL	500
Heybrook Heylo	359
Heybrook Ultima	399
Heybrook HB4/2000	500
Jamo Classic 6	330
Jamo Cornet 195	350
Jamo BX-100A	350
Jamo 98	350
Jamo D365	400
Jamo Classic 8	400
Jamo Graphic	400
Jamo 128	450
Jamo BX-150A	450
Jamo Atmosphere	500
JBL LX60	350
JBL Ti 200	400
JM Lab Tantal 515	499
Jordan Watts JHFLG	380
Jordan Watts JH200	420
JPW ML910i	350
JPW ML1010i	450
KEF Q35	349
KEF Q55	499
KEF RDM One	499
Linn Sekrit	395
Magnat Vector 55	349

Magnat Vector 77	449
Mission 751f	348
Mission 773e	400
Mission 704	450
Mission 774	500
Mission 705	500
M-A Monitor 3	350
M-A Silver 5	400
M-A Studio 25E	500
M-A Monitor 4	500
M-A 700 PMC	500
Mordaunt-Short MS207	400
Mordaunt-Short MS208	500
Mordaunt-Short MS817	500
Mus Tec Harner	400
Mus Tec PM15	475
NAD 804	400
Neat Critique	445
Opera Duetto	395
Opera Prima	495
Origin Live OL-1AS	399
Origin Live Monarch	399
Paradigm Studio/20	350
Paradigm Monitor 9	400
Pioneer S-LC2	450
Polk AB705	330
Polk RT8	400
Polk RT10	500
Polk AB805	500
Prof Monitor Co TB15	470
Promenade SP2	399
Promenade SP3	499
Rega Alya	350
Rega Jura	450
Rega ELA	498
Royd The Squire	350
Royd Minstrel SE	399
Royd Doublet	485
Ruark Icon	399
Sequence 400	329
Sony SS-X7	400
S Coast Odette	325
Spendor S3/5	499
System 1130	500
Tannoy Revolution R2	350
TDL G20	380
TDL Chiltern CF100	450
TDL G30	500
Technics SB-M300	350
Technics SB-M500	450
TLC Altus 300	366
Triangle Cometes	359
Wdale Modus Music Six	330
Wdale Modus Music Eight	430
Wdale Modus Music 1/6	500
Yamaha NS-300	400

£501 TO £800	
Acoustic Energy AE505	700
Acoustic Precision Eikos FR1	800
Aliante Sile	580
Aliante Voce	600
Allison Model 3A	525
Arcadyis AK3	599
Arcadyis AS2	699
Arcadyis AK4	699
Audio Gem Emerald	540
Audio Note AN-K/D	620
Audio Note AN-J/B	799
Audiovector M1	759
Audiovector C2	799
AVI Biggatron	599
B&O Beolab 2500	750
B&W 603 S2	550
B&W CDM1 SE	600
Bose 501	600
Bose A'mass AM3	650
Boston VR30	600
Castle Severn 2SE	699
Celestion A Compact	599
Celestion 45i	599
Celestion C2	699
Cerwin-Vega VS-12	550
Cerwin-Vega VS-15	700
Chario Constellation Lynx	549
Chario Ref 100T	599
Chario Hipor 1000T	699
Cura CA-10	699
Dali 107	600
Dali 350	600
Dali 450	700
Dali 109	800
Def Tech BP6B	750
Diapason Micra II	750
Dynaudio Audience 50	577
Dynaudio Audience 60	729
ELAC CL310i JET	800
Epos ES14	675
Harbeth BBC LS3/5A	699
Harbeth HL-PS5E	799
Heybrook Duet	799
Infinity Kappa 60	595
Infinity Kappa 70	795
Jamo BX-200A	530
Jamo Classic 10	600
JBL LX80	550
JBL Ti 400	550

JBL SVA1500	650
JBL Ti 600	650
JM Lab Cobalt 807	599
JM Lab Tantal 520	599
JM Lab Cobalt 810	799
Jordan Watts JH400	515
KEF LS3/5a	649
KEF RDM Two	699
KEF Q65	799
Kelly KT2	700
Linn Tukun Passive	550
Linn Keliich Passive	750
Magnat Vintage 710	799
Meridian A500	750
M&K S-85	700
Mission 752f	578
Mission 753f	798
M-A Silver 7	600
M-A 702PMC	600
M-A 703PMC	800
Mus Tec Falcon	680
Naim Intro	680
Neat Mystique 2	575
Neat Petite II	745
Opera Seconda	595
Opera Platea	795
Origin Live Resolution	732
Paradigm Studio/60	650
Paradigm Studio/80	750
Polk RT12	600
Polk RT16	799
Polk LS50	800
ProAc Tablette 2000	649
ProAc Studio 100	749
Prof Monitor Co TB15M	517
Prof Monitor Co TB1	529
Prof Monitor Co TB1M	576
Prof Monitor Co XB1	640
Promenade SP4	650
Roksan ROKone 1	595
Roksan Ojan 3	795
Royd The Sorcerer	595
Royd Abbot	695
Ruark Templar II	559
Ruark Sceptre	599
Ruark Talisman II	799
Ruark Prologue One	799
Shippy Polarys	595
Silverado Raider	695
Snell K5	795
Soliloquy 5.0	795
Sonus Faber Concertino	599
S Coast Hades	695
S Coast Lancelot	795
Spendor S1	549
System 1150	750
T+A TB 100	700
Tannoy Definition D100	689
TDL Cotswold CF200	650
Titan Logic 1/2B	600
Titan Logic 1/2	699
Titan Orbital	790
TLC Classic 2	535
TLC Classic 1	800
Totem Mite	599
Totem Rokk	765
Triangle Zephyr II	599

£801 TO £1,500	
Acoustic Energy AE509	850
Acoustic Energy AE520	1,000
Acoustic Energy AE2-II	1,245
Acoustic Solutions Eight	1,375
Aliante Moda	1,200
Apertura Prima	1,095
Apertura Nova	1,395
Arcadyis AC1	1,099
Arcadyis AK5	1,399
ATC SCM10	1,000
Audio Note AN-J/D	930
Audio Note AN-K/SPx	1,060
Audio Note AN-E/B	1,299
Audio Note AN-I/SPx	1,415
Audio Physic Step	1,299
Audiovector M1 Super	999
Audiovector M2	1,399
Audiovector M1 Sig	1,449
AVI Positron	899
B&O Beolab 4000	1,100
B&W DM604 Ser II	849
B&W CDM75E	1,000
B&W Nautilus 805	1,500
Bandor Trident	846
BKS Audio Hybrid 107	1,500
Bose A'mass AM5	900
Bose 701	1,000
Boston VR40	1,000
Carlsson OA-52.2	1,500
Castle Inversion 50	875
Castle Harlech	899
Celestion A1	899
Celestion C3	999
Celestion A2	1,499
Cerwin-Vega AL-1000	1,100
Cerwin-Vega 1515	1,300
Chario Ref 1000T	999
Chario Academy 1	1,299



B&W Nautilus 805.

Cura CA-20	1,199
Dali 850	1,100
Def Tech BP8B	1,000
Def Tech BP10B	1,500
Diapason Prelude II	875
Diapason Karis	1,275
Dynaudio Contour 1.1	879
Dynaudio Audience 70	1,100
Dynaudio Contour 1.3	1,198
Dynaudio Audience 80	1,460
Electrocompaniet EC-M1	995
Electrocompaniet EC-Qube	1,195
Electrocompaniet EC-Qube SE	1,495
Epos ES15	890
Epos ES22	1,185
Harbeth HL-K6	1,049
Harbeth HL-Compact 7	1,499
Harbeth BBC LS5/12A	1,499
Impulse Kora	1,250
Infinity Overture 1	900
Infinity Kappa 80	995
Infinity Kappa 90	1,295
Infinity Overture 2	1,500
Jadis Orchestra	999
Jamo Concert 8	1,365
JBL SVA 1600	850
JBL 4312 MKII-WX	1,000
JBL SVA 1800	1,000
JBL SVA 2100	1,250
JM Lab Cobalt 815	999
JM Lab Electra 905	1,199
JM Lab Cobalt 820	1,199
Jordan Watts JH1+1	1,150
KEF Q75	999
KEF Ref. Model One	1,199
KEF RDM Three	1,500
Kelly KT3	1,200
Linn Tukan Aktiv	1,050
Linn Keilidh Aktiv	1,250
L Voice Auditorium	1,500
Lowther Accolade 2	1,199
Lumley I/M3.5	1,050
Magnat Vintage 720	1,199
Magneplanar SMG-C SE	990
Magneplanar MG-0.6 SE	1,370
Meridian Argent 1	995
M&K S-125	1,150
Mission 705a	900
Mission 754f	1,298
M-A Studio 6	900
M-A Silver 9	1,000
M-A 705PMC	1,150
Mus Tec Condor	1,000
Mus Tec Hawk	1,250
Mus Tec Eagle	1,500
Naim Credo	1,090
Neat Elite	1,195
Opera Terza	995
Opera Callas Gold	1,095
Opera Divina II	1,495
Orelle Swing	1,200
Origin Live Sovereign	1,130
Paradigm Studio/100	950
Polk LS70	1,200
Polk RT20p	1,500
ProAc Tablette 2000 Sig	899
ProAc Studio 125	999
ProAc Response 1 SC	1,199
Prof Monitor Co LB1	999
Rega XEL	1,040
RMS Revelation S 1	1,299
Roksan Qjan 5X	995
Royd The Albion	985
Ruark Solus	1,200
Shahinian Super Elf	875
Shahinian Starter	1,195
Shahinian Compass	1,495
Shinpy Micraphonica	1,099
Silverado Ryder	1,395
Soliloquy SM 2A3	1,095
Sonus Faber Concerto	945
Sonus Faber Concerto GP	999
Sonus Faber Signum	1,200
S Coast Merlin Monitor	849
S Coast Classic	1,495
Spendor SP3/1P	825
Spendor FL6	1,099
Spendor SP2/3	1,187
Spendor FL8	1,355
T+A TAS 1200E	1,050
T+A TB 120	1,060
Tannoy Definition D300	999
TDL Cheviot CF300	850
Technics SB-M1000	1,500
Titan Enigma T/3	825
Titan Sovereign T/4	1,175
Totem The Arro	959
Totem The Staaf	1,249
Totem Model One	1,249
Veritas 7	1,000
Veritas 15	1,300
Veritas 20	1,400

£1,501 TO £3,000

Acoustic Energy AE1 Sig	1,995
Acoustic Energy AE2 Sig	2,995

Aliante Zeta	1,850
Aliante Linea	2,060
Aliante One	2,700
Alon I Mk II	1,795
Alon II Mk II	2,495
ALR/Jordan Note 7	2,500
Apertura Agora Signature	2,295
Apertura Tanagra	2,395
Apertura Tanagra Sig	2,795
ATC SCM20SL	1,750
ATC SCM20 Tower SL	2,400
Audio Note AN-E/D	1,520
Audio Note AN-E/SPx	2,250
Audio Physic Spark 2	1,749
Audio Physic Tempo	1,999
Audio Wk/p Cyclone 34	2,000
Audiostatic DC1	2,495
Audiovector M3	1,899
Audiovector M3 Sig	2,499
B&O Beolab 6000	1,550
B&O Beolab 8000	2,100
B&O Beolab Penta 3	2,650
B&W Nautilus 804	2,500
Bandor Bandora/Mora	2,350
Bandor Siren	2,800
BKS Audio Hybrid 128	2,549
Bose 901 VI	1,650
Boston Lynfield 300L	2,000
Castle Inverston 100	1,975
Celestion A3	2,399
Celestion Kingston	2,500
Chario Academy 2	1,649
Chario Academy Mill'm 2	2,100
Credo SPB 003	1,820
Credo SPB 009	2,453
Cura CA-30	1,799
Dali Grand Coupe	2,500
Def Tech BP2002	2,400
Diapason Adamantes III	1,995
Dynaudio Contour 1.8	1,894
Dynaudio Crafft	2,598
Dynaudio Contour 3.0	2,930
ECA Servo A.2	2,450
ELS Res'ch Vision	2,800
Epos ES30	2,385
Eurostatic Model 1	2,250
Gamma Epoch Ref Five	2,999
Harbeth HL-S8	1,999
Helius Syrius II	2,395
Helius Syrius I	2,850
Heybrook Octet	1,799
Hi Q Sound SM108	2,000
Impulse Lali	1,850
Infinity Overture 3	1,750
Infinity Kappa 100	1,895
Inner Sound Isis	2,375
Jamo Concert 11	2,250
JM Lab Electra 915	1,899
JM Lab Electra 920	2,399
Jordan Watts JH2K	2,400
Jordan Watts JH5K	3,000
KEF Ref. Model Two	1,599
KEF Ref. Model Three	1,999
Linn Kaber Passive	2,000
Linn Kaber Aktiv	2,640
L Voice Aud'm Avatar	2,100
Lowther Fidelio	1,999
Lowther Academy	2,399
Lowther Bel Canto	2,699
Lumley I/M2 Mk3	2,995
Magnat Vintage 760	1,999
Magneplanar MG-10 SE	1,650
Magneplanar MG-1.5 SE	1,780
Magneplanar MG-2.7 SE	2,650
Martin-Logan Aerius i	2,199
Meridian M60	2,150
M-A Studio 20SE	2,500
Naim SBL Active	1,885
Naim SBL Passive	2,030
Neolith NEO 1	2,999
Opera Caruso II	2,495
Origin Live Conqueror	1,750
Polk LS90	1,700
Posselt Albatross	2,500
ProAc Response 1.5	1,790
ProAc Response 2.5	2,700
Prof Monitor Co AB1	1,758
Prof Monitor Co IB1S	2,697
Rehdeko RK115	1,700
Ruark Crusader II	1,649
Ruark Equinox	2,000
Shahinian Arc	1,995
Shahinian Obelisk	2,850
Shinpy Euritmica	1,995
Shinpy Altair	2,895
Silverado Silverado 1	1,995
Soliloquy 5.3	1,750
Sonus Faber Electa Amator 2	2,849
Sound-Lab Quantum	2,150
S Coast Excalibur	2,750
Spendor SP1/2	1,674
Spendor SP100	2,234
T+A TB 140	1,760
Tannoy Definition D500	1,999
Tannoy Stirling TW	2,200
Tannoy Definition D700	2,500
TDL Studio Monitor-m	2,750

Totem Tabu	2,299
Totem The Forest	2,675
Veritas 25	1,750
Veritas H1	2,995
Wilson benesch Orator	2,900
Zingali Overture 2S	1,975

OVER £3,000

Acoustic Energy AE5	7,995
Alon Lotus SE	3,500
Alon V Mk II	5,495
Alon Adriana	8,500
Alon Circe	12,000
Alon Phalanx	19,000
Apertura Athena	6,995
Apertura Atlante	8,995
ATC SCM20A PRO	3,049
ATC SCM20TASL	3,995
ATC SCM50PSL	4,250
ATC SCM100PSL	4,950
ATC SCM50ASL	5,775
ATC SCM100ASL	6,475
ATC SCM70PSL	8,000
ATC SCM70ASL	10,000
ATC SCM200ASL	15,995
ATC SCM300ASL	17,731
Audio Note AN-JSE Silver	7,900
Audio Note AN-ESE Silver	9,600
Audio Physic Virgo 2	3,399
Audio Physic Avanti 2	6,699
Audio Physic Caldera	10,599
Audio Physic Medea	24,999
Audiostatic DC1 Plus	3,750
Audiovector 5X	3,999
Audiovector 6X	5,699
Avalon Avatar	5,995
Avalon Arcus	6,995
Avalon Eclipse Classic	8,995
Avalon Radion HC	13,995
Avalon Eidolon	20,495
Avalon Sentinel	79,995
Avantgarde Uno	5,300
Avantgarde Duo	7,500
Avantgarde Trio Compact	16,500
Avantgarde Trio Classic	19,708
AVI Graviton	4,250
B&W Nautilus 803	4,000
B&W Silver Signature	5,500
B&W Nautilus 802	6,000
B&W Nautilus 801	8,500
B&W Nautilus	35,000
Bandor Bandoline	3,290
Beauhorn Virtuoso Bronze	3,325
Beauhorn Virtuoso Gold	3,395
Beauhorn Virtuoso Reference	3,799
Beauhorn Accelerando	6,600
BKS Audio Hybrid 175	3,995
Boston Lynfield 500L	4,449
Carfrae Little Big Horn	6,795
Carfrae Carfraehorn	18,000
Chario Academy 3j	5,999
Credo SPB 012	3,147
Credo SDL 001	5,677
Dali Grand	4,000
Def Tech BP2000	3,600
Diapason Adamantes Ltd	3,995
Dynaudio Contour 3.3	4,815
Dynaudio Confidence 3	4,846
Dynaudio Confidence 5	5,924
Dynaudio Consequence	14,566
Dynaudio Evidence	50,909
Eggleston Rosa	8,500
Electrofluidics Sonolith 2.2xi	5,999
ELS Res'ch Vista	3,900
ELS Res'ch Illusion MkII	9,000
Eurostatic Model 2	3,650
Impulse Ta'us	3,100
Inner Sound Eros	3,995
Jadis 2	5,900
Jadis 1	18,900
Jamo Oriel	9,000
JM Lab Mini Utopia	4,500
JM Lab Mezzo Utopia	7,300
JM Lab Utopia	18,300
JM Lab Grande Utopia	35,000
Jordan Watts JH1OK	7,570
KEF Ref. Model Four	3,299
Kochel K-300S	10,000
Linn Keltik Aktiv	6,000
L Voice Avatar OXB	4,000
L Voice Air Scout	19,500
L Voice Air Partner S	37,200
Lowther Delphic	3,099
Lowther Opus One	4,999
Lumley I/M 2 Sig. Mk3	4,500
Magnat Vintage 770	3,500
Magneplanar MG-3.5SE	3,800
Magneplanar MG-20 SE P	10,300
Magneplanar MG-20 SE A	11,000
Martin-Logan SL3	3,399
Martin-Logan CLS Iiz	4,555
Martin-Logan Re-Quest Z	5,875
Meridian DSP5000	3,295
Meridian DSP5000	5,950
Meridian DSP6000	9,400
M-A Studio 50	3,300

M-A Studio 60	5,000
Naim DBL Active	8,050
Neolith NEO 2	3,499
Neolith NEO 3	4,999
ProAc Response 3.8	3,990
ProAc Future 1	5,875
ProAc Response 5	9,000
ProAc Future 2	10,575
ProAc Response 4	12,000
Prof Monitor Co MB1P	5,135
Prof Monitor Co BB5-P	8,841
Prof Monitor Co MB1-A	14,805
Prof Monitor Co BB5 A	19,799
Prof Monitor Co MB1/XBD-A	22,266
Prof Monitor Co BB5/XBD-A	32,606
Rehdeko RK125	3,200
Rehdeko RK145	4,800
Rehdeko RK175	8,800
Revel Gem	5,995
Rockport Merak	13,995
Rockport Syzygy	15,000
Rockport Procyon	32,500
Ruark Solstice	4,000
Ruark Excalibur	7,000
Shahinian Hawk	5,495
Shahinian Diapason	9,495
Shinpy Enigma	3,995
Shinpy Euphonia	5,995
Shinpy Magnifica Suprema	14,500
Shun Mook Bella Voce	6,000
Snell XA-75ps	4,500
Sonus Faber Guarneri Homage	5,795
Sonus Faber Amati Homage	11,450
Sony SS-M9ED	10,000
Sound-Lab Dynastat	3,790
Sound-Lab Aura	6,490
Sound-Lab Pristine III+	7,990
Sound-Lab A-3	11,990
Sound-Lab Ultimate II	13,950
Sound-Lab A-1	13,990
Sound-Lab Ultimate III	18,950
Sound-Lab Ultimate I	23,950
S Coast King Arthur	3,095
S Coast Excalibur Ref.	12,400
Spendor FL10	3,475
T+A A4D	3,850
T+A A3D	4,550
T+A A2D	8,400
Tannoy Edinburgh TW	3,250
Tannoy Definition D900	3,999
Tannoy GRF Memory TW	4,000
Tannoy Westminster TW	6,600
Tannoy Canterbury 15 TW	7,720
Tannoy Westminster Royal	14,920
TDL Ref Standard-m	6,000
Titan Goliath T/4	4,112
Totem Mani-2	3,100
Totem Shaman	9,999
Veritas 45	3,750
Veritas H2	4,495
Veritas H3	5,995
Wilson Audio Cub	5,495
Wilson Audio WATT 5	8,390
Wilson Audio WTT II	10,995
Wilson Audio Maxx	34,995
Wilson benesch Actor	3,900
Wilson benesch ACT1 spkr	6,900
Wilson benesch Act 2	8,900
Wilson benesch The Bishop	20,000



SUBWOOFERS
KEY
 (A) - Active; includes a dedicated power amplifier.
 (THX) - THX-approved by LucasFilm for use in Home THX installations.

Acoustic Energy AE108S	300
Allison Mini Ref Sub	210
Alon Poseidon	12,000
ATC SCM 0.1/15	3,810
Audio Physic Terra	3,499
B&W ASW1000	500
B&W ASW2000	800
B&W ASW3000	1,000
Boston CR400	300
Boston VR500	450
Boston VR2000	800
Celestion CS135	139
Celestion CSW MkII	329

HI-FI HELP

Let our experts help with your hi-fi problems. Send your query to 'Help' at the usual address.

Celestion S1i	Ⓐ	349
Celestion A6s	Ⓐ	800
Cerwin-Vega HT-10D	Ⓐ	200
Cerwin-Vega HT-12D	Ⓐ	250
Chario Syntar Bass	Ⓐ	299
Chario Hiper Bass	Ⓐ	499
Creedo SDC 001	Ⓐ	3,054
GLL Le Bass	Ⓐ	350
Jamo SW303E	Ⓐ	200
Jamo SW400E	Ⓐ	250
Jamo SW410e	Ⓐ	300
Jamo SW505E	Ⓐ	300
Jamo Sub One	Ⓐ	400
JBL Control Sub 6	Ⓐ	200
JBL Control Sub 10	Ⓐ	300
JM Lab Tantal SW20	Ⓐ	349
JM Lab Cobalt SW27A	Ⓐ	599
JM Lab Electra SW33A	Ⓐ	899
JM Lab Sub Utopia	Ⓐ	2,200
JPW Subwoofer	Ⓐ	130
JPW SW40	Ⓐ	240
JPW SW60	Ⓐ	350
JPW SW-120	Ⓐ	500
KEF Model 20B	Ⓐ	349
KEF Model 30B	Ⓐ	499
KEF Model AV1	Ⓐ	2,499
Kenwood SW500	Ⓐ	250
Kenwood SW501	Ⓐ	349
Linn AV5150	Ⓐ	2,850
L Voice RW24	Ⓐ	11,500
Magnat Vector Sub 30P	Ⓐ	149
Magnat Vector Sub 30A	Ⓐ	299
Magnat Omega 300	Ⓐ	429
Meridian M2500	Ⓐ	1,595
M&K VX-7MKII	Ⓐ	450
M&K V-75 MKII	Ⓐ	650
M&K VX-100	Ⓐ	750
M&K V-125	Ⓐ	800
M&K V-125 (THX)	Ⓐ	800
M&K MX-70	Ⓐ	900
M&K MX-150 (THX)	Ⓐ	1,500
M&K MX-700	Ⓐ	1,595
M&K MX-200	Ⓐ	1,800
M&K MX-350THX	Ⓐ	1,995
M&K MX-5000 (THX)	Ⓐ	2,900
Mission 75as	Ⓐ	548
M-A ASW110	Ⓐ	500
M-A ASW210	Ⓐ	700
Mus Tec PMS 45	Ⓐ	500
Mus Tec Tercel	Ⓐ	700
Muse Model 22	Ⓐ	1,890
Muse Model 18	Ⓐ	3,790
Neat Gravitas	Ⓐ	1,095
Paradigm PDR10	Ⓐ	250
Paradigm Servo 15A	Ⓐ	800
Polk PSW50	Ⓐ	350
Polk PSW150	Ⓐ	500
Polk PSW300	Ⓐ	750
REL Q50	Ⓐ	375
REL Q-100E	Ⓐ	495
REL Strata III	Ⓐ	600
REL Q-200E	Ⓐ	600
REL Storm III	Ⓐ	800
REL Stadium II	Ⓐ	995
REL Stentor II	Ⓐ	1,800
REL Studio II	Ⓐ	4,000
Revel Sub-15	Ⓐ	2,195
Roksan Ojan 3S	Ⓐ	795
Ruark Log-Rhythm	Ⓐ	750
Sequence FW120	Ⓐ	249
Soliloquy S10	Ⓐ	1,050
Sony SA-W305	Ⓐ	130
Sunfire Sub Junior	Ⓐ	1,099
Sunfire True Sub	Ⓐ	1,499
Sunfire Trus Sub Sig.	Ⓐ	1,699
Tannoy mSUB 10	Ⓐ	250
TDL Nucleus SBR	Ⓐ	200
Tsunami TS300	Ⓐ	300
Tsunami TS200	Ⓐ	300
Tsunami TS210	Ⓐ	399
W'dale Modus Sub Bass	Ⓐ	180
Wilson Audio Puppy 5.1	Ⓐ	8,450
Wilson Audio Whow III	Ⓐ	10,999
Wilson Audio XS	Ⓐ	17,000
Yamaha YST-SW45	Ⓐ	140
Yamaha YST-SW90	Ⓐ	180
Yamaha YST-SW160	Ⓐ	280
Yamaha YST-SW300	Ⓐ	350

TONEARMS

KEY

⊖ - Pivoted.
- Parallel tracking.

Air Tangent IC	##	4,600
Air Tangent 10B	##	8,600
Air Tangent Reference	##	14,000
Audio Note AN-ARM 1	⊖	169
Audio Note AN-0s	⊖	795
Audio Note AN-1s	⊖	995
Audiomeca SL5	##	2,500
Clearaudio Souther TQ-1	##	1,670
Clearaudio Master TQ-1	##	3,620
Dynavector 507	⊖	1,995
Graham Mk 2.0 Basic	⊖	1,810
Graham Mk 2.0 Deluxe	⊖	2,650
Helius Orion 4 Copper	⊖	549
Helius Cyalene 2	⊖	1,495
Kuzma Stogi S	⊖	399
Kuzma Stogi	⊖	750
Kuzma Stogi Ref	⊖	1,250
Linn Akito	⊖	500
Linn Ekos	⊖	1,500
Moth Mk I	⊖	109
Moth MKIII Stainless	⊖	146
Moth Mk III Tungsten	⊖	174
Moth Mth 900	⊖	598
Naim ARO	⊖	1,070
N'ham Interspace Arm	⊖	370
N'ham Space	⊖	450
N'ham Mentor	⊖	800
N'ham Foot	⊖	1,100
N'ham Anna Log Arm	⊖	1,500
Pro-Ject 9	⊖	350
Rega RB250	⊖	109
Rega RB300	⊖	174
Rega RB900	⊖	598
Rockport Series 7000	##	6,000
Roksan Tabriz	⊖	350
Roksan Tabriz Zi	⊖	450
Roksan Artemiz	⊖	895
SME 3009 Ser II Imp	⊖	309
SME 3009 S2 Ser II Imp	⊖	338
SME Series II 3009-R	⊖	514
SME Series II 3010-R	⊖	526
SME Series II 3012-R	⊖	565
SME 309	⊖	689
SME 310	⊖	705
SME 312	⊖	802
SME Series IV	⊖	983
SME Series V	⊖	1,461
Triplanar V1A	⊖	3,500
Triplanar V1B	⊖	3,750
Wilson Benesch Act 0.5	⊖	795
Wilson Benesch ACT2	⊖	1,350
Zeta AS	⊖	469
Zeta VDH	⊖	549

TUNERS

KEY

'P20' (etc.) - Number of presets.
RDS - Radio Data System; receives text information on station, programme type etc.

Arcam Alpha 7	P24	250
Arcam Alpha 8	P24	280
Arcam Alpha 10 DRT	P07	800
Ariston TX-510	P10	50
AVI S2000MT	P16	599
AVI S2000MT2	P99	899
Cambridge T500	P64	180
Creek T43	P64	399
Cymbol Digital Radio	P08	899

Cyrus FM7.5	P29	398
Davidson-Roth FM Ref Classic		5,590
Denon TU-260L MKII	P40	RDS 130
Denon TU-215RD	P40	RDS 150
Denon TU-425RD	P40	RDS 200
Denon TU-1500RD	P40	RDS 250
Fanfare FT1	P08	1,395
H/K TU930	P30	150
H/K TU950	P30	RDS 200
Kenwood KT-2080	P20	RDS 130
Kenwood KT-3080	P30	RDS 180
Linn Kudos	P50	775
Linn Kremlin	P80	2,600
Magnum Dynalab FT11		499
Magnum Dynalab FT-101A		795
Magnum Dynalab Etude		1,250
Magnum Dynalab MD108		4,990
Marantz ST-48	P60	RDS 120
Marantz ST-17	P60	RDS 600
McIntosh MR7084	P50	2,499
McIntosh MX118	P50	4,999
McIntosh MX130	P50	6,999
Meridian 504	P30	695
Musical Fidelity E50	P20	300
Myryad T-30	P29	400
Myryad MT100	P29	600
NAD 412	P24	190
NAD C440	P30	RDS 200
NAD 414RDS	P30	RDS 250
NAD 710	P24	270
NAD 712	P24	330
Naim NAT03		615
Naim NAT02		1,130
Naim NAT01		1,780
Onkyo T 421ORDS	P30	RDS 180
Onkyo T 409	P30	230
Onkyo T 411RDS	P30	RDS 260
Pioneer F-204RDS	P30	RDS 140
Pioneer F-504RDS	P40	RDS 250
Pioneer F-504RDS Precision	P40	RDS 300
Quad 99	P25	700
Quad 77FM	P25	700
Rega Radio	P24	298
Roksan Kandy	P50	RDS 375
Roksan Caspian	P50	695
Rotel RT-935AX	P20	160
Rotel RT940AX	P20	200
Sony ST-SE200	P30	100
Sony ST-SE300	P30	RDS 110
Sony ST-SE500	P30	RDS 140
Sony ST-SB920	P30	RDS 180
Sony ST-SA3ES	P30	RDS 250
Sony ST-S3000	P30	RDS 250
T+A T1200R	P60	RDS 790
TAG McLaren T20	P39	1,099
Teac T-R400	P40	100
Teac T-R460	P40	RDS 120
Teac T-H500	P30	RDS 170
Technics ST-GT350L	P30	RDS 130
Technics ST-GT550L	P39	RDS 180
Technics ST-GT650L	P39	RDS 230
Thorens TRT-2000	P50	RDS 499
Thule Spirit TU100	P40	RDS 499
Yamaha TX-480L	P40	100
Yamaha TX-492RDS	P40	RDS 130
Yamaha TX-59 2RDS	P40	RDS 180
Yamaha RX-396RDS	P40	RDS 250
YBA Complete	P14	490

TURNTABLES

KEY

⊖ - Arm included.
⊖ - Cartridge included.
UP TO £500

Audio Note AN-TT 1	⊖	349
Dual CS435-1	⊖	140
Dual 505-4 UK	⊖	220
Dual CS-750-1	⊖	330
Genexxa Lab-710	⊖	60
Genexxa Lab-810	⊖	70
Kenwood KD-492F	⊖	100
Michell Mycro	⊖	455
Moth Alamo	⊖	199
Moth Kanoat MKI Arm	⊖	279
Moth Kanoat MK3 Arm	⊖	329
NAD 533	⊖	220
N'ham Interspace	⊖	500
Pioneer PL-J2500-C	⊖	80
Pioneer PL-990	⊖	130
Pro-Ject 0.5/OM10	⊖	170

Pro-Ject 1/510	⊖	200
Pro-Ject 2/510	⊖	250
Pro-Ject Classic/510	⊖	360
Pro-Ject 6/510	⊖	400
Pro-Ject 6.9	⊖	500
Rega Planar 78	⊖	214
Rega Planar 2	⊖	214
Rega Planar 3	⊖	274
Roksan Radius	⊖	470
Sherwood PM8550	⊖	160
Sony PS-LX150H	⊖	90
Sony PS-LX300H	⊖	150
Technics SL-1110D	⊖	120
Technics SL-BD20	⊖	160
Technics SL-BD22	⊖	180
Technics SL-1210MKII	⊖	400
Technics SL-1200MKII	⊖	400
Thorens TD-180 AT91	⊖	210
Thorens TD-280 IV/UK	⊖	230
Thorens TD166 VI AT95E	⊖	370
Thorens TD-166 VI/UK/RB	⊖	400

OVER £500

Audio Note AN-TT 2		995
Audio Note AN-TT 3		1,995
Audiomeca Romance	⊖	1,895
Audiomeca J1		3,500
Avid Volvere		1,399
Avid Acutus		3,995
Basis 2000		1,995
Basis 2001		2,995
Basis Ovation II		5,400
Basis 2500		5,495
Basis 2800		7,495
Basis Debut Gold Std III		8,200
Basis Debut Gold Vacuum		10,300
Chantry QT Level 2	⊖	705
Clearaudio Solution		925
Clearaudio Evolution		1,095
Clearaudio Revolution		2,500
Clearaudio Reference		3,835
Clearaudio Master Ref.		8,510
DNM-Reson Rota 1	⊖	3,900
DNM-Reson Rota 2	⊖	5,600
Garrard 501		5,278
Impulse Moskito	⊖	695
Kuzma Stabi S		695
Kuzma Stabi		1,950
Kuzma Stabi Reference		3,750
Linn LP12 Bask		1,100
Linn LP12 Lingo		1,750
Michell Gyro Spider Ed'n		775
Michell Gyrodek		875
Michell Orbe SE		1,725
Michell Orbe		1,995
N'ham Spacedeck		750
N'ham HyperSpacedeck		1,500
N'ham Mentor		2,600
N'ham Anna Log		5,500
Oracle Delphi		3,370
Oracle Delphi 15th Anniv		3,800
Pink Triangle Tarentella II		850
Pro-Ject Perspective	⊖	750
Rega P25	⊖	598
Rega Planar 9	⊖	1,598
Reson RS1M	⊖	695
Reson Rota 1	⊖	3,900
Rockport Capella II		7,500
Rockport Sirius III	⊖	90,000
Roksan Xerxes 10		1,295
Roksan TMS		2,750
SME Model 10A	⊖	3,333
SME Model 20/2	⊖	3,403
SME Model 20/2A	⊖	4,863
SME Model 30/2	⊖	10,675
SME Model 30/2A	⊖	12,135
SOTA Comet	⊖	995
SOTA Millenia	⊖	5,795
Stratosphere ST1	⊖	6,500
Technics SL-1200LTD	⊖	700
Thorens TD-146 VI TP50	⊖	550
Thorens TD-2001 TP90	⊖	700
Thorens TD-520 SME		1,050
Verdier Nouvelle Platine		2,250
Verdier Platine Verdier		4,350
Well Tempered Record Player	⊖	1,995
Well Tempered Classic V	⊖	3,500
Well Tempered Reference	⊖	5,500
Wilson Benesch Circle		795
Wilson Benesch WB Turntable		1,775
Wilson Benesch Full Circle	⊖	1,995

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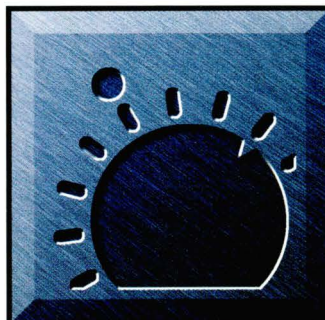
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Amplifiers

The amplifier is at the heart of any hi-fi system, accepting the outputs from various music sources, increasing the amplitude of their signal and then driving the loudspeakers to produce sound. One-box 'integrated' amps rule the roost at low-to-middle price points, but if you pay more, the low-level and high-level signal processes are separated into preamp and power amp boxes, and even separate 'outboard' power supplies come into play. Another luxury is a separate amp for each stereo channel: such devices are known as monoblocks. Finally, output power and sound quality are not necessarily related. Some of the finest amplifiers outputs only 12 Watts, but will yield loudness aplenty when partnered with high-efficiency loudspeakers.

KEY TO SPECIFICATIONS

LINE INPUTS: Number of input sockets for line-level (non-vinyl) sources such as CD players, tuners and cassette decks.
MM PHONO INPUT: An input specially designed for moving magnet (high output) phono pickup cartridges.
MC PHONO INPUT: An input for moving coil (low output) phono pickup cartridges.
REMOTE CONTROL: An infra-red handset to adjust volume etc.
HEADPHONE SOCKET: An integral output for headphones.
POWER OUTPUT (Watts): Our measurement of an amp's RMS power output into 8 Ohms.
RECEIVER: An amplifier with built-in radio receiver (tuner).
FACTSBACK REFERENCE: The Factsback Reference number permits direct access to our faxed review reprint service. For full info, see the Factsback advert on the penultimate page of the mag.
ISSUE NUMBER: The issue of *HI-FI Choice* in which an original review appeared.

B BEST BUY **R** RECOMMENDED **E** EDITOR'S CHOICE

Amplifiers

SPECIFICATIONS

LINE INPUTS MC PHONO INPUTS REMOTE CONTROL HEADPHONE SOCKET POWER OUTPUT (W) RECEIVER FACTSBACK NO. ISSUE NUMBER

STATUS

PRODUCT	(£)	COMMENTS	LINE INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	RECEIVER	FACTSBACK NO.	ISSUE NUMBER
Alchemist Kraken APD6A	599	Compact, with Darth Vader styling, yet sound quality is meek and mild, despite strong midband dynamics	5	●			55		2150	175
R AMC 3025a	140	Surprisingly potent and easy on the ear, if not especially analytical – classic bargain-basement material, in fact	4	●	●	●	30		2045	171
R AMC 3050a	170	Tremendous value for money, and a full, big, if rather uninformative sound	4	●	●	●	45		1970	167
B Arcam Alpha One	230	Rather like an Alpha 7 but without the remote control and what appears to be better sound quality still	6				35		2470	186
Arcam Alpha 7R	300	Decent, if slightly system fussy amplifier that no longer pulls all the right strings	5	●		●	45			196
B Arcam Alpha 8R	380	The Alpha 8R sets a high level of resolution and stability, and has some useful features for home cinema users	5	●		●	50		2634	192
R Arcam Alpha 9	500	Not quite a match for the Alpha 9/9P combo, the solo integrated is nevertheless colourful and explicitly detailed	7			●	70		2007	168
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		2318	181
E 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
B Audio Analogue Puccini	450	Superbly finished, the entry-level Audio Analogue performs way out of its class	5	●	●		40		2147	175
Audio Analogue Puccini SE	595	Upgraded, more powerful Puccini is disappointingly sluggish and curiously lacking in musical vitality	5	●	●		40		2314	181
Audiogram MB1	493	The only flaws are the amateurish build, a number of technical problems and inconsistent sound quality	4	●		●	40		2235	178
R AVI S2000MI	999	Fine, detailed amplifier with excellent timing and strong control of a wide range of loudspeaker loads	5			●	100		2155	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		2156	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		2466	196
R Copland CSA8	945	Sophisticated yet transparent, this is one of those amplifiers that sounds good even when the gloss has worn off	5				60		2010	168
R Copland CSA 28	1,249	Elegant Scandinavian cool, abundantly detailed if somewhat system dependent	5	●		●	60		2542	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		2315	181
Symbol CA1	499	Lacklustre amplifier tends to underperform with complex material. Best with straightforward compact loudspeakers	6				40		2236	178
R Creek 4330	279	Diminutive but classy amp will drive anything, and can be specified in various configurations	4	●			40		2630	192
R Cyrus SL	398	Articulate amplifier with build quality to die for, superb, outgoing midband and lean but well-extended bass	6				50			168
Cyrus III	598	Beautifully presented, but mid-dominated balance was not liked. Upgradeable using PSX PSU unit		●		●	50		1854	162
R Cyrus 7	700	Welcome return to form for the Cyrus stable: this is the best sounding audio brick around	6			●	60			196
R Denon PMA-250SE	140	This amp can sound rough when extended, but within its limits it is open, detailed and likeable	5			●	30		2046	171
R Denon PMA-350SE	180	Reinvented in the minimalist tradition, this SE model is a control freak, but can sound wonderful	5			●	50		1856	162
Denon PMA-535R	230	The kind of amp they made in the 70s, dressed to the nines, and nowhere to go	5	●		●	50		2627	192
Denon PMA-725R	350	Warm, bold, up-front presentation, but musically unexciting	5	●	●	●	97		1802	157
R Denon PMA-1500R	500	Recommended for its outrageous power, especially with problem speakers	5	●	●	●	70		2316	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		2151	175
Densen DM-10	1,375	Big, bold and expressive amplifier, but sometimes rough around the edges, and not as powerful as it appears	6				75		2546	189
Edmund Audio ES110	400	Honest but unexciting straight line amp from REL associate company	6				85		2635	192
Exposure XX Super	700	Rather transistorised, unexciting sound. Good coherence and rhythm. Best played loud	6				55		1743	154
Exposure RCXXV	1,000	Unaccountably rather underwhelming top of the line integrated sounds a little soft and detached	6			●	60		2543	189
R Electrocompaniet EC1-2	995	A 50 Watt amplifier which sounds more powerful, and makes 'real-sounding' music	4				50		2158	175
R Harman/Kardon HK630	200	Sharp, clean but sometimes slightly raw-sounding budget amp	4	●		●	40		2628	192
Harman/Kardon HK690	530	Bold, dynamic amplifier with plenty of balls, but not the most sophisticated sound on earth	6	●		●	100			196
Hofli Audis Signature	750	A 'no-feedback' circuit giving outstanding resolution, but significant load dependency	4	●			65		2319	181
JoLida 202	695	Well-built and technically accomplished, affordable valve integrated with subtle refined, if not quite gripping sound	4				40		2011	168
JVC AX-R5	200	Versatile, and lots of even-handed, articulate detail; but let down by superficiality	5	●		●	45		1466	149
Kenwood KAF-3010R	180	Plenty of twiddly bits yet weak on inputs, and basically good, but somewhat uneven sound quality	4	●		●	70		2463	186
Kenwood KA-5090R	300	Large, well equipped and high tech integrated, but TRAITR output still gives a harsh, unsubtle performance	5	●	●	●	65		2053	171
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
Lundahl Mag Amp	1,735	Unusual valve/magnetic amp hybrid with relaxed balance and good timbre	5				23			196
R Magnum IA120	265	Mirror finish amplifier with bold, colourful delivery, but needs careful system matching to avoid loss of clarity	6			●	65		2054	171
B Magnum IA170	330	Gives a realistic sense of instruments playing within a very believable acoustic; preserves colour and dynamics	6			●	96		1260	142
R Magnum IA200	599	Sweet, valve-flavoured solid state amplifier which flatters where it doesn't cast light	7				160		1860	162
Magnum Class A SE	795	A MOSFET amplifier drawing inspiration from the world of valves, this is an erratically refined, detailed amplifier	5	●			80		2159	175
Marantz PM-6010SE	229	Good starter amplifier, with characteristic smooth, low key delivery	5	●		●	50			196
B Marantz PM66 KI-Signature	400	It knows how to rock and roll with holographic detail and stereo, but prefers small/medium scale acoustic material	5	●	●	●	50		2003	168
Marantz PM-17	900	Probably worth it for the WBT terminals and other build features alone, but this model doesn't sing as it should	6	●	●	●	60		2323	181

CONTINUED

Amplifiers

SPECIFICATIONS

MM PHONO INPUTS
MC PHONO INPUTS
REMOTE CONTROL
HEADPHONE SOCKET
POWER OUTPUT (W)
RECEIVER
FACTSBACK NO.
ISSUE NUMBER

STATUS

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Marantz PM-17 Kl-Signature	1,300	Full feature audiophile amp where the end results don't quite justify the fantastic ingredients	6	●	●	●	60		2544	189
Monrio ASTY	400	Engaging, but ill-disciplined, even OTT amplifier with unpredictable system compatibility	5				55		2237	178
Musical Fidelity E1	199	Richly flavoured tone and realistically-scaled imagery distinguish this entry-level Richer Sounds special	6				30		2050	171
Musical Fidelity E11	299	Well built minimalist amp with a 5 year guarantee, but can sound congested when extended	6				60		2232	178
Musical Fidelity X-A1	479	Idiosyncratic visuals just another plus for an amp that is powerful, well built, and serves the music superbly	6				50		2317	181
Musical Fidelity A3	849	Similar to the XA-100R internally, and a little too relaxed for some	5	●	●		85			196
Musical Fidelity X-A100R	999	Sings like a thoroughbred, but better with Mozart than Mötörhead	6			●	75		2545	189
Myryad T-40	400	The T-40 is a well built and sensible, but needs more dynamics and finesse	6	●		●	50		2636	192
Myryad M1120	600	Well styled, well built: a good, even tempered amplifier, although it can sound rather brittle	6			●	60		2152	175
NAD 310	100	Fleet and sure of foot, it seems likely to set all appendages tapping with its blend of enthusiasm and artfulness	5				20		1468	149
NAD C320	200	Excellent budget amp from the maker of the seminal 3020 offers better clarity and neutrality and good build	6			●	40		2467	186
NAD C340	270	A classic NAD amplifier copes with any speaker, delivers plenty of power, and does so with calm decorum	6	●		●	50		2632	192
NAD 317	470	Build quality aside, the current improved version is a real powerhouse, but smooth and detailed too	6			●	80			196
NAD S300	1,900	Substantial integrated with loads of power and no shortage of finesse, slightly bass-strong	5			●	100			189
Naim Nait 3	575	Distinctive and highly musical sounding integrated amp. Perhaps too distinctive for some tastes	5				30		1748	154
Naim Nait 3R	780	Remote control variant of the basic Nait has a similarly dynamic credible sound but ultimately lacks power	5			●	30		2536	189
Pioneer A-300R	200	Its bright and breezy sound is a natural tonic to those of us worn down by the ongoing stress of life	5	●		●	50		1469	149
Pioneer A-407R	230	Clean, consistent, finely detailed sound, good finish and (mainly) good build	5	●		●	45		2471	186
Pioneer A-607R	300	Lively, articulate amp with plenty of drive and a hint of brightness	5	●		●	60		2633	192
Pioneer A-300R Precision	400	Sophisticated variant of the A-300R. Not an obvious winner, but will slowly ply you with its subtle charms	5	●		●	35		1863	162
Pioneer A-07	999	Curious blend of high-end attributes and inconsistent, though undeniably detailed sound	5			●	80		2160	175
Præcisa Acustica Sonoro	1,800	It is not often that transistor amplifiers are made to sound so palpably valve-like	5				100		2547	189
Primare A-20 Mk II	799	Everything except packaging has changed in Mk II version: but ballsier model has lost none of its refinement	5			●	70		2321	181
Primare A30.1	1,499	Superb build and aesthetics, and undemonstrably musical down to its smallest screw	6			●	100		2548	189
Rega Elex	398	Minimalist amplifier, derived from Elicit, is a little uninspiring, although at least it is well behaved	4	●			50		1865	162
Restek Fantasy II	1499	Muscular, but ultimately rather strident amplifier which needs careful system matching	6			●	100		2549	189
Roksan Caspian	695	Well-built, open and articulate amplifier, which is also consistent from system to system	6			●	70		2014	168
Rose Scion	615	Unique two-box integrated gives real subtlety and low level resolution, but the sound lacks scale and weight	5	●	●		65		2009	168
Rotel RA-931	150	Rather dry and unforgiving sound from this internally well specified and attractively priced amplifier	4	●			35		2048	171
Rotel RA-971 MkII	225	Improved AR971 is a chip off the old block: bags of power, but with added precision and clarity	6				60			196
Sony TA-FB730R	200	Brilliantly sharp and realistic sound is offset by some obvious sonic flaws – and maxi feature set doesn't help	5	●		●	40			196
Sony TA-F448BE	250	Minimalist interface is matched to carefully considered circuit with satisfactory effect – but keep the volume in check	5	●		●	55		2055	171
Sony TA-F3000ES	500	Champagne 'shoebos amp' may lack power reserves, but is quick and articulate. In every sense a knockout	5	●	●	●	35		2239	178
T+A PA-1220R	1,445	Unique presentation and feature set, but sometimes rather relentless sound quality	7			●	100		2550	189
Tact Millennium Mk II	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	800	Clean, slightly antiseptic sound from this beautifully turned out entry level Audiolab 8000LX replacement	6			●	60		2540	189
TAG McLaren 60iRv	999	Looks, feels and sounds better than the Audiolab it supersedes. Smooth, open, refined but lacks body and drive	6			●	60			184
Talk Electronics Storm 1	500	Good soundstaging and strong detail are provided by this unassuming and not especially powerful model	6				50		1868	162
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		2154	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
Teac A-BX7R	700	Characterful balance mars a meticulously designed amplifier. Includes a balanced input, optional MM/MC stage	5			●	50		1869	162
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-A700 Mk 3	250	Fully equipped, high-tech amplifier ultimately fails the authenticity test, and can sound messy and inarticulate	5	●		●	45		1870	162
Technics SU-A808	300	Intriguing amplifier, with abundant detail but dynamically rather flat	6	●		●	55			196
Technics SU-A800D Mk 2	300	Two-box amplifier looks great, has plenty of gadgets, and makes good, if slightly over-exuberant, music	5	●		●	55		2234	178
Technics SU-A900D Mk 2	400	Looks like a pre/power amplifier, but in effect it's an integrated, with a rather soft-centred sound to match	5	●		●	70		2149	175
Token Audio K50	350	Stainless steel finish, others available. Sound is warm and attractive, though a little undynamic	5				50		2472	186
Yamaha AX-392	170	Standard budget fare, and it's easy to pick holes, but in undemanding surroundings it works creditably	6	●		●	60		2629	192
Yamaha AX-492	220	Powerful, well equipped amplifier at an attractive price, offers powerful and engaging music-making	5	●		●	85		2231	178
Yamaha AX-592	280	Fine, middle ranking amplifier, with a detailed midband but performance declines at frequency extremes	5	●	●	●	100		2056	171
PREAMPLIFIERS										
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 MkII	549	Unusual looks and unusual sound too, rather rough and lacking detail	6							187
Arcam Alpha 9C	400	Well specified and flexible preamp with sound only just lacking in greatness	6			●				187
Audio Note M Zero	299	Neat shoe box-size preamp. Able to impart music with real life and soul when partnered with P Zero power amps	5							191
Copland CTA-301MkII	1,249	Sweet sounding, but never gets bogged down in audio treading	4	●					1630	151



OPERA MINI

Opera Mini may be the baby of the range but don't be fooled by the size. Standing a mere ten inches tall, this is a classily loudspeaker, made for people who love their music. And it sounds great virtually anywhere: on a bookshelf, or wall mounted, next to a TV screen, on stands, in fact wherever space allows.

The cabinet is solid hardwood – mahogany or cherry – built by Opera's craftsmen in the traditional manner. Top quality drive units and cabling are fitted, and even the terminals are Opera's own 24kt gold plated connectors, the same used on the most expensive models in the range.

If you're looking for a top class speaker that takes the minimum of space, you'll love the Opera Mini. The price will be a pleasant surprise too – at £325 the pair this is a real bargain.

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CONTINUED

Amplifiers

STATUS

SPECIFICATIONS

MM PHONO LINE INPUTS
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P Creek P43R	350	Excellent sound, remote control operation and upgrade options from this fine value preamp	6							187		
P Crimson CS610	450	Good, clear sound, including a decent phono stage, but flexibility is limited	3	●	●					187		
Cyrus aCA7	798	A decent enough unit at the price but not as good as the Cyrus aPA7 power amp it was tested with	5			●	●			190		
Densen Beat B-200	1,000	A versatile preamp with a high 'air-guitar' factor and Densen's characteristic styling	6	●	●					191		
P ECA Vista	760	Wind up the volume and blow a breath of fresh music into your system. (Tested with Lectern power amp)	5						1302	145		
Exposure XVII	850	Superbly rhythmic, maybe a bit overpowering in the midband. (Tested in sessions with XVIII Super)	5	●	●					142		
E Levinson 380	3,995	True high end preamplifier combines precision and warmth with unusual configurability	6			●				195		
LFD Mistral Linestage	449	Strong ergonomics, generally decent sound, but a little lacking in detail	6							1930	165	
Meridian 501	695	Tight, positive sound, but dispassionate; intense at high levels. (Tested with 555 power amp)	5	●			●		1303	145		
Meridian 502	1,295	Extremely sophisticated analogue controller with tremendous flexibility and a fast and tidy presentation	7							162		
Michell Orca	1,650	Line-level design with a gorgeous remote and focused, spacious sound. (Tested with Alecto power amps)	6			●				187		
Moth 30 Active Line Stage	349	Excellent-sounding ultra-simple miniature preamp	4							1931	165	
Muse Model Three	1,990	Natural sounding tranny preamp with useful audiophile features. Works beautifully with 160 power amp	5			●				166		
P Musical Fidelity X-PRE	200	Cleverly configured preamp with many upgrade options, and open, lively and engaging sound	4						2152	175		
Musical Fidelity Nu-Vista	1295	Fully remote, nuvistar tube equipped, with fine coherence and musicality	5	●			●			182		
P NAD 114	270	Beer-budget preamp which sounds focused, detailed and consistent	6	●	●		●			1932	165	
Naim NAC92R	630	Upgradeable preamp uses proprietary socketry. (Tested with NAP90 power amp)	5			●				1936	165	
NVA P50	350	Passive preamp that's more likely than most to cause treble loss	4							187		
P Quad 77 Pre	850	Sophisticated design with 2-way remote control console; open colourful sound and very flexible	4	●	●	●				1941	165	
P Rega Hal	998	Passive line stages dedicated to Exon power amps	6	●	●	●				1942	165	
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		
TAG McLaren PA20R	1,500	Refinement of Audiolab original with clean, detailed sound but limited thrill power. (T/w 125M monoblocks)	6			●	●			184		
Talk Hurricane 2L	649	Design of integrity which gets to the heart, if not the soul, of the music	6							1937	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		
Thule Spirit PR100	400	High-tech preamp slightly marred by tendency to veil the sound	5			●				187		
POWER AMPLIFIERS												
Alch. Kraken APDBA Mk II	549	Unusual looks and unusual sound too, rather rough and lacking detail	1						55		187	
P Arcam Alpha 9P	400	Clear, colourful and well-disciplined, the Arcam is a strong all-rounder that can compete with conviction	1						60	1929	165	
P Arcam Alpha 10P	600	Well made and flexible: upgradeable to 3 channels. Good sound lacking the last degree of detail	1						100		187	
Audio Note P Zero	599	Neat shoe box size valve monoblocks, priced per pair. Impart music with life and soul. (Tested with P Zero preamp)	1						8		191	
E 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	
Cary CAD 2A3SE	1,575	Monoblock valve power amp. Low power but gives delightful speed, coherence and transparency	1						5		196	
Copland CTA-505	2,099	Grown-up amplifier with a refined, yet never over-civilised air	1						67	1630	151	
P Creek A52SE	599	Well designed and built amplifier with plenty of power, detail and refinement	6						100		187	
P Crimson CS630	800	Space-saving slimline monoblocks with both grunt and finesse	1						100		187	
Crimson 620C	875	Not entirely satisfactory power amp which has dynamic strengths, but underachieves when the volume is raised	1						50		181	
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 aPA7	1,896	Low feedback design that's a positive departure from the transistorised norm. (Tested with Cyrus aCA7 pre)	1						150		190	
P Densen B-300	800	Expensive but highly musical. Colourful and warm sound with strong timing and listener involvement	1						100		183	
P ECA Lectern	880	Tested with Vista. Wind up the volume and blow a breath of fresh music into your system	1						50	1302	145	
E Gamut D200	2,995	Single MOSFET pair per side gives tremendous resolution and timing (balanced only). Formerly Sirius	1						200		183	
E Levinson 334	5,495	A mailed fist in a velvet glove; refined, authoritative and transparent	1						125		195	
LFD Mistral Power	449	Infectious upper band vitality, but LF dynamics lacking – likewise 'grip' and transparency	1						60	1930	165	
E Mana Stealth MA-1	4,800	A monoblock with an uncanny ability to drag you into the music, and spend half the night sitting up listening	2						200		198	
Meridian 555	750	By providing an open window on the music, this amp is wide open to RF and low level IM distortions	1						60	1303	145	
Michell Alecto Monoblocks	1,950	Hefty beasts offering real power and striking imaging. Not the last word in timing. (Tested with Orca preamp)	1						100		187	
Moth 60 Watt Stereo	599	Miniature power amp lacks control and finesse – not comfortable with difficult speaker loads	1						60	1931	165	
P Moth 30 Series Monoblocks	879	Tested with Active Preamp. Demonstrated solid balance and proved adept at delivering vital musical qualities	1						100		155	
P Musical Fidelity X-A50	500	Cleverly configured and attractively packaged, open, lively and engaging sound. Reviewed with X-PRE	1						50		175	
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	
Myriad MA120	450	Based on M1120 integrated – see latter for comments, but sounds significantly better when bi-amped with M1120	1						60	1935	165	
P NAD 214	370	A little lightweight, but detailed, consistent sound quality, and excellent value for money	1						80		1932	165
Naim NAP90	450	Power amp from a Nait integrated with some improvements	1						30	1936	165	
NVA A60	560	Rather coarse and uninviting sound	1						60		187	
Technics SE-A3000	2,997	Price includes SU-C3000. Supremely clean and even sounding combo, though it could be more musically involving	1				●		100		188	
Thule Spirit PA100	600	More successful than matching preamp: sound is gutsy and lively, and generally clean	1						100		187	
P Rega Exon	1,196	Monoblock, priced each, dedicated for Hal preamp. Bold, outgoing, in-command kind of sound	1						125	1942	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 RB-971	200	Somewhat better than the accompanying preamp – clean, mean and bridgeable. (Tested with RC-971)	1						70		178	
Rotel RB-980BX	450	Tames enthusiastically recorded material with a laid-back and occasionally smeared sound	1						120		155	
TAG McLaren 125M	2,400	Refined Audiolab replacement monoblocks with clean sound but limited thrill power. (T/w PA20R preamp)	1						145		184	
Talk Tornado 2	600	Good, but slightly retiring sound which lacks the authority to stand out in a crowd	1						65	1937	165	
PHONO STAGES												
P Creek OBH-9	160	A neat little unit with an essentially neutral and listenable character	0			●					189	
Cyrus aEQ7/PSX-R	826	Very hi-tech product which tends too much towards smoothness except at climaxes, which can be rough	0	●	●						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	0		●						189	
P Electrocompaniet ECP-1	495	An excellent phono amp that combines well-rounded balance with detail and low noise	0	●	●						189	
P Michell Iso/Lithos	599	With the Lithos power supply upgrade, the Iso is a very capable phono stage with just a hint of bass fullness	0			●					189	
P Moth 30 Series Phono	249	Fine sound all round, in any kind of music, from this bargain phono stage	0	●	●						189	
P Musical Fidelity X-LP	130	A little bass lightness does not seriously mar the performance of this fine value unit	0	●	●						189	
NAD PP-1	40	A basic phono stage that does its job rather coarsely: a bit bass-shy too	0	●	●						189	
P 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	0	●	●						189	
Roksan Artaxerxes X/DS1.5	1,150	Delicate and well balanced, slightly congested at climaxes. Power supply expensive, but runs two Roksan components	0	●	●						189	
TAG McLaren PPA20	1,549	One of the best-equipped phono stages available. Resolution is excellent, but timing is marginally behind the best	0	●	●						187	
MULTI-CHANNEL AMPLIFIERS												
P Arcam Alpha 10 DAVE/10P	2,500	Packed with a diversity of electronics that against engineering odds sounds extremely good	5			●	●		110		198	
P Denon AVR-3300	800	Not as powerful as Denon claims, but nonetheless capable of impressive high-fidelity multi-channel sound	4			●	●		75		198	
P Marantz SR5000	500	Something of a rough diamond, but a powerful and entertaining package	5			●	●		105		198	

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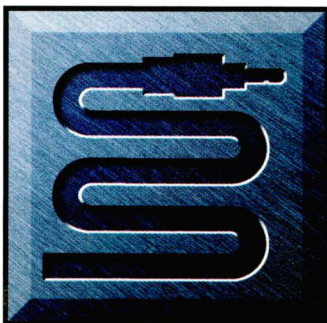
Amplifiers

STATUS

SPECIFICATIONS

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

PRODUCT	(£)	COMMENTS	MM PHONO INPUTS	MC PHONO INPUTS	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W)	FACTSBACK RECEIVER (W)	ISSUE NUMBER
NAD T770	1,000	Lacks both transparency and subtlety while the omission of dts will be a drawback for some at this price	5			●	●	90	198
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
Pioneer VSX-908RDS	1,000	A flexible heavyweight AV receiver whose sound is just a little too stodgy and lacking in crispness	4			●	●	80	198
R Roksan Caspian DSP	2,290	A potent combination offering the bare essentials of DD and dts decoding	4			●	●	130	198
R Rotel RSP-985/RPB-985 MkII	2,225	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



Cables

Cables are an integral part of a hi-fi system, required to connect source components to amplifiers, and the latter to speakers.

- Analogue Interconnects connect source components and amplifiers, and run between pre and power amps. They are priced for one-metre terminated pairs.
- Digital interconnects connect CD transports to DACs or digital recorders. They come in optical and electrical varieties, the former being made of plastic or glass. The prices shown are for a terminated linear metre.
- Speaker cables are used between the amplifier and speaker. Our prices are per unterminated metre. Termination (plugs and soldering) costs vary.

KEY TO SPECIFICATIONS

- **SYMMETRICAL:** A twisted pair of conductors.
- **COAXIAL:** A central 'hot' conductor and a shield that carries the negative signal.
- **STRANDED:** Multiple strands with no intervening insulation.
- **SOLID CORE:** Single or multiple, individually insulated strands.
- **COPPER:** Material used for conductor.
- **SILVER:** Material used for conductor.
- **DIG CABLE TYPE:** O - optical digital; E - electrical digital for CD Players, DACS and digital recorders.
- **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our faxed review reprint service. For full info, see the Factsback ad on the penultimate page of the mag.
- **ISSUE NUMBER:** The issue of *Hi-Fi Choice* in which an original review appeared.

B BEST BUY **R** RECOMMENDED **E** EDITOR'S CHOICE

Cables

STATUS

SPECIFICATIONS

SYMMETRICAL COAXIAL STRANDED SOLID CORE COPPER SILVER DIG CABLE TYPE FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	FACTSBACK NO.	ISSUE NUMBER
ANALOGUE INTERCONNECTS (PRICES PER TERMINATED METRE PAIR)											
Acoustic Precision Eikos	89	Not entirely neutral: probably best suited to upbeat music. Very stiff construction				●	●				188
Audio Note AN-A	18	Not especially impressive: warm but well-rounded balance that restricts 'air' but is quite clear	●				●				108
Audio Note AN-C	35	Neutral but lacking in subtle texture and unable to distinguish fine detail					●	●			131
R Audio Note AN-S	99	Up-beat and enthusiastic sound with satisfyingly deep and grumbly bass	●				●			1687	131
Audio Note AN-V	179	15 individually insulated silver strands make up this very clean and dynamically unchallenged cable	●				●			1687	131
Audioquest Topaz X2	60	Well made but let down by a pervading sense of muddle and congestion in the sound	●				●	●			188
R CableTalk Advanced 2	35	Slight roughness in loud music barely detracts from a well-balanced performance with good imaging					●	●		2166	176
R Cable Talk Studio 2	65	A first-class performer from tonal, dynamic and rhythmic standpoints	●				●	●			160
Cambridge Pacific	30	Lacks subtlety and bass impact but is otherwise quite serviceable for the price					●	●		2167	176
R Cambridge Audio Studio Ref	40	Dynamic cable with strong soundstaging and only a slight lack of detail	●				●	●			160
Cambridge Silver Spirit 60	100	Good bass but a lack of detail and differentiation of instruments	●				●	●			188
Chord Cobra 2	50	Good, strong sound with full-bodied music, less happy with smaller forces					●	●		2167	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
B DNM TCC75	34	Price for 0.75m. High resolution cable, but best in short runs due to higher than average series impedance						●	●	1690	131
Goertz M1 Interconnect	145	Soft sound lacking in bite, with excessive and plummy bass (NB sample used in review was only 0.5m)	●				●	●		2168	176
Insert Audio IC100 MkII	47	Mostly good sound is let down by pervasive dryness					●	●		2169	176
B Ixos 104	20	Open and detailed presentation, full bass and silky if overly smooth treble					●	●	●	1692	131
Ixos Gamma 1002	39	Lumpy bass, grainy treble, and poor integration. Nice colour, though	●				●	●		2169	176
R Ixos 103	45	Even-handed and generous sound, bass has a well-rounded, bouncy quality	●				●	●		1692	131
Ixos 102	60	A bit bright and undynamic, this cable is nevertheless a good all-rounder, whose faults are largely subtractive	●				●	●			160
Ixos 101	100	A cable with personality: its veiled and shut in quality bring an earthiness to vocals and rhythm guitar alike	●				●	●		1693	131
B Kimber PBJ	68	Assured sound, solid and natural bass and clear treble - excellent performance all round						●	●		188



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CONTINUED

Cables

STATUS

SPECIFICATIONS

SYMMETRICAL COAXIAL STRANDED SOLID CORE COPPER SILVER DIG CABLE TYPE FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	FACTSBACK NO.	ISSUE NUMBER
R Kimber Hero	110	Slight roughness detracts from some music; seems well suited to rock and jazz. Lively and detailed	●	●	●	●	●	●		2170	176
R Moth Ley Line Black	100	Offers a full sound, neutral yet very solid and confident in delivery. Expansive imaging retains music's energy	●	●	●	●	●	●			108
R Moth Ley Line Grey	200	Detailed, but there's a sense of distance between music and listener: vocals are coarse rather than liquid	●	●	●	●	●	●			108
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
R Prowire Silver	60	A good cable in every way, with just the occasional hint of coloration and coarseness	●	●	●	●	●	●		2171	176
B QED Qnect 2	30	Very well balanced, refined and detailed, this is everything a good cable should be, and excellent value	●	●	●	●	●	●		2172	176
R QED Qnect 4S	70	Some coloration and roughness in the midrange and treble, but bass is gratifyingly solid	●	●	●	●	●	●			188
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
B SonicLink Silver Pink	35	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	●	●	●	●	●	●		2172	176
SonicLink Lilac	65	Some dryness can affect transient sounds, though tone is generally good, especially in the bass	●	●	●	●	●	●			188
R Straight Wire Chorus	40	A very confident cable with good bass, though perhaps a shade of treble loss	●	●	●	●	●	●		2173	176
R Straight Wire Sonata	80	Tonal balance favours lower frequencies but despite this it's a very listenable cable	●	●	●	●	●	●			188
B Supra EFF-ISL	80	Excellent sound in all areas – nothing to criticise	●	●	●	●	●	●			188
R Tara Labs Prism 22	64	Mild tendency to pluminess offsets some hardness in complex music with mixed results	●	●	●	●	●	●			188
van den Hul The Storm	25	Price for 0.8m. Rich and warm but bass is rolled off: however there's plenty of drive and top end is clean	●	●	●	●	●	●		1701	131
R van den Hul Source HB	50	Price for 0.8m. Hybrid carbon-fibre/copper cable that is a paragon of naturalness	●	●	●	●	●	●			160
B van den Hul PB5	50	A highly neutral cable with fine dynamic and rhythmic performance too – excellent	●	●	●	●	●	●			188
B van den Hul D102 Mkill	70	A cable with everything: good bass, treble, imaging and naturalness	●	●	●	●	●	●		2173	176
van den Hul The First	210	Using 12,000 carbon fibres, a gentle and subtle sounding cable that conveys oodles of information	●	●	●	●	●	●		1702	131
R van den Hul The Second	240	Wonderfully open and relaxing but also intimately detailed, slightly softens percussive dynamics	●	●	●	●	●	●		1702	131
DIGITAL INTERCONNECTS (PRICES PER TERMINATED LINEAR METRE)											
Audioquest Digital Pro	100	A silver cable with all the drive of Video Z but lacking its clear-cut transparency	●	●	●	●	●	●	E		108
Chord Codac	36	A connection with a stranded inner core and a sound that lacks integration	●	●	●	●	●	●	E		108
R Chord Prodac	50	Price for 0.6m length. Lively detailed treble, drives music along confidently with no hint of fizz	●	●	●	●	●	●	E	1706	131
R Ixos 105	25	Extended but soft-edged treble that's mercifully free of fatiguing colorations; plenty of weight, smooth	●	●	●	●	●	●	E	1707	131
R Kimber Kable Opti-link	50	Appears to be a bog-standard PMNA fibre, yet sounds a little brighter and livelier than most	●	●	●	●	●	●	O		108
Moth Leyline Datalink	140	A thin, coaxial version of Leyline Black with a rather hard and unforgiving character. Too expensive	●	●	●	●	●	●	E		108
B QED Digiflex	20	A top performance, low-loss 75 Ohm coax with a very open, almost liquid quality	●	●	●	●	●	●	E		108
Siltech HF-6	145	Sounds detailed, very clean and extended, but bass is less well resolved – a treat for high-end systems	●	●	●	●	●	●	E	1709	131
R SonicLink Green	60	Spacious, positive and engaging if a bit over-crisp at times – very compelling, however	●	●	●	●	●	●	E	1709	131
B van den Hul The First	125	Exceptionally natural albeit slightly cautious compared to some. Plenty of subtle information and integration	●	●	●	●	●	●	E	1710	131
LOUDSPEAKER CABLES (PRICES PER METRE LENGTH)											
ALR Jordan QMM	5	Generally neutral, if sometimes bass-shy, but not very communicative	●	●	●	●	●	●			183
Audio Note AN-D	4.50	Supplied in linear, non-polarised lengths that are twisted into stereo pairs. Sounds rather grippy and forward	●	●	●	●	●	●			109
R Audio Note AN-B	16.50	Well suited to valve systems, elastic bass, methodical but unintrusive and musical	●	●	●	●	●	●		1711	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	●	●	●	●	●	●		1712	133
R Audio Note AN-SP	150	A calm and civilised presentation, very quiet in the way it reveals subtle low level detail. Great poise and clarity	●	●	●	●	●	●			109
R Audioquest F-14	2.2	Ideal for laying under carpets. F-14 encourages a slightly warm and vibrant sound	●	●	●	●	●	●			109
Audioquest F-18	3.60	Slightly lumpy bass and lack of midrange detail: can also be a bit dry	●	●	●	●	●	●			192
Audioquest Type 4	5	Four 18-gauge OFHC copper conductors wound in a Litz-type fashion increases capacitance but restrains 'bite'	●	●	●	●	●	●			109
Audioquest Type 6	9	A very inflexible cable in which the sonic ends don't quite justify the means	●	●	●	●	●	●			183
R Bandridge LC7409	4	Detailed and up-beat cable. A bit too steely for classical strings	●	●	●	●	●	●		1800	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	●	●	●	●	●	●		1800	157
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
B DNM LSCB500	12	High impedance can influence the treble response, but this was a winner on sound per pound. Bi-wire	●	●	●	●	●	●		1716	133
R DPA Black Sixteen	100	Unflappable resolution of musical details. No dampening of dynamics, simply oodles of taut information	●	●	●	●	●	●		1717	133
B Gale XL189	1	Slightly bright and not too subtle, but a perfectly acceptable cable for any starter system	●	●	●	●	●	●			168
R Gale XL315	2	A little lacking in detail but plenty of life and excellent value	●	●	●	●	●	●		1800	157
R Gale XL160-2	2.50	Rhythmic and bouncy-sounding bi-wire cable. Can be slightly manipulative	●	●	●	●	●	●		1800	157
R Goertz M2	32	Remarkably detailed, smooth, neutral and with excellent bass; check amplifier compatibility	●	●	●	●	●	●			168
R Hitachi LC-OFc	7	Very crisp, very clear and very confident. In the right system would be very expensive to better	●	●	●	●	●	●			109
R Ixos Gamma 6006	5	Bass is better than treble, which can become spitty and sibilant – though only slightly	●	●	●	●	●	●			192
B Kimber 4PR	90 (5m)	Considering the price, this cable's very slight dryness is forgivable when everything else is so right	●	●	●	●	●	●			192
R Kimber 4TC	19.6	A well-balanced cable with good performance in all areas	●	●	●	●	●	●			168
R Kimber 4VS	9	A good mix of virtues including particularly fine bass	●	●	●	●	●	●			183
Linn K20	4	Seems to work best with lively, unobtrusive music – can be dry and edgy	●	●	●	●	●	●			183
Naim NAC A5	5.5	A 'dinosaur of a cable', this stiff wire rod doesn't belong outside Naim systems, where it works a treat	●	●	●	●	●	●			109
Nordost Octava	3	Fair bass but confused treble and some coloration	●	●	●	●	●	●			168
Nordost Flatline Gold II	9.50	Exciting sound but a bit too 'in-her-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

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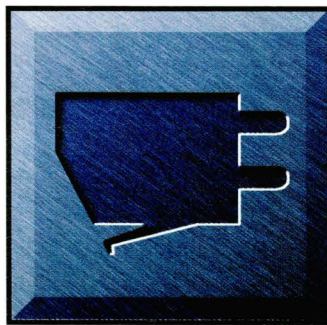
Cables

STATUS

SPECIFICATIONS

SYMMETRICAL COAXIAL STRANDED SOLID CORE COPPER SILVER DIG CABLE TYPE FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	SILVER	DIG CABLE TYPE	FACTSBACK NO.	ISSUE NUMBER
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	●				●			1800	157
QED Qudos	2.25	Despite high-tech design and excellent Air-Loc plugs, its music-making failed to gel					●	●		1800	157
QED Profile 4x4	9	Good midrange and treble balance, but bass is rather slack and detail not outstanding									168
B QED Qudos Silver	5	A few minor flaws but overall performance is very assured for this price					●	●	●		192
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					●	●	●	1800	157
R SonicLink AST150	3.95	Slightly plummy bass and a useful way of holding musical strands together					●	●	●	1800	157
Sonic Link AST200x2	5.95	At its best with exciting music, this cable seems shy of subtler details	●				●				192
Straight Wire Rhythm	6	Its major flaw seems to be woolly and indistinct bass, which pervades most types of music	●				●				192
B Straight Wire Quartet	8	A good all-rounder with full tone, clear detail and natural ambience					●	●	●		183
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 Tara Labs Klara	2.95	A good budget cable with an even spread of virtues – and very minor vices – across the board	●				●	●	●		183
van den Hul Gold Water	7	Bass becomes shy when there's a lot happening, and detail could be clearer	●				●				183
van den Hul The Clearwater	7	Despite its evocative title, the Clearwater turns out to be a disappointingly murky-sounding cable					●	●	●		109
van den Hul CS122	12	Good dynamics can make for exciting sound, but fine detail suffers and the treble is often dry	●				●				192
van den Hul The Magnum	38	Touted as vdH's most prestigious twin-lead cable, The Magnum sounds soft and old-fashioned					●	●	●		109
R van den Hul The Wind	40	'The Wind' kicks up a storm with its lush midrange and bone-crunching bass					●	●	●		109
van den Hul Revolution	76	Silver-plated OFC combined with carbon fibre prompts a sombre character with an easy and relaxed treble					●	●	●	1726	133



Cartridges

Cartridges fall into two groups: high output MM (moving magnet) models, capable of working directly into most phono inputs; and generally more expensive low- and very-low-output MC (moving coil) models. MC cartridges usually have better mechanical integrity, tighter tolerances and give better performance. Many amplifiers are no longer equipped with the necessary phono input for a cartridge, and a separate phono stage is necessary. Phono-input-equipped valve amps need a transformer to cope with MC cartridges. ■ Even basic high-output MM cartridge designs will benefit from a customised amplifier input load. Consult your dealer for further details on this topic.

KEY TO SPECIFICATIONS

- **MM:** Moving-magnet cartridge with a normal output, suitable for all amplifier phono inputs.
- **MC:** Moving-coil cartridge with a low output, only suitable for high-sensitivity MC amplifier phono inputs.
- **REPLACEABLE STYLUS:** Most MM cartridges have a stylus (needle) that can be removed and replaced when worn out.
- **OUTPUT (mV):** Cartridge output in millivolts.
- **MASS (g):** The mass of your chosen cartridge.

affects the choice of partnering tonearm. Consult dealers or manufacturers to establish which arms and pickups work well together.

● **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our faxed review reprint service. For full info, see the Factsback ad on the penultimate page of the mag.

● **ISSUE NUMBER:** The issue of *Hi-Fi Choice* in which an original review appeared.

B BEST BUY **R** RECOMMENDED **E** EDITOR'S CHOICE

STATUS

Cartridges

SPECIFICATIONS

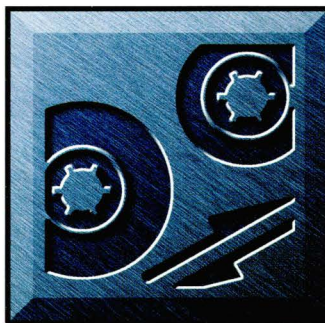
REPLACEABLE STYLUS OUTPUT (mV) MASS (g) FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	REPLACEABLE STYLUS	OUTPUT (mV)	MASS (g)	FACTSBACK NO.	ISSUE NUMBER
B Audio Technica AT-95E	20	Clear and dynamic, though richly balanced	●		2.8		48
Audio Technica AT-OC9ML	330	A well-finished cartridge with a sound that's smoothly detailed, but also rather unexciting		●	0.4	8	192
B Clearaudio Signature	1,495	A great all-round performer with fine dynamic vitality and a seductive midband intimacy	●	●	0.55	11.5	2142
B Denon DL110	70	A fine all-rounder, this high output MC model is likely to perform well		●	1.0	6	48
Denon DL160	90	Although listeners just preferred the 110, its brother here survived lab tests and is still 'thoroughly competent'		●	0.1	6	43
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
B 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
Dynavector Karat 17D2 mk2	450	Clean and controlled sound with taut, tuneful bass. Detailed and musically cogent		●	0.15	5.3	158
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	2142
R Dynavector XX-1L	998	Very clear, very detailed; a response lift around 20kHz seems to do no harm		●	0.25	12	84
Dynavector XX-1	998	Good, but not immensely competitive at the price, and not helped by comparison with the low output version		●	2.0	12	84
R Goldring Elan	19	A lightweight and frisky-sounding MM apparently based on Nagaoka MM4 body	●		5.0	7	67
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
Goldring 1042	120	Not terribly subtle, and not such good value alongside 1012 and 1022. Quite lively, though		●	6.5	6	91
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
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	2143
B Grado Prestige Gold	149	Rich sounding with an unusually refined top-end for a moving magnet-type cartridge	●	●	4	6	158
Grado Reference	995	Loads of tracking headroom but treble is limited. A prospect for mid-oriented valve amp users		●	1.7	6.5	2143
B Linn K9	125	Linn improved this model by beefing up the Basik's bodywork and adding a super stylus	●	●	4.5	5	Col
London Decca Maroon	259	Now manufactured under the London brand name, this Decca cartridge is as iconoclastic as ever		●	5.0	6	67
London Decca S 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
B Lyra Clavis Da Capo	995	A stable tracker, and one of the finest cartridges we've heard	●	●	0.1	7	143
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	2144
B 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

CONTINUED

Cartridges

STATUS	PRODUCT	(£)	COMMENTS	SPECIFICATIONS						
				REPLACEABLE STYLUS	MM	MC	OUTPUT (mV)	FACTSBACK MASS (g)	ISSUE NO.	ISSUE NO.
B	Ortofon MC3 Turbo	130	The 3 Turbo is bright, cheerful and bouncy, but subtle – take it as it comes	●			3.3	4		103
B	Ortofon MC15 Super II	130	A good all-rounder, with outstanding resolution, if slightly bright and close up	●			0.35	7		103
	Ortofon MC25E	180	An excellent upgrade for a mid-price turntable	●			0.5	11		139
	Ortofon MC25FL	250	A bit too stark and honest, but faithful to what's on the LP	●			0.5	11		139
B	Ortofon MC 10 Supreme	300	A full and cultured-sounding cartridge, with collective attributes far outweighing its shortcomings	●			0.5	10.7		192
	Ortofon MC30 Supreme	525	Highly detailed and even-sounding cartridge that has a special affinity with female vocal recordings	●			0.5	10.7		158
B	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	2144	175
B	Ortofon MC3000II	1,100	A real ear-opener. Nothing to criticise anywhere – one of the very best	●			0.12	10		84
	Ortofon MC5000	1,500	Limited tracking ability, bright and forward sound, but good stereo	●			0.12	10		91
	Rega Bias	39	Difficult to mount in some arms due to its shallow body, but the Bias offers a gentle, refined sound	●			5	4		67
B	Rega Elys	85	Clearly superior to the Bias, the Elys is more detailed, accurate and convincing	●			5.0	5		67
B	Reson Reca	250	If you're after a high quality moving magnet cartridge, they don't get much better than this	●			6.5	6.3		192
B	Roksan Corus Black	130	Recognisably related to the Corus Blue, but smoother and more civilised	●			6.5	5		91
B	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
B	van den Hul MM-1	250	If woody midrange could be tamed, imaging and security would pull it through	●			5.5	6		103
	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
B	van den Hul MC-10	750	A neutral, balanced performer, gives fine depth and focus and a firm, extended bass	●			0.4	6		60
B	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
B	van den Hul MC-Two	1,200	MC-Two rewards with a highly detailed yet fluid and musically convincing portrayal	●			0.4	6		72
B	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	2145	175
B	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
B	Wilson benesch Matrix	786	Extraordinarily well balanced cartridge: neutral and detailed yet lively and rhythmically assertive	●			0.58	6		158
B	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	2145	175



Cassette Decks

The compact cassette is still the world's most versatile and ubiquitous music storage medium. Cassette decks hook up to the 'tape loop' inputs and outputs offered by most modern amplifiers. It's worth taking care to choose the best tapes for a specific machine. For example, expensive metal tapes will be a wasted investment for a cheap deck. Many better-specified decks have manual or automatic bias adjustment to get the best from specific samples of tape. Twin decks offer the possibility of copying from tape to tape, playing two cassettes sequentially or recording onto two tapes at once. Autoreverse is a useful feature, but uni-directional mechanisms promise better sound. Dolby S is the ultimate noise reduction system, and three-head decks permit record monitoring off-tape.

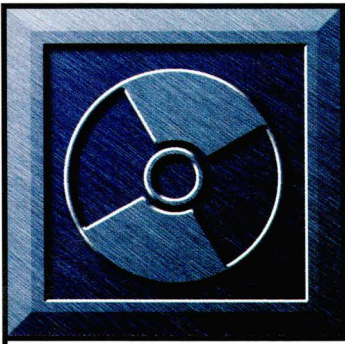
KEY TO SPECIFICATIONS

- **DOLBY B/C:** The first and second Dolby hiss-killers.
- **DOLBY S:** A desirable derivative of Dolby SR professional noise-reduction.
- **DOLBY HX-PRO:** Extends headroom for cassette recording.
- **3-HEAD:** Permits monitoring off-tape while you're recording.
- **TWIN DECK:** Contains two decks for dubbing and continuous play.
- **AUTOREVERSE:** Automatically plays both sides of the cassette.
- **AUTO CALIBRATION:** The deck will automatically set up bias and EQ for any tape.
- **ADJUSTABLE BIAS:** Permits manual optimisation of tape.
- **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our faxed review reprint service. For full info, see the Factsback advert on the penultimate page of the mag.
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B BEST BUY **R** RECOMMENDED **E** EDITOR'S CHOICE

Cassette Decks

STATUS	PRODUCT	(£)	COMMENTS	SPECIFICATIONS										
				DOLBY B/C	DOLBY S	DOLBY HX-PRO	3-HEAD	TWIN DECK	AUTO REVERSE	AUTO CALIBRATION	ADJUSTABLE BIAS	FACTSBACK NO.	ISSUE NO.	
B	Aiwa AD-F450	120	Basic but well-designed deck. Astonishing value; only the poor metering gives the game away	●								●	1513	136
B	Aiwa AD-WX727	170	High-class twin for those who want bells, whistles – and music	●								●	1377	146
B	Denon DRM-550	160	There are some technical limitations, but this remains a fine-sounding deck, and excellent value	●								●		158
	Denon DRW-580	200	Twin deck: OK for casual use, but will quickly pall with more quality critical applications	●								●		171
B	Denon DRS-640	200	Draw-loading deck, with simple facilities and smooth, well-adjusted sound	●								●	1591	140
B	Denon DRM-650S	230	An improvement on predecessors, it offers a wide-ranging, sound. Dolby S is not the best feature	●	●							●	1920	164
	Denon DRM-740	270	Breathed-on DRM-710, with good external treatment, offers good, if somewhat detached sonics	●								●	1514	136
	Denon DRS-810	310	Draw-loading deck, carefully designed yet lacking in subtlety on audition	●										127
	Harman/Kardon TD420	250	Minor inconsistencies detract from a well-conceived, minimum features design	●									1592	140
	Harman/Kardon TD450	350	Draw loader with poor tape navigation features; good midband but shallow bass	●									1920	164
B	JVC TD-R472	200	Excellent auto-reverse deck which doesn't suffer the usual disadvantages and is very sharply priced	●								●		158
B	JVC TD-V662BK	270	Assured, clean and agile-sounding recorder, if not quite the most refined in its class	●								●	1380	146
	JVC TD-W718	300	Twin deck. Good for creative live recording, but no timer standby. Respectable performance	●									2039	171
B	Kenwood KX-W6080	200	Modestly decent-sounding twin deck, with some transport instability and ragged bass	●								●	2040	171
	Marantz SD455	170	Works well as a single deck, especially on replay, but dubbing at high/low speed compromises sound	●										184
	NAD 613	230	Rough and ready, but enjoyable sound, though marred by mechanical motor noise	●										158
	NAD 616	300	Twin deck with basic features. No Dolby setting memory, transport is too unstable for audiophile use	●									2041	171
	Nakamichi DR-10	800	An ergonomic oddity, but one of the last of the great cassette decks. Worth considering against MD	●										195
B	Onkyo K-611	460	Cute drawer-loading mini-size component with 3 heads and dual capstan transport	●								●	1384	146
B	Pioneer CT-5550S	250	Great features, good with cheap low bias tapes, but slightly synthetic sound quality	●								●	1920	164
	Pioneer CT-W806DR	300	Had it not been for the iffy transport quality, this sophisticated twin would have been Recommended	●									2042	171
B	Pioneer CT-5830S	500	High-class mechanism, if lacking in battleship externals, and superb sound	●								●	1385	146
B	Sony TC-KE600S	300	Mild setting-up problems notwithstanding, this UK-tweaked design has a smooth, open sound	●								●		158
	Teac V-1050	180	One of the cheapest 3-head machines around, but it shows in very 'thick' sound	●										184
B	Technics RS-AZ6	200	For those who can't afford the RS-AZ7; clarity over the widest bandwidth thanks to AZ thin-film head	●								●	1920	164
B	Technics RS-AZ7	270	Thin-film head gives a solid, almost CD-like bass and midrange. A clear advance in state-of-the-art	●								●		158
B	Yamaha KX-490	200	Electrifyingly transparent and capable deck whose only flaw is a trace of audible wow and flutter	●								●		158
B	Yamaha KX-580SE	250	Subtle, engaging and transparent deck, with a lightweight tonality, but stability and strong detail	●								●	2043	171



CD/DVD Players

All CD players offer a basic selection of facilities, and some can keep you entertained for hours as you programme in disc names and track orders. All but the excessively inexpensive feature remote control. Most CD players can be upgraded by adding an outboard DAC (see p129). To do this the player needs a digital output of either electrical or optical type. The former is preferable for the ultimate sound. A CD player can be split into two basic components: the disc drive or transport, and a device which converts the disc's digital bitstream into an analogue audio signal. This is called a digital to analogue converter, or DAC. Although most players are contained within a single box, expensive players are usually two-box affairs. The first new DVD players have not excelled with CD software.

B BEST BUY

R RECOMMENDED

E EDITOR'S CHOICE

KEY TO SPECIFICATIONS

- **ELECTRICAL DIGITAL OUTPUT:** For electrical connection to an outboard DAC.
- **AES/EBU ELEC DIG OUTPUT:** Balanced digital output to be used with similarly equipped DACs.
- **OPTICAL DIGITAL OUTPUT:** For optical connection to an outboard DAC.
- **ST OPT DIG OUTPUT:** High-speed optical output to be used with similarly equipped DACs.
- **BAL ANALOGUE OUTPUT:** Balanced analogue output for amplifiers equipped with balanced inputs.
- **HEADPHONE SOCKET:** For 'can' users.
- **VARIABLE OUTPUT:** Remotely adjustable output level (usually non-audiophile).
- **MULTI-DISC:** Equipped with a carousel or multi-tray system for continuous play of multiple discs.
- **DAC TYPE:** BS – Philips Bitstream; MB – multibit; Hyb – hybrid of multibit and bitstream technologies; 1bit – single bit types eg MASH, bitstream, PWM, etc; CC – constant calibration.
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CD/DVD Players

SPECIFICATIONS

- AES/EBU ELEC DIGITAL OUTPUT** **OPTICAL DIGITAL OUTPUT** **ST OPT DIG OUT** **BAL ANALOGUE OUT** **HEADPHONE SOCKET** **VARIABLE OUTPUT** **MULTI-DISC** **DAC TYPE** **FACTSBACK NO.** **ISSUE NUMBER**

STATUS

PRODUCT	(£)	COMMENTS	AES/EBU ELEC DIG OUT	OPTICAL DIG OUT	ST OPT DIG OUT	BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTPUT	MULTI-DISC	DAC TYPE	FACTSBACK NO.	ISSUE NUMBER
B Acurus ACD11	899	First-rate if costly player, which combines a delightful transparency with an uncontrived naturalness	●	●						1bit	1962	166
Acoustic Precision Eikos	1,850	Seriously customised Pioneer with extraordinary resolution and world beating imaging and bass	●							1bit		165
Advantage CD1S	3,995	A CD player of some stature – what it lacks in dynamics it makes up for in subtlety and flow	●	●	●	●	●	●	●	20bit		193
Alchemist Kraken	1,249	Distinctive looking player likely to suit a Alchemist system, but will result in variable results elsewhere	●							24/96		190
R Alchemist Nexus APD32A	597	Refined treble, constrained yet capable bass and attractive all-round presentation	●							Hyb		169
AMC CD8A	150	Has balanced output, but is otherwise rather grey and unremarkable				●		●	●	BS	2071	172
B AMC CD9/DAC8	200	Beer-budget two-box system (player plus DAC) is smooth, attractive and easy on the ear	●							CC	2261	179
Anthem CD1	1,595	Unusual combination of high-end player, complete with HDCD, and changer. Good, but noisy	●							MB	2219	178
B Arcam Alpha 7SE	350	Revamped starter model is a clear improvement on very likeable predecessor	●			●				MB		195
R Arcam Alpha MCD	450	Excellent bass and natural midband, but just a touch of treble dryness, from this very listenable changer	●							MB	2220	178
R Arcam Alpha 8	520	Refined, intricately detailed but a little cautious. Should be broadly compatible with a variety of amps	●							BS	1873	163
R Arcam Alpha 8SE	600	Excellent (and very reasonably priced) HDCD-compatible player is a strong all-rounder	●			●				1bit		176
B Arcam Alpha 9	800	Refined, articulate player which employs new DAC technology to great effect	●							Ring		188
Audio Analogue Paganini	750	Basically good, but sometimes heavy-handed player	●							24bit		191
Audio Research CD1	3,290	Suspends disbelief with a real yet obviously coloured sound. A rare proposition among CD players	●	●	●	●	●			BS	1875	163
Audio Note AN-CD1	600	Easy on the ear, and for a valve player, easy on the pocket, but a bit Radio 2-flavoured	●							Hyb		188
Audio Note AN-CD2	999	High output impedance makes performance unduly system fussy	●							MB		195
AVI S2000MC2	899	A chip off the old block. This model's in-yr-face balance obstructs an otherwise finely detailed sound	●							MB	2179	176
R AVI S2000MC Reference	1,399	Lean, dry, high resolution player, built to outlast most of us. A fine performer in a sympathetic system	●							MB		169
Balanced Audio Tech VK-D5	3,995	A valve-infused player with a big and engaging sound. Lacks a little subtlety	●					●	●	18bit		194
R Cambridge Audio CD4	150	Basic appearance and sluggish track access/track search belies its up-and-at-'em sound quality	●							Hyb	1268	147
B Cambridge Audio CD4SE	200	Among the best encountered at the price, considerably more refined and convincing than the CD4	●							BS	1877	163
B Cambridge Audio CD6	250	A sharp, articulate player, a real thoroughbred in fact, perhaps too sharp and lively for some systems	●					●		BS		159
R Copland CDA-266	1,199	Simple yet elegant design is unexpectedly sophisticated under the skin, and effective in execution	●							MB	2183	176
Copland CDA 289	1,898	Beautifully built and musically enjoyable. Lacks some precision, but still among the best below £2,000	●							20bit		194
Copland CDA-288	2,199	A gentle giant of a player that errs in favour of pastel shades rather than bold daubs of colour	●			●				MB	1880	163
R Cymbol CDP12	1,299	Clean, detailed and airy HDCD-equipped player with minimalist trappings	●						●	Hyb	2184	176
R Cyrus dAD1.5	395	Improved dAD1 variant has improved digital filter for a more natural, easy on the ear quality	●							Hyb		191
R Cyrus dAD3	598	A relaxed style of delivery that convinces with guile and subtlety rather than orchestral ordnance	●							BS	1887	163
B Cyrus dAD3Q	898	Lucid, transparent and uncontrived sound quality, superb build, and readily upgradable	●					●		MB	1887	169
R Denon DCD-435	130	Good low cost player, and a step up from the DCD-425, its predecessor	●			●			●	DS		191
B Denon DCD-635	180	Modest presentation gives little clue to the thoroughbred electronics ticking away inside	●					●	●	MB	2075	172
Denon DCD-625	200	DCD-615 replacement is generously equipped but lacks sophisticated sound of its forebear	●						●	MB	1269	147
R Denon DCD-835	280	Refined version of Denon's multibit technology is a bit of a star	●			●			●	MB		184
Denon DCD-1550AR	350	Disappointing bland and ploddy sound from an immaculately constructed, high-tech player	●			●			●	MB	2266	179
Denon DCD-1650AR	700	Powerful, authoritative, and well equipped too, but this player sometimes lacks subtlety	●						●	MB		195
R Denon DCD-3000	1,000	Sings with the temperament of a huge orchestra under the baton of a timid conductor	●			●				MB	1881	163
Exposure CD player	1,049	Slightly weak sounding, but otherwise well optimised, if costly player	●							MB		188
Harman/Kardon HD710	200	A player of integrity, but can sound a bit hard and rough when extended, and is amplifier fussy	●							1bit		159
R Harman/Kardon HD740	300	Powerful but subtle and involving player: welcome back, Harman/Kardon	●			●				DS		191
R Harman/Kardon FL8300	300	Generally capable changer with relaxed sound and firm bass. Just a hint of roughness on occasion	●			●			●	MB	2220	178
Harman/Kardon HD760	500	Sophisticated internally, but mildly disappointing when treading the boards in anger	●			●				MB		195
Helios Model 3	650	Disappointing entry level model from Helios lacks verve and transparency	●							DS		188
R Helios Model 2	950	This player may not be to everyone's taste, but it is an individual, with some interesting things to say	●							1bit	2180	176
R JVC XL-V184BK	120	Excellent budget player, well presented, a little opaque, but its heart is in the right place	●						●	1bit	2072	172
R JVC XL-V284BK	140	Featuring a new set of bitstream innards, this flexible player has a refined sound	●			●			●	1bit	1270	147
JVC XL-Z574	250	Strong resolving power, good midband and dynamics, but slightly raw and thin	●							1bit		159
R JVC XL-Z674BK	300	Even-handed, but glosses over the most intimate moments	●			●				1bit	1637	151
B Kenwood DP-3080	170	Bold, dynamic and outgoing sound, although somewhat aggressive. Poor build quality and finish	●					●	●	1bit		159
Kenwood DPF-3010	180	Grey, somewhat mechanical sounding player	●							Hyb		191
B Kenwood DP-4090	250	Focuses a clear, wide aperture lens on the music – and has CD Text too	●					●	●	1bit	2076	172
Kenwood DP-5090	300	Disappointing senior brother to the excellent DP-4090, but surface interface is good	●			●				1bit	2267	179
B Kenwood DP-7090	400	A lively and compelling performer with an even-handed and coherent disposition	●			●				MB	1885	163
Linn Mimik	875	Useful multi-room features matched to strong bass, but poor imagery and transparency	●							Hyb	1762	155
Marantz CD-48	200	Somewhat inconsistent, middle ranking player which hints at better things	●						●	1bit	2077	172
Marantz CD6000 OSE	300	A genuine evolution on the older CD63/67 series with a very energetic, foot-tapping performance	●			●				BS		196
R Marantz CD-63 MkII KI Sig	400	It's the quintessential sound of Marantz – warm, open, and smooth almost to a fault	●			●			●	Hyb		169
R Marantz CD-17	800	Fabulous packaging and an excellent all round performer: smooth, detailed and consistent	●							BS	1763	155
R Marantz CD-17KI Sig	1,100	Minor QC problems aside, this is a superbly turned-out machine, but ultimately a little bland	●			●			●	BS	2181	176
R Marantz CD-7	3,500	A superbly designed CD player, both inside and out. Precise and dramatic in equal measure	●			●		●	●	16bit		194

CONTINUED

CD/DVD Players

SPECIFICATIONS

- AES/EBU ELEC DIG OUT
- OPTICAL DIG OUT
- ST OPT DIG OUT
- BAL ANALOGUE OUT
- HEADPHONE SOCKET
- VARIABLE OUTPUT
- MULTI-DISC
- DAC TYPE
- FACTSBACK NO.
- ISSUE NUMBER

STATUS

PRODUCT	(£)	COMMENTS	AES/EBU ELEC DIG OUT	OPTICAL DIG OUT	ST OPT DIG OUT	BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTPUT	MULTI-DISC	DAC TYPE	FACTSBACK NO.	ISSUE NUMBER
Meracus Tanto	1,395	Believable tonal colours and textures, refinement takes preference over dynamics – but it's not cheap	●								DS	169
Meridian 506	1,100	Revised 506 includes MSR remote and a new D/A chip, which makes it livelier and more detailed	●			●					1bit	2182 176
Monrio Privilege	995	Costly and well-engineered, but ultimately rather heavy-handed and dull, if refined player	●								MB	1963 166
Musical Fidelity E60	300	This entry-level player lacks proper stereo localisation and clarity	●								BS	1959 166
Musical Fidelity E624	500	Similar to X-RAY, but both better sounding and cheaper	●			●					MB	188 188
Musical Fidelity X-RAY	799	Brilliantly packaged and clean but slightly antiseptic sounding player	●			●					MB	184 184
Musical Fidelity A3 CD	799	Based on the E624 and X-Ray players, this version sounds warm but richly detailed	●			●					BS	196 196
Myryad T-10	400	Rather ordinary player fails to shine with good music recordings	●								DS	184 184
Myryad T-20	600	Matter of fact styling and sound quality, a tad bright for some systems	●								DS	195 195
Myryad MC100	700	A little extra get-up-and-go wouldn't go amiss, but its sheer maturity and composure ensure listenability	●								BS	1889 163
Myryad MCD500	1,300	Well-built, attractive player, showing much promise, but can be a little heavy-going on audition	●								1bit	2185 176
NAD 522	170	Crude, mechanical sounding player fails to tickle the music buds	●								1bit	2262 179
NAD 524	250	Clean, clear and essentially musical player in the NAD mould	●								MB	191 191
NAD Silverline S500	1,100	It sounds as good as it looks, which is notably refined and easy on the ear	●	●	●		●				MB	195 195
Naim Audio CD3.5	1,000	Forward and explicit sound needs careful system matching	●								Hyb	188 188
Naim Audio CD2	2,000	Provides bags of detail with a solid stereo focus but not all the romanticism we know to be possible	●								MB	1890 163
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	●								MB	188 188
Onkyo DX-7510	400	Strongly flavoured, assertive sound	●			●					BS	1640 151
Orelle CD-100EA	649	Excellent imagery, timing and transparency, and readily upgraded or reconfigured	●	●	●						MB	1964 166
Parasound C/DP-1000	499	Comes on like a high end player, but ultimately sounds a bit weak and soft-centred	●								Hyb	184 184
Philips CD-721	130	Surprisingly well-sorted, articulate if slightly glossy and attractively presented sound. Captive signal lead	●								1bit	159 159
Philips CD751	150	Inconsistent and occasionally opaque and scrawny sounding cheapie	●								1bit	172 172
Pioneer PD-S507	200	Low cost Legato Link implementation sounds gentle but slightly muddled	●			●					DS	191 191
Pioneer PD-S707	300	Idiosyncratic Legato Link dominated sound, but always subtle and interesting	●	●	●		●	●			MB	184 184
Pioneer PD-F906	350	Interesting appearance and concept, but this changer's sound is lacklustre and ergonomics frustrating	●			●		●	●		1bit	2223 178
Pioneer PD-S904	400	Too much legato – literally – in sound, but a very smooth performer	●			●					1bit	1641 151
Pioneer PDS-06	550	Technologically sophisticated. Pioneer's first multi-bit player for years is polished and capable	●	●	●		●	●			MB	2176 176
Pioneer PD-S505 Precision	460	Assured, fluid-sounding player, with great spatial coherence	●								1bit	1965 166
Primare D20	799	Well presented player doesn't quite cut the mustard, though it performs promisingly	●								BS	188 188
Revox Exception E426	2,250	Very stylish with a light, agile sound that extends superbly and has fine timing	●					●			BS	182 182
Roksan DP3P	1,495	Dramatic and compelling. Classical listeners should be ready to 'air conduct' when auditioning	●	●	●						BS	1896 163
Roksan Caspian	895	Solid, articulate, and fundamentally well-engineered player, but with some subtle low-level limitations	●								Hyb	169 169
Rotel RCD-951	300	Disappointing chopped-down RCD-971 – buy the original	●								MB	191 191
Rotel RCD-971	450	Odd disc handling logic, but bold, detailed and refined sound make this a must	●								MB	184 184
Rotel RCD-991	750	Confirms Rotel's status as must watch brand: great stuff	●	●	●		●				MB	195 195
Sherwood CD-403OR	180	Easy on the ear, smooth-sounding player, with limits set by the slightly soft, compressed quality	●			●		●	●		BS	159 159
Sherwood CD1	1,100	A very neutral, even handed sounding player with a rather flat, lifeless sound. Beautiful construction	●			●					BS	1899 163
Sony CDP-XE310	140	Excellent value and bright as a button, but can sound OTT in some systems	●						●		1bit	179 179
Sony CDP-XE510	180	Souped up CDP-XE500 which tells a rather bland and unengaging story	●						●	●	1bit	172 172
Sony CDP-XB720E	200	Good basic performance and a number of filter settings make this an interesting player for tweaks	●	●	●						Low bit	184 184
Sony CDP-XA20ES	450	High tech, with a long list of gadgets, oddly configured player that ultimately sounds less than compelling	●						●		1bit	2177 176
Sony CDP-X3000ES	500	Shoebbox format player, looks to die for, switchable digital filters to tweak the already excellent sound	●	●	●						BS	169 169
Sony CDP-XB930E	300	Yet another first rate UK optimised player with all the bells and whistles	●	●	●						Pulse	195 195
Sony SCD-777ES	1,700	Beautifully built SACD player that looks like a bit of a CD player bargain	●	●	●						BS	198 198
Sony SCD-1	2,500	The first SACD player sounds fabulous but there's not much competition and limited software as yet	●	●	●		●				BS	194 194
T-A CD121OR	1,185	Intriguing player with rather pushy basic sound, but has switchable digital filters	●			●					DS	188 188
Talk Electronics Thunder 2	699	Fine player, slightly lacking in dynamics, but readily, if expensively upgradable in various ways	●								1-bit	191 191
Talk Electronics Thunder 3	1,000	Clean, fast, and availability of a complete upgrade path make this a good long term proposition	●								DS	195 195
TAG McLaren CD20R	1,249	Dry and unatmospheric, but plenty of presence – recommended with caution	●								BS	188 188
Teac CDP-3450SE	200	For once a budget player where gadgets take second place to respectable, budget amp-friendly sonics	●				●				1bit	1960 166
Teac CD-5	350	Bright, breezy and upbeat – but short in the trouser department	●			●			●		BS	1643 151
Teac VRDS-8	600	Superb build quality is matched to good, but not exceptional sound quality	●								MB	184 184
Teac VRDS-9	700	Well-presented. This Teac is crisp, yet shallow, and inconsistent in sound quality and partnering skills	●			●					1bit	2178 176
Teac VRDS-10SE	850	Superbly built and presented, but rather leaden bass, with an over-prominent mid/top	●			●					BS	169 169
Teac VRDS-25x	1,000	Excellent, individualistic player with bold, colourful sound, but test sample had iffy CD-R compatibility	●			●		●			MB	195 195
Technics SL-PC480A	130	Full driving sound, but somewhat uneven in balance with a unsuitable, slightly harsh top end	●								1bit	159 159
Technics SL-PS670D	200	Fine, middle ranking player which sounds solid, sometimes even a little stolid	●			●		●			1bit	2264 179
Technics SL-PS770D	250	High tech and well built technology battleship which smooths the rough edges off the music	●			●		●	●		BS	2080 172
Technics SL-MC410	250	If you fancy a CD player that holds 111 discs, this one's cheap, pretty capable, and easy to use	●								Hyb	2224 178
Thule Spirit CD100	600	Definitely a try before you buy machine, but the bass and mid are excellent	●								DS	188 188
Trichord Genesis	549	Breathed-on Pioneer is warm and mellifluous, but ultimately lacks drive and authority	●						●	●	Hyb	169 169
Trichord Revelation	799	Well-ordered and clean sound that may be a little too refined for some, images well	●								1bit	1966 166
Tube Technology Fusion	1,100	Our early test sample was primitive and flawed, but showed signs of greatness	●								PA	195 195
Tube Technology Fulcrum	2,800	An imaginative two-box player with a smooth sound that lacks some lustre	●	●	●						24bit	194 194
XTC CDP-1	1,250	Bright and sometimes abrasive, but detailed player	●								MB	2186 176
Wadia 830	3,000	Envelope busting dynamics, power and imaging in a rather unexciting box (digital volume control)	●					●			MB	183 183
Wadia 860x	7,450	If you want to discover what CDs are really capable of this has few peers	●	●	●	●	●				MB	199 199
Yamaha CDX-493	180	Open and lively, but this player is also messy and lacking resolving power	●						●	●	Hyb	191 191
Yamaha CD-X993	400	A bit of a lush, though the sound is singularly free of grain, and equipment levels are strong	●								BS	184 184
YBA Spécial	695	There is nothing here to justify the pricing or the high-end parentage. Avoid	●								MB	195 195
YBA CD1α	3,895	A remarkably fluid and graceful sound – one of the best we've heard below £5,000	●								18bit	194 194

TRANSPORTS

Audio Note CDT Zero	399	Neat shoe box size transport sounds smooth and fluid in the right system. (Tested with DAC Zero)	●									191 191
Linn Karik	1,850	Based on early Linn transport, the Karik is dry but very positive, detailed and engrossing	●			●						1323 144
Roksan Attessa ATT-DP3	1,295	Not the most detailed or refined but capable of sounding exciting with the right material	●								1bit	1867 162
Teac VRDS-T1	550	Superb quality engineering is mated to tidy and composed sound. (Tested with D-T1)	●			●						1325 144
Theta Data Basic II	2,397	Uses a Philips CDM9 Pro mechanism and works a treat with more lively DACs	●									1494 130
Thorens TCD2000	999	Lively presentation not helped by rather loose bass and splashy treble. (Tested with TDA 2000 DAC)	●			●						1867 162
Trichord Digital Turntable	699	Very detailed, precise, controlled yet involving; a first-rank performer	●	●	●							1867 162



Headphones

There are several different ways of making a headphone. The most expensive models employ electrostatically-driven diaphragms within an open-backed earcup. Most mid-price designs feature dynamic, moving-coil-driven diaphragms in open, semi-open or closed-back designs. An open-backed headphone can sound remarkably transparent, but also permits the ingress of external noise. Closed-back designs keep out unwanted sound, but may be less comfortable to wear and more coloured. The latest development is the cordless headphone using either infrared light or, more recently, radio waves. Quality is improving, but has yet to match the best corded designs.

KEY TO SPECIFICATIONS

- **TYPE:** Operating principle: D - dynamic, E - electrostatic.
- **SUPRA-AURAL:** Where a flat pad presses on the outer ear.
- **CIRCUM-AURAL:** Where the earcup encloses the ear.
- **OPEN BACK:** Offers an open sound but lets in noise.
- **CLOSED BACK:** Keeps out external noise.
- **MASS (g):** Mass in grams
- **IMPEDANCE (Ω):** Load offered to the headphone amplifier. Many headphones offer a significantly higher value than loudspeakers, for example, but this does not mean they will be incompatible with the majority of amplifiers.
- **3.5MM JACK ADAPTOR:** Compatible with mini-jacked components, eg personal stereos.
- **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our faxed review reprint service. For full info, see the Factsback section of our Archive page.
- **ISSUE NUMBER:** The issue of *HI-FI Choice* in which an original review appeared.

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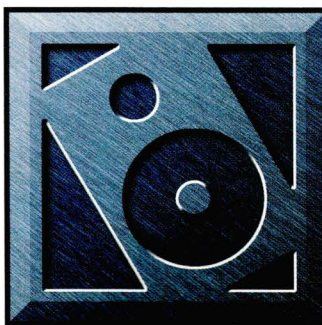
Headphones

SPECIFICATIONS

TYPE SUPRA-AURAL CIRCUM-AURAL OPEN BACK CLOSED BACK MASS (g) IMPEDANCE (Ω) 3.5mm JACK ADAPTOR FACTSBACK NO. ISSUE NUMBER

STATUS

PRODUCT	(£)	COMMENTS	TYPE	SUPRA-AURAL	CIRCUM-AURAL	OPEN BACK	CLOSED BACK	MASS (g)	IMPEDANCE (Ω)	3.5mm JACK ADAPTOR	FACTSBACK NO.	ISSUE NUMBER	
AKG 301	70	Big 'phones with even and detailed sound but lacks sufficient bass weight	D					230	100			194	
AKG K 240 DF	100	Inoffensive 'phones that are very laid back, if lacking in grunt	D					240	600			186	
AKG K1000	700	One of the best dynamics on the market, hooks directly into speaker outputs	D					270	120			99	
Audio Technica ATH910PRO	80	The closed back 910s are an improvement on the 909s, with a nice rhythmic quality rarely found	D					280	40			55	
Audio Technica ATH-D40fs	100	Detailed and involving sound with a professional 'studio' quality appeal	D					250	66			194	
Audio Technica ATH-M40	120	Incredible detail and honesty from these classically designed studio 'phone	D					250	60			186	
Beyer DT311	50	Uncharacteristically tight, unrefined sound quality from this otherwise well engineered 'phone	D					124	40		1098	133	
Beyer DT411	63	A reasonable but not very thrilling headphone that doesn't really offer enough at the price	D					120	250			111	
Beyer DT331	65	Clear and extremely detailed sound with rather thin bass	D					210	40			194	
Beyer DT431	81	Nice looking 'phones that may not be the best players on the field, but will always give 100 per cent	D					210	40			186	
Beyer DT511	106	Superb midband clarity and speed slightly at odds with soft bass. Even so, high tingle factor	D					200	250		2063	172	
Beyer DT531	135	A good buy for serious, heavy-duty music making	D					245	250			144	
Beyer DT831	140	These provide silky, smooth textures in abundance and we're not just talking about the velvet ear pads	D					295	250			186	
Beyer DT100	160	Rugged, modular professional design, but bass is woolly and treble lacks detail	D					350	600			157	
Beyer DT911	170	Probably too revealing for many headphone amps: these are very subtle and fine, if expensive cans	D					275	250			111	
Denon AH-D550	80	A competent 'phone with integrity, but little panache or charisma. Hard headband causes brain strain	D					200	35		1801	157	
Denon AH-D750	130	Loud and gutsy, meaty bass, good with rock and dance. Can sound thick and clumsy	D					250	30		2063	172	
Denon SR-40	45	Cheap and nasty appearance largely redeemed by cheerful, up-beat sound. Very comfortable	D					120	32		2064	172	
Grado SR60	79	For sheer musical enjoyment these are hard to beat. Retro styling may not be everyone's taste	D					200	32			194	
Grado SR-80	100	Open and dynamic with pedantically open mid-band. Crude physical design, rough frequency extremes	D					60	8		1801	157	
Grado SR125	150	What these 'phones lack in style they make up for ten-fold in musical quality	D					200	32			186	
Grado SR-225	200	Warm, darkly-coloured tonally and ultimately lacking in clarity, but true to the spirit of the music	D					200	32		1883	163	
Jecklin Float Model 1	79	While very unusual in appearance, the Floats give remarkable sound quality and openness	D					400	200			55	
JVC HA-D50	45	Detailed but with a characteristic mid-band all of their own and a modest amount of lower bass	D					290	56			194	
JVC HA-W60	49	Remarkable lack of interference and hiss ameliorates adequate sound of this cordless design	D					165	I/R			172	
JVC HA-D910	65	Broadly acceptable if unexciting design with low level losses and some colorations	D					220	32			121	
JVC HA-W200RF	75	Distinct lack of hiss from these FM cordless 'phones ensures that detail and depth are easily heard	D					280	20,000			186	
Koss TD/80	50	Oodles of bass but with a recessed midband; tiresome on the head with prolonged wearing	D					250	60			194	
Koss R/100	100	Rather cheap looking 'phones that supply good detail but are severely lacking in midrange excitement	D					215	60			186	
Precide Ergo Model 2	140	Still has much of the spaciousness of the Float from which it is derived, but coarse mid/top	D					380	100		1892	163	
Philips SBC 3396	70	Remarkably airy for closed-back designs. Fine tonal balance, punchy delivery. Amazing value for money	D					255	32		2064	172	
Philips SBC HP900	90	Sharper, snappier midrange than 3396: initially impressive but blows it on balance and listenability	D					200	32		2065	172	
Sennheiser IS 380	55	As close as you'll get to real hi-fi with infra-red phones at this price. Inevitable hiss spoils the illusion	D					192	I/R			172	
Sennheiser HD 455	55	Inoffensive, if nondescript sound; modular, but can become dislodged from head	D					185	60		1801	157	
Sennheiser HD 500	70	A disappointing pair that offer good stereo-imaging, but little else	D					210	32			186	
Sennheiser HD 475	80	Elegant, uncluttered sound and very comfortable but lean bass saps satisfaction	D					120	60		2065	172	
Sennheiser RS 400	80	FM cordless 'phones that are very wearable, but slightly woolly sounding with interference problems	D					160	N/A			186	
Sennheiser HD 570 Symph	90	Comfortable, light-weight 'phones with a detailed and open sound but lacks bass depth on weightier music	D					210	64			194	
Sennheiser HD 545	125	Fine all-rounder that takes all styles of music in its stride. Ear-clamping headband	D					255	150		2066	172	
Sennheiser HD 565 Ovation	150	Wide bandwidth design which is refined, expressive and extremely comfortable	D					255	150		1801	157	
Sennheiser HE 60/HEV70/UK	998	Very nearly a superb electrostatic, with a pure midband, but top end is sibilant and edgy	E					260	N/A		1898	163	
Sony MDR-605LP	50	Funky looking headphones that have a very bold, but tiring sound, with coloured bass	D					145	40			186	
Sony MDR-CD770	100	Neutrality and comfort make the Sony easy to live with. Correct-sounding too, yet musically unrewarding	D									1801	157
Sony MDR-V700DJ	100	Great looking fold-away 'phones with exceptional build quality. Kickin' bass	D					300	24			194	
Sony MDR-CD1700	200	Astonishingly detailed, uncoloured and free of the usual artefacts from a sealed back headphone	D					325	32		1901	163	
Sony MDR-F1	100	Natural, easy-going sound teamed with great looks and comfort. Shame about the lightweight bass	D					300	12		2066	172	
Technics RP-DJ1200	130	Functional design with head-pulping bass and muggy tonal balance. Good job they're sweat-proof	D					230	32		2067	172	
Stax Lambda Nova Basic	449	Refined, articulate, yet with real presence - and a notable bargain by electrostatic standards	E					347	N/A		1902	163	
Vivanco Cyberwave FMH3000	40	The only cordless 'phone to offer genuine walkabout freedom, but sounds like a cheap FM tuner	D					210	FM			172	
Vivanco IR5800	50	Consistently musical infra-red design. Doesn't reach for sonic heights so hiss can be forgiven	D					226	I/R			172	
Vivanco SR650	50	Unusually comfortable 'phone with excellent detail resolution but aggressive	D					175			1801	157	
Vivanco SR750	60	Cossetting physical design, attractive sound, though suffers overhang and lacks ultimate dynamics	D					188			1801	157	
Vivanco SR 950	80	Cuddly feel and sound make these an enjoyable pair of 'phones	D					252	32			194	
Vivanco FM7980	80	A fair amount of whine and crackle detracts from 'phones which are otherwise very listenable	D					280	9,000			186	
Vivanco FM8180	99	Well thought-out features and a better than average sound are, at times, marred by intrusive hiss	D					240	9,000			186	



Loudspeakers

As the last link in the hi-fi chain, loudspeakers are at the mercy of incoming signals. Nevertheless, distortions introduced by loudspeakers tend to be the most obvious. Inside the average loudspeaker is a simple electrical circuit (the crossover) which splits the incoming, full-frequency-range signal for the specific drive units to handle: highs to the 'tweeter', lows to the 'woofer'. For any speaker, designers must balance the 'sensitivity' of the loudspeaker (how loud it goes for a given electrical input) against bass extension (how low it goes). Subwoofers augment bass and are either passive (unamplified) or, preferably, active (self-amplified). Our 'bass from' figures are based on measurements in a particular room therefore results will vary in different environments.

KEY TO SPECIFICATIONS

- **SIZE WxHxD (cm):** Width by height by depth in centimetres.
- **FLOORSTANDER:** Requires no stand support.
- **SENSITIVITY (dB/W):** How much sound results for a given electrical input – the higher the figure, the louder the speaker. An 'A' indicates active operation.
- **IMPEDANCE (Ω):** Impedance, measured in Ohms.
- indicates how much resistance the speaker presents to an amplifier. As impedance decreases, demands on an amplifier increase.
- **BASS FROM (Hz):** The lowest frequency that a speaker can reproduce effectively.
- **FREE SPACE:** Speakers which should not sit close to walls.
- **CLOSE TO WALL:** Speakers which should sit between 3 and 12cm from the rear wall.
- **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our latest review reprint service. For full info, see the Factsback section of our Archive page.
- **ISSUE NUMBER:** The issue of *HI-FI CHOICE* in which an original review appeared.

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Loudspeakers

SPECIFICATIONS

SIZE WxHxD (CM) FLOORSTANDER SENSITIVITY (dB/W) IMPEDANCE (Ω) BASS FROM (Hz) FREE SPACE CLOSE TO WALL FACTSBACK NO. ISSUE NUMBER

STATUS

PRODUCT	(E)	COMMENTS	SIZE WxHxD (CM)	FLOORSTANDER	SENSITIVITY (dB/W)	IMPEDANCE (Ω)	BASS FROM (Hz)	FREE SPACE	CLOSE TO WALL	FACTSBACK NO.	ISSUE NUMBER	
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	
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	
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	
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	
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 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	
ATC SCM10	1,000	A compact speaker with good transparency but light-weight bass	18,38,25.5		80	8	65	●			192	
Audio Gem Emerald	540	Pretty compact floorstander with lively if lightweight sound	18,94,21		87	6	40	●		1905	164	
Audio Note AN-J/B	799	Light damping and local unevenness add some coloration, but don't spoil the speaker	38,58,25		93	8	25	●			110	
Audio Note AN-E/B	1,299	Coherent, dynamic and transparent, with extended bass and high sensitivity – but ugly	36,84,28		94	8	20	●			106	
Audio Physic Tempo	1,999	Tall and unusually-styled floorstander has stunning stereo but suspect bass tuning	22,107,47		88	8	28	●		1344	143	
Audiovector C2	799	Elegant two-and-a-half-way has a big, full bandwidth sound, but midband seemed a little under-developed	19,106,27		90	4	20	●			190	
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	
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	
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	●		2130	174	
B&W DM302	150	Highly competent and neutral all rounder; clever Prism enclosure	19,32,22		88	4	45	●		1778	156	
B&W DM305	350	Ridged paper cone gives lively sound, clever box, but a little uneven	22,87,31		89	4	40	●		1908	164	
B&W LCR6	349	Large gutsy stand-mount intended for all-round AV use but delivers fine performance as a stereo pair too	20,5,55,32		90	5	20	●			198	
B&W CDM2SE	400	Beautifully styled and finished, respectable midband. Lacks definition towards frequency extremes	22,32,25		87	6	40	●			183	
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 CDM1SE	600	A great looking stand-mount with one of the best midbands around, and a subtle blend of other qualities	22,37,29		88	5	40	●		2209	177	
B&W CDM7	1,000	A combination of serious welly and physical elegance; but a basic lack of midband smoothness	22,97,29		90	4	22	●		2131	174	
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 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	
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	
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	
Cabasse Farella 400	950	Exciting but very upfront-and-in-ye-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	
Castle Keep	250	Substantial centre-front speaker based on Harlech drivers but with rather brighter voicing	48,17,27-29		88	8	45	●			198	
Castle Richmond	250	Pretty miniature with woven carbon fibre cone, forward balance is not ideal for surround channel applications	17,33,20		91	8	55	●			198	
Castle Inversion 15	425	This striking looking stand-mount is a good allrounder, commendably free from boxiness	19-22,42,25		91	4	30	●			193	
Castle Kendal	500	A beautifully finished compact floorstander with a decidedly forward but communicative sound	17,76,20		86	6	45	●		2204	177	
Castle Severn 2	539	Carbon fibre cone gives lovely, subtle midband but treble is a bit dull and bass a bit thumpy	21,84,25		87	8	30	●		2120	174	
Castle Harlech	880	Handsome big-sounding floorstander, great value and dynamic midrange	20,96,33		88	8	28	●		1820	160	
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	
Celestion 12i	119	Not without virtue, but the relentless enthusiasm and mid-band colorations can become wearing	19,31,21		88	6	45	●			2254	179
Celestion 25i	300	Cosmetically flawed, but the bottom end has fine get-up-and-go, and works well with dance tracks	24,86,27		89	6	30	●		2200	177	
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	
Celestion A1	899	Rich, warm and laid-back, but a true quality sound; lovely build	24,41,35		88	6	25	●		1910	164	
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	●		2020	170	
Chario Hiper 1000	300	Classy looking stand mount has a sweet, easygoing sound with fine midband voicing	18,35,28		87	4	45	●			187	
Chario Constellation Lynx	550	Beautiful near-miniature is let down by a midband too laid back for its own good	20,36,26		87	3	40	●			190	
Chario Academy Millennium 2	2,100	Price includes stands. A showy speaker that lives up to its own hype	22,53,35		90	4	55	●			190	
Dali 606	400	A big bruiser at a tempting price. Sounds refined and polite, but also packs some punch	22,97,32		91	4	25	●		2121	174	
Dali Royal Menuet MkII	400	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	
Definitive Technology CLR2002	595	Pricy, but undoubtedly one of the better centre-front speakers around, with fine timing and open voicing	55,5,175,31		90	4	40	●			198	
Definitive Technology BP2X	595	Pricy but effective bi-polar surround speaker, with unusually high sensitivity	23,37,15		94	4	120	●			198	
Definitive Technology BP2004	1,700	Pricy bi-polar floorstander has a fine midband, let down by its built-in powered subwoofer	19,104,31		91	5	28	●			198	
Dynaudio Audience 5	400	Follows the Dynaudio tradition for fine midband transparency, but the overall timbre is a bit thin	20,31,26		85	4	40	●		2205	177	
Dynaudio Audience 40	400	Classy engineering content creates a winning combination of neutrality, dynamic range and involvement	17,28,25		87	4	40	●			190	
Dynaudio LR/C 120	439	Slim centre and front stand-mount, has an evenhanded but rather laid back balance but lacks drive	16,5,57,31		89	5	25	●			198	
Dynaudio Audience 50	577	This stand-mount doesn't look big, but sound quality can match many models at twice the price	20,33,25		86	4	30	●		2122	174	
Dynaudio Audience 70	1,100	A highly competent and neutral speaker, but pricey for vinyl finish, and doesn't quite drag you into the music	20,5,93,25		88	6	20	●			199	
Dynaudio Contour 1.8 MkII	1,842	Wonderful voice-band delicacy and loads of deep bass from a very elegant and compact box	21,95,29		85	4	20	●		1986	167	
ELAC CL 102 II	599	Chunky floorstander with classy drivers has a neutral, slightly 'shiny' character, and could have more punch	20,95,28		88	9	23	●			199	
Elac CL 310i Jet	800	It's pricey, and you can buy better performance for the money. Small speaker, good sound	12,3,20,8,28.2		86	4	42	●			191	
Eltax Liberty 3+	150	Bright, bassy, laid back and attractively evenhanded, but dynamically challenged. Big box for your dosh	20,5,38,34		86	4	25	●			187	
Eltax Linear Response	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	●		2201	177	
Epos ES12	499	High quality luxury stand-mount has great midband and stereo imaging	20,38,25		85	8	45	●		1823	160	
Epos ES25	1,655	Handsome floorstander with a rather uneven and bass heavy balance	24,90,35		88	6	22	●		1346	143	
Gale 2i	140	Unspectacular sound and appearance fail to help this solid little miniature stand out from the crowd	22,40,27		88	7	40	●		2021	170	
Heybrook Prima 2	159	Great openness, speed and timing. Sounds fresh and vital, though sometimes lacks scale and weight	20,29,18		87	6	50	●		2256	179	
Heybrook Heylette	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	
Heybrook Optima	259	A dumpy ugly duckling with a heart of gold. Deserves a better tweeter, but communicates well	22,88,29		94	4	30	●			193	

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Loudspeakers

SPECIFICATIONS

SIZE WxHxD (CM) FLOORSTANDER SENSITIVITY (dB/W) IMPEDANCE (Ω) BASS FROM (HZ) FREE SPACE CLOSE TO WALL FACTSBACK NO. ISSUE NUMBER

STATUS

PRODUCT	(£)	COMMENTS	SIZE WxHxD (CM)	FLOORSTANDER	SENSITIVITY (dB/W)	IMPEDANCE (Ω)	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	FACTSBACK NO.	ISSUE NUMBER
B Heybrook Heylios	389	Great all-round performance in a pretty package at a sharp price	24,36,27	●	87	6	25	●	●	1912	164
Heybrook Heylo	439	Good vocal reproduction, but sounds thin and bass seems an afterthought	23,73,19	●	88	8	30	●	●	1658	152
Heybrook Ultima	649	Has the bass wallop to justify its dual hi-fi/home cinema roles, but doesn't excite	22,97,29	●	89	6	45	●	●	2126	174
R Heybrook Duet	750	Looks slightly old-fashioned, sounds a bit coloured but its fine timing and liveliness serve music well	23,43,30	●	88	11	27	●	●		199
Heybrook Octet	1,800	Good-looking but pricey floorstander with novel drivers and a fine ceramic-enclosure midband	24,97,51	●	90	6	25	●	●		180
R Indigo Three	500	Cute 'n' chunky standmount is an entertaining communicator. Great fun, despite some sonic weirdness	23,30,5,32	●	86	17	24	●	●		199
Infinity Delta 60	700	Striking and massive floorstander, lots of speaker for the price, but can sound uncouth on more delicate material	16-29,115,41	●	90	4	25	●	●		183
Infinity Reference 1i	150	Although not to our tastes, this is a competent speaker, and decent material value	20,34,20	●	89	6	50	●	●	1403	148
Jamo BX100A	350	Offering a cracking output for their size, these rock boxes can be a bit bright but have decent bass	31.5,54,28	●	91	8	40	●	●	1758	155
Jamo Classic 8	400	A lot of speaker for the money; good when playing quietly, but boom'n'tizz character sounded crude	22,90,29	●	90	4	28	●	●	1659	152
Jamo Cornet 195	350	Loads of bass, should have plenty of yooof-appeal – it looks the business, and is priced attractively	20.5,91,31	●	90	3	26	●	●		183
Jamo 477A	500	Very prettily styled, but build and sound quality are disappointing at the price	19,77,28	●	88	4	40	●	●	1549	138
Jamo 507A	700	Imaginative styling keeps the front view super slim yet still it packs a punch. Glass top is a nice touch	22,94,37	●	88	3	40	●	●	2126	174
B JBL LX2	250	Invigorating, if a touch crude, this good-hearted speaker reproduces music with considerable enthusiasm	22,40,27	●	87	8	40	●	●	2022	170
JBL Ti200	400	Very substantial stand-mount knows how to rock and roll, but can sound uncouth on more delicate material	21,41,30	●	92	5	40	●	●		193
R JBL L20	700	Pricey, heavy and a bit laid back, but this is a fine rock'n'roller which is dynamic and communicative	26,42,28	●	86	8	30	●	●	1550	138
JBL SVA1500	700	A distinctive Pro-style bi-radial horn tweeter, with a fun sound, enlivened by a juicy bass thump	17.5,51,31	●	86	8	40	●	●	2127	174
R JBL L40	1,000	Classic, large, stand-mount three-way is full of vim and vigour, with a superb sense of balance	30,65,31	●	88	4	23	●	●	1976	167
R JBL 4312 II	1,000	Crude but startlingly effective dynamics. The original party animal knows just how to rock'n'roll	36,60,30	●	94	4	25	●	●		190
R JBL SVA 2100	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 L90	1,500	A classic monitor which communicates with gusto and enthusiasm, though it can sound a bit crude	24,94,35	●	91	6	23	●	●	1348	143
JBL LX70	550	Bassmeister supreme, shame the rest doesn't match up. JBL sensitivity but an itchy scratchy treble	26.5,94,30	●	91	4	33	●	●		183
JMLab Tantal 507	295	Competent all rounder, this compact stand-mount has a good heart and sweet treble, but sounds a bit small	21,38,27	●	93	4	40	●	●		193
B JMLab Tantal 515	495	Lively and open if bright. Sound is entertaining and informative, but presentation is nondescript	20,94,26	●	92	5	32	●	●		183
R JMLab Cobalt 815	999	Hefty real-wood floorstander has a slight 'boom'n'tizz' character but delivers big speaker grip and dynamics	22,100,31	●	90.5	9.5	22	●	●		199
JMLab Spectral 909.1	1,375	Multi-driver array in a large and very substantial enclosure. Good scale but lacks delicacy and sweetness	27,107,35	●	90	4	20	●	●		180
JMLab Electra 915	1,795	Fine headroom and bass, and classy engineering too, but also a tricky amp load which lacks delicacy	26.5,106,36	●	92	4	20	●	●		195
R JMLab Mezzo Utopia	7,250	Looks good and sounds even better. A genuinely big speaker with fantastic coherence	35,115,47	●	92	4	30	●	●		186
B JPW Mini Monitor	60	Ultra-cheap miniature works well in a limited way	18,27,17.5	●	86	8	50	●	●	1781	156
B JPW Gold Monitor	80	More informative than Mini Monitor – but fiercer, too	18,27,17.5	●	86	8	50	●	●	1782	156
B JPW ML510	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
JPW ML910	330	Loads of speaker for the money, plenty of headroom and loudness capability, but sounds dull	23,104,30	●	91	4	43	●	●		183
R JPW ML1010	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	●	●	2031	170
JPW Ruby 1	400	Very pretty but pricey luxury metal-cone miniature has good, if slightly edgy balance	19,32,21	●	87	6	55	●	●	1572	139
R JPW Ruby 4	1,000	Twin metal-cone main drivers improve the dynamic performance and bass extension, with little sacrifice	22,94,26	●	88	8	25	●	●	2132	174
R KEF Coda 7	129	Lovely open voice reproduction, but bass could be tauter; build tougher	18,30,23	●	88	6	50	●	●	1783	156
KEF Cresta 2	149	A good looking/value package but sonically disappointing, and no match for the Q15	20.5,37,24	●	91	4	40	●	●		195
R KEF Coda 8	189	Outstandingly well-balanced, bass is deep but a little vague	20,32,5.29	●	86	6	28	●	●	1784	156
R KEF Q15	200	Beautifully balanced and voiced stand-mount, but a potentially tricky amplifier load at high frequencies	20.5,31,27	●	90	2.5	30	●	●		187
KEF Coda 9	299	Uneven budget 3-way floorstander with poor bass definition	20,86,28	●	89	6	30	●	●	1785	156
KEF RDM One	499	Cute and tiny, nice midband but lack of bass warmth and weight	25,30,24	●	88	6	70	●	●	1913	164
KEF Q65	799	Dumpy-looking three-way has loads of bass and a laid-back midband; goes loud but lacks poise and impact	23,95,31	●	92	2.5	25	●	●		190
KEF RDM Three	1,500	Definitely a speaker aimed at long-term satisfaction rather than immediate impressiveness. Nice	24,100,27	●	90	4	40	●	●		189
KEF Reference Model 2	1,599	Classy, large floorstander that has massive headroom and clean mid-to-treble, but limited deep bass	23,103,34	●	89	4	30	●	●	1987	167
B Keswick Audio Aria II	379	Confident and dynamic sound, if a little crude and shut in	21,42,24	●	89	8	20	●	●	1405	148
R Keswick Audio Torino	999	Good value, lively contender with distinctive styling. Goes loud and deep but could be smoother	18-26, 93,28	●	90	4	20	●	●	1977	167
R Linn Kan	295	Great bass discrimination from size, ensuring a very informative, if slightly shut in experience	19,31,19	●	86	4	45	●	●		187
R Linn Keilidh Passive	750	Stunning timing and coherence, and awesome bass drive	20,83,28	●	87	4	22	●	●	1552	138
Linn Kaber Passive	2,000	Dry, bright balance emphasises dynamics and transients, but can sound unforgiving	20,90,28	●	87	4	25	●	●		118
B Living Voice Auditorium	1,500	Pretty, compact floorstander has wonderful coherence, high sensitivity and fine dynamic integrity	21.5,98,29	●	91	4	25	●	●		180
E Living Voice Avatar OBR-R	4,000	Discreet but extremely fine design with external x-over and an affinity to valves	21.5,104,27	●	89	8	45	●	●		196
Magnat Vector 77	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
Magnat Vintage 720	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
R Mission 700	130	A lot of speaker for the money. Good bass weight and extension and goes loud with ease	18,34,26	●	87	8	40	●	●	2257	179
B Mission 771	170	Beautiful stand-mount miniature has a delightfully well balanced and voiced sound, and real wood finish	17,31,22	●	86	7	45	●	●		187
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 77DS	199	Neat flush-mount surround speaker has no bass but a smooth midband and nicely restrained treble	34,26,12	●	92	4	120	●	●		198
Mission 750LE	250	Fabulous cosmetics and a great midband carry the day, though size will out and bass is inevitably limited	17,28,27	●	86	7	45	●	●	2203	177
Mission 773e	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
Mission 774	500	Gorgeous floorstander is an entertaining communicator, despite some balance oddities (bright treble)	18,95,31	●	90	4	40	●	●		183
B Mission 752 Freedom	578	A beautifully judged compromise in the art of combining presentation with a decent sound	20,90,25	●	89	8	45	●	●	2123	174
Mission 782	699	Ultra-compact floorstander has a glorious midband and slightly odd bass. Good communication skills	16.5,82,28	●	86	9.5	25	85	●		199
B Mission 753 Freedom	798	Great styling. New, more restrained tweeter reveals fine midband dynamics	21,90,31	●	89	4	40	●	●	1914	164
Mission 754 Freedom 5	1,298	Tall but exceptionally elegant floorstander gives fine midband projection; goes loud but limited deep bass	22,111,31	●	88	4	40	●	●	1981	167
R Monitor Audio 702PMC	700	A good all-round stand-mount with intimate midband focus	20,40,25	●	87	8	30	●	●	2128	174
Monitor Audio MA703PMC	800	Lovely but pricey floorstander has up-front, coherent, 'shiny' sound	20,89,27	●	88	8	50	●	●	1826	160
Musical Technology Kestrel SE	300	Brighter and drier-sounding than the standard Kestrel (and not the better for it)	20,84,19	●	84	5	50	●	●	1915	164
Musical Technology Harrier	400	Very pretty package, good measured performance and even sound. Sensitivity is low, and dynamics limp	25,80,23	●	86	8	25	●	●	1663	152
B Musical Technology PM15	450	A subtle, understated but very involving example of the 'classic' luxury-finish compact standmount	20,41,27	●	88	5	38	●	●		183
Musical Technology Condor	1,000	Lots of clever ideas in a floorstander, which places transparency and smoothness ahead of dynamic drama	25,91,23	●	85	4	28	●	●	2134	174
B Musical Technology Falcon	680	Big speaker has a big but also surprisingly smooth and civilised sound. Fine material value too	33,117,30	●	89	4	22	●	●		190
B Naim Intro	660	Great dynamic range and info retrieval, but thin, lacks warmth	24,89,27	●	89	6	30	●	●	1916	164
Naim Credo	1,060	Involving sound, but rather forward and cold. Good clarity, but some coloration and a lack of richness	24,89,30	●	88	8	28	●	●		180
R Naim SBL Passive	1,970	Lively and punchy – smoother but more upfront than before	27,89,27	●	88	6	25	●	●	1352	143
Neat Critique 2	445	Contemporary standmount has a clean, crisp sound with lovely natural midband voicing	22,32,24	●	86	6	50	●	●		183
B Neat Mystique Mk2	575	This elegant package delivers a fine overall sound quality; some might find the top end too insistent	20,86,18	●	85	6	23	●	●	2211	177
Neat Elite	1,195	A highly entertaining all rounder, has a planar tweeter that sounds sweet, if not particularly smooth	20,88,18	●	88.5	6	25	●	●		195
Neat Petite II/Gravitas	2,000	Beautifully presented miniature/subwoofer combo with ribbon tweeter gives smooth, laid-back sound	23,105,40	●	85	6	25	●	●	1988	167
B NHT Super One	250	A fine compromise between size and performance, sensitivity and hence loudness capability is modest	18.5,29,5,23	●	85	8	30	●	●		170

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Loudspeakers

SPECIFICATIONS

SIZE WxHxD (CM) FLOORSTANDER SENSITIVITY (db/W) IMPEDANCE (Ω) BASS FROM (HZ) FREE SPACE CLOSE TO WALL FACTSBACK NO. ISSUE NUMBER

STATUS

PRODUCT	(£)	COMMENTS	SIZE WxHxD (CM)	FLOORSTANDER	SENSITIVITY (db/W)	IMPEDANCE (Ω)	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	FACTSBACK NO.	ISSUE NUMBER
NHT 1.5	400	This compact standmount sounds much bigger than it has any right to. Good timing and communication skills	18,42,19-26		85	6	40	●	●		177
NHT Super Two	550	Black and shiny compact three-way floorstander has marvellously even balance and good coherence	18,5,100,26	●	87	8.5	25	●	●		199
Opera Prima	495	Good-looking hardwood enclosure, plus fine mid and treble, but less satisfactory bass	19,34,31		90	4	40	●	●		190
Origin Live Conqueror	1,650	Chunky floorstanding three-way has lovely cabinetwork and lively sound, but limited deep bass	24,94,27	●	88	8	30	●	●	1989	167
Orelle Swing	1,200	A superb example of what an essentially small loudspeaker can do, with bags of brio and enthusiasm	18,101,28	●	87	8	45	●	●		195
PMC TB1 S	430	Pro-audio version of TB1, cheaper because of black paint finish	20,41,30	●	87	6	40	●	●	2207	177
PMC TB1	482	A classy, laid-back performer that likes going loud and loves the bass guitar	20,40,31	●	87	8	45	●	●	1830	160
PMC LB1	999	Still fully competitive eight years after our original review, this genuine compact monitor is now a modern classic	17,5,53,26		87	6.5	40	●	●		199
PMC AB1	1,496	Lovely panel-like transparency, slightly shut-in balance, needs a big room	26,79,43		89	6	22	●	●		114
Polk LS50	800	No enthusiast tweaks here, but powerful and beautiful balance	27,83,29	●	89	8	25	●	●	1155	138
Polk RT16	799	Bass rich, lively and powerful, but suspect top end; big and not very pretty	22,105,39	●	91	4	22	●	●	1831	160
Polk CS 1000p	999	Monstrously large and heavy centre-front speaker, presumably for those with monstrous intentions	87,22,35		92	4	25	●	●		198
Polk LS7Q	1,200	High sensitivity, but balance has too much midbass boom; mid-top is laid back	31,94,37	●	90	8	22	●	●	1084	132
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
Proac Response 2.5	2,700	For aspirant high-enders looking for seriously good boxes, this speaker should be first port of call	22,107,25	●	86	8	30	●	●	1457	149
Proac Studio 125	1,000	Pretty if pricey compact floorstander with a beautifully natural and neutral midband, and some bass thump	20,94,28	●	87	8	28	●	●		192
QLN Signature	1,000	Attractive pyramidal stand-mount with heavy, laid-back balance but remarkably unboxy sound	27,37,36	●	83	4	25	●	●		167
Rega Kyte	198	Has splendid timing and coherence, sounds very explicit and informative	19,31,19		87	8	50	●	●		114
Rega EL8	298	Kyte drivers in compact floorstander give more bass but less coherence	17,72,20	●	86	8	55	●	●		122
Rega Jura	450	Beefy sounding, chunky floorstander sounds very 'direct coupled' to the music, if a touch 'boom'n'tizz'	22,5,92,5,26	●	90	5	25	●	●		193
Rega ELA Mk II	498	Pretty and smooth, the latest incarnation has a superb midband and excellent communicative skills	30,80,20	●	87	8	40	●	●	1578	139
Rega XEL	1,040	Looks and sounds great: balance bright but even, with delightful coherence and timing	20,82,30	●	89	6	40	●	●	1083	132
Rehdeko RK 115a	1,700	Single-driver system has limited bandwidth and obvious coloration, but wondrous dynamic coherence	34,42,27		95	8	55	●	●	1982	167
RMS Revelation Series 1	1,299	Innovative metal-box compact with integral port/stand - clean with good timing but very laid-back balance	20,99,24	●	81	8	22	●	●	1983	167
Roksan ROKone	595	Large stand-mount is musically very communicative if a little coloured	21,45,33		89	6	30	●	●	1834	160
Roksan Ojan 3 Black	795	Squat, stylish and black, great bass extension and somewhat uneven balance	28,76,46	●	88	8	20	●	●	1082	132
Roksan DJ3X Black	995	Innovative low-line, 2-way floorstander with decoupled tweeter; great bass and fine dynamic range	28,79,46	●	84	8	20	●	●	1979	167
Royd Minstrel	275	Not much wellie or loudness but fine coherence and timing; a bit bright	18,69,12	●	86	8	30	●	●	1167	135
Royd Doublet	485	Great value compact floorstander: lively and very informative, if a little uneven	18,93,19	●	90	4	28	●	●	1835	160
Royd The Sorcerer	595	Extremely musical and communicative speaker that's fun to listen to. Aesthetics could be better, though	20,31,18		86	8	35	●	●		139
Royd Abbot	695	Dynamic and fine transient qualities are hampered by a rather coloured mid-forward balance	20,81,30	●	90	8	43	●	●		118
Ruark Epilogue	269	Beautifully finished miniature with a lively balance and plenty of charm; best suited to smaller rooms	17,29,23		87	8	47	●	●		183
Ruark Sceptre	599	'Traditional' cabinetwork with classy veneer and shiny gilt fixings, hampered by rather wayward sound balance	21,38,31		87	8	40	●	●	2129	174
Ruark Talisman II	749	Less ideologically committed than some, strength lies in fine all-round coherence	23,84,32	●	88	8	30	●	●		118
Ruark Crusader	1,599	Elegant luxury three-way with wonderfully even-handed, if rather laid-back balance	24,94,31	●	85	6	22	●	●	1990	167
Ruark Equinox	1,849	The primary strength of this speaker is its ability to vanish behind the music	25,88,34	●	88	6	45	●	●	1227	140
Ruark Excalibur	7,000	A big handsome speaker with a big, laid-back, but open sound, rocking bass and loads of headroom	30,125,53	●	90	4	30	●	●		186
Sequence 400	329	Clever hang-on-wall panel is well voiced, though bass isn't too great	25,100,7		86	8	45	●	●	1917	164
Shahinian Arc	1,875	Occasionally wonderful, small, floorstanding omni directional design: bright but coherent and revealing	35,69,25		88	6	24	●	●		110
Silverado Raider	695	Beautifully built audiophile compact: neutral if bright, tough work for amps	20,40,25		83	3	30	●	●	1918	164
Snell K.5	795	Classy AV-ready stand mount is very solidly engineered. Sound is neutral but lacks excitement	22,46,30		87	6	25	●	●		190
Snell XA75ps	4,500	Active-bass floorstander with marvellous mid coherence, slightly suspect bass integration.	28,117,50	●	91	6	25	●	●		194
Soliloquy SM 2A3	1,095	Fine match in balance, coherence, transparency and speed. Intended for use with Cary CAD 2A3SE	35,5,19,30		91	8	45	●	●		196
Sonus Faber Concertino	599	A beautifully neutral loudspeaker in a beautiful Italian suit of clothes. Classy, if quite pricey	21,32,29		87	5	30	●	●		193
South Coast Speakers Lancelot	895	Pretty compact stand mount has nice ribbon tweeter but sounds a bit soft and lacks dynamic vigour	19,36,26		84	8	45	●	●		199
Spendor 2030	599	Discreet slimline floorstander with delicately coherent, laid-back sound	18,89,27	●	87	8	30	●	●	1836	160
System Audio 1130	499	Super-slim, super smooth, involving experience, but not ideal if you like your bass deep and loud	3,100,21	●	89	4	43	●	●		183
System Audio 1150	749	Pricey but persuasive, sonic subtleties sneak up to confound a dodgy first impression. Super-slim	16,105,26	●	90	4	30	●	●		190
Tannoy Mercury M1	120	Sounds much bigger and expensive than it is. Solid, tuneful bass, wide open soundstage, excellent imaging	17,30,20		87	8	50	●	●	2259	179
Tannoy Mercury M2	140	A fine all-rounder with big box and deep bass for the price; could be sweeter and tighter	20,5,38,28		87	8	25	●	●		167
Tannoy R1	200	Pretty little mini-monitor is smooth, well mannered, and polite to a fault, lacks dynamic expression	17,30,22		86	4	30	●	●		189
Tannoy Saturn S6C	200	A punchy compact stand-mount based on a serious cast-frame, pro-style dual-concentric driver.	38,21,29		89	6	25	●	●		198
Tannoy Mercury M3	230	Good-looking floorstander; very neutral and evenhanded, with fine midband but weak dynamics and drive	20,5,87,28	●	87	7	20	●	●	2025	170
Tannoy Revolution R2	350	Bargain price real wood floorstander is beautifully voiced and very even-handed, if a tad laid back	17,94,24	●	90	4	20	●	●		193
Tannoy Saturn S6LCR	400	A punchy compact stand-mount based on a serious cast-frame, pro-style dual-concentric driver.	21,38,29		89	6	25	●	●		198
Tannoy Saturn S6	500	Fine value vinyl floorstander offers plenty of genuine grunt and real dynamic tension	21,89,29	●	91	4	20	●	●		198
Tannoy Revolution R3	550	Handsome real-wood floorstander does a decent enough job but lacks the evenness of its smaller R2 brother	18,5,103,28	●	89	8.5	28	●	●		199
Tannoy D300	999	Gorgeous-looking compact floorstander. And a fine all-round performer, too	16-24,85,23	●	87	6	26	●	●		167
Tannoy D500	1,999	Plenty of muscle and stereo, but short of poise and delicacy. Hard work for amps	31,93,34	●	91	6	20	●	●	1355	143
Tannoy Westminster TW	6,600	These awesome horn-loaded speakers are remarkably controlled and impressive	large	●	99	8	38	●	●		C93
Technics SB-M20	200	Well-balanced with natural perspectives and fine midband coherence, but bass is a bit boxy and uneven	20,32,23		70	8	50	●	●	1413	148
Technics SB-M500	450	This model offers a clean, open sound, offset by midbass, heavy balance and low sensitivity	25,78,37	●	85	8	25	●	●	1666	152
Triangle Cometes	359	Communicative stand-mount has great midband dynamics, but the very bright top end might be intrusive	22,40,29		91	4	42	●	●		193
Triangle Zephyr II	599	Loads of fun. Dramatic dynamics and righteous timing will give any hi-fi system a wake-up call	22,94,29	●	91	4	25	●	●		190
Totem Model One	1,195	Utterly delightful but exasperatingly expensive luxury miniature sets the benchmark for its size	17,31,23		87	4	28	●	●		122
Veritas H3	6,000	Loads of fun with wonderful dynamic and temporal integrity from horn-loaded Lowther drivers	30,110,47	●	104	4	50	●	●		191
Vienna Acoustics Mozart	1,500	Gorgeous slimline floorstander sounds very laid back but very charming and musically literate too	17,97,30	●	88	7.5	25	●	●		199
Wilson Benesch Bishop	20,000	Deep and even bass sets new standards for cleanliness and clarity; lovely open midband too	23,161,561	●	89	4	S20	●	●		189
Wharfedale Diamond 7.2	140	A good-hearted, lively and up-front performer that's a little lacking in subtlety and smoothness	19,29,5,23		88	4	45	●	●		169
Wdale Diamond 7.2 Anniversary	200	Lively and exuberant, but a tad untidy with it; can sound a bit cold and hard	19,29,5,24		88	4	40	●	●		187
Wharfedale Valds 400	200	Very loud with a minimum of amplification, but the sound is thick and uneven, with a heavy upper bass	25,80,26	●	91	8	30	●	●	1414	148
Wharfedale Valds 500	300	These rock boxes can move plenty of air, albeit not as subtly as alternatives	25,108,26,5	●	91	4	40	●	●	1758	155
Zingali Overture 2S	1,975	Gorgeous, pricey, imposing stand-mount has a horn tweeter of great delicacy. Impressively weighty	30,57,38		90	8	25	●	●		195

SUBWOOFERS

Acoustic Energy AE108S	299	Lots of loud subwoofer for your money, though ultimately more film than music oriented	50,42,43				20	●	●	2247	179
B&W ASW1000	499	(Active) Very competently engineered all round, and goes (unnecessarily) very loud	54,47,48		A		20	●	●	2248	179
JB&W SW1000	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
JPW SW60	349	A real heavyweight, sounds clean and transparent, if perhaps a little understated. Usefully flexible	55,47,39				20	●	●	2249	179
KEF Model 30B	499	(Active) Commendably discreet with good sense of timing but limited extension	38,5,37,43	●	A		45	●	●	1736	154

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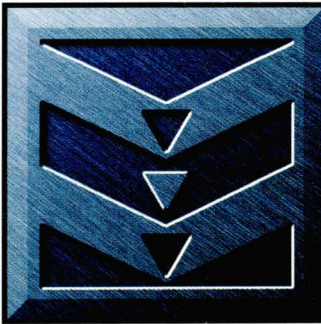
Loudspeakers

STATUS

SPECIFICATIONS

SIZE WxHxD (CM) SENSITIVITY (db/W) IMPEDANCE (Ω) BASS FROM (HZ) FREE SPACE CLOSE TO WALL FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	SIZE WxHxD (CM)	SENSITIVITY (db/W)	IMPEDANCE (Ω)	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	FACTSBACK NO.	ISSUE NUMBER
R M&K MX70	900	(Active) Justifies cost and belies its diminutive size, with an agility that makes sense of the toughest material	25,5,46,35	A	25	●	●	●	2250	179
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 REL Q50	375	(Active) Genuinely deep, clean bass from an attractively compact and cost-effective package	40,41,42	A	20	●	●	●	2251	179
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



Stands & Supports

Hi-fi supports are more important than you might imagine — they can have very subtle effects on the sound of your system! There are two kinds of support: those for equipment and those (stands) for loudspeakers. Equipment supports keep vibrations and resonances from affecting electronic components, while speaker stands hold enclosures stock-still and ensure they are at the correct height for your ears. Equipment supports may be rigid affairs fabricated from steel or more exotic materials; or they may have a form of suspension. Speaker stands come in a variety of sizes and styles to suit different models, and vary between open-frame and solid-pillar types. Always check with speaker and electronics manufacturers to see which supports they recommend.

KEY TO SPECIFICATIONS

- **HEIGHT (cm):** How tall is your support?
- **TOP PLATE SIZE (cm):** Dimensions of top surface on stand or equipment support.
- **FILLABLE:** Some speaker stands can be mass-loaded with sand or lead-shot to improve sound.
- **WELDED:** The better stands and supports are welded together rather than just bolted.
- **NUMBER OF SHELVES:** The number of tiers on an equipment rack or support.
- **SHELF TYPE:** The material from which shelves are made. Wood generally means Medium Density Fibreboard (MDF).
- **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our faxed review reprint service. For full info, see the Factsback section of our Archive page.
- **ISSUE NUMBER:** The issue of *Hi-Fi Choice* in which an original review appeared.

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Stands & Supports

STATUS

SPECIFICATIONS

TOP PLATE SIZE (cm) FILLABLE WELDED SHELF TYPE FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	TOP PLATE SIZE (cm)	FILLABLE	WELDED	SHELF TYPE	FACTSBACK NO.	ISSUE NUMBER
EQUIPMENT SUPPORTS								
R Aavik Furniture A4	350	Good sound and stylish Scandinavian looks at an affordable price	80.5	47		4	Wood	193
Alphason GR 17/17-AS	275	Great looks but sound can be bettered for the money	36	60,39		4	Glass	181
Apollo Soprano	275	Uninspiring looks and sonic performance that can be beaten at this price	68.5	45.5		4	Glass	193
Atacama Europa	240	Stylish, expandable modular design with agreeable full-bodied sound – great value	67	48.6		4	Wood	193
R Audiophile Furniture Base	615	Price is justified by its earth-shattering sonic abilities – a worthy upgrade	82	43		4	MDF	193
Avid Isoschelf	1,100	An enthusiasts equipment support stand free from coloration if a little fiddly to set up	87.5	48		5	MDF	193
Elemental Isotube x 4/Ref	1,199	Blockbusting size and build. Super sound quality	92	45,49	●	4	Marb	181
Elemental Audio Isotube X4	849	A hefty stand that demonstrates just how much difference a good support can make	90	49	●	4	Glass	193
Fi-Rax R4	399	Lively, exuberant sound, slightly weak bass				5	Glass	1633 151
E Frameworks H500/H175	404	Two-shelf stand and isolation platform combo in tubular steel – made a spectacular impression on audition	70	52,34	●	3	Glass	1952 166
Ixos Deadrock 704	250	Looks unassuming but sound is full and inviting		46,39		4	Resin	181
E Mana Acoustics Ref. Table	350	King of its type: angle iron, chipboard and glass combine to make a significant difference to sound quality	56	49,39	●	1	Glass	147
R Mana 5 Tier Sound Table	600	Infinitely upgradeable. Persuasive and thrilling glass and angle-iron design that adds speed and bandwidth	91	49, 39	●	5	Glass	1633 151
Optimum Int 2000 OPT490	299	25kg stand with shelves between variable-height tubular uprights. Sounds smooth and relaxed with sturdy bass	50	60,40		4	Glass	1953 166
Optimum Int 2000 OPT660	349	Glitzy style isn't reflected in sound, which is wholesome	82	60,52		5	Glass	181
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
E Quadraspire Q4	250	Easy to live with, tonally neutral	54	40,49		4	MDF	1633 151
E Sound Organisation Z560	160	Welded and bolted members give structural integrity. While performance is not up with the best, it's great value	90	46,36	●	5	Wood	1954 166
Sound Organisation Z545	160	Budget price and great looks make this a great value stand	73	46	●	4	Glass	193
R Soundstyle X100	230	Looks lovely, sounds lively but slightly bright	64	49,28	●	4	Glass	181
Soundstyle Radius SR100	280	Stylish looks and a smooth sound	63.5	49.5	●	4	Glass	193
R Soundstyle Select 6105	290	Respectable sonics: structurally solid and smart	78	43,36		5	Glass	1633 151
Soundstyle Finewoods W105	320	Veneered shelves damped between tubular uprights. Delivers with classical material	82	48,27		4	Wood	1955 166
Stands Unique Sound Tower	289	Wooden uprights combine with glass shelves to provide a fresh, forward sound, but bass could be quicker	81	72,42		5	Glass	1633 151
E Stands Design 4	190	An all-in-one support at a budget price with good sonic performance	88.5	50.8	●	4	Glass	193
R Target B5	175	Free of colorations, fine grip and good value	81	49,36	●	5	Wood	1633 151
E Townshend Seismic Stand	1,245	It's big, it wobbles and it's pricey. But this is the ultimate equipment support	72	58,45		3	Wood	181
E Wilson benesch Asside	590	Sounds even better than it looks. And it looks wonderful	72	37,50		4	Wood	181
SPEAKER STANDS								
Alphason NC I	45	Filled single-column design without threaded spike holes, that's appropriate for non-critical applications	40-60	16,16	●			1373 146
Alphason NCII	85	Tall, slim and elegant, though sound and value are unexceptional	40-60	17,17	●			159
Alphason HDS	85	A reasonable stand with a smooth but rather bland sound balance. Good finish options	45-60	15.5,15.5	●			189
Alphason Titan	125	Excels in the midband and allows voices to come across in a detailed and expressive fashion	40-60	16,16	●	●		1373 146
Apollo Olympus	75	A popular stand and a decent performer, but unremarkable by today's standards	40-60	15,12.5	●			189
Apollo A26	80	Fine engineering value, but sound is unexceptional and top-plate small	66	15,13	●	●		159
R Atacama BD21	55	Good-looking and good value, but doesn't match the SE24's sound quality	56	15,17	●	●		159
Atacama R724	150	Atacama uses its market strength to deliver a superbly appointed product at a very reasonable price	60	15,17	●	●		189
E Atacama SE24	70	Stands out from the budget crowd because of the consistency and overall quality of its performance	61	19,5,17	●	●		1373 146
E Custom Design R/S 300	70	Combining strong aesthetic and sonic appeal at a popular price point, this is a good stand all-round	40.6-60.9	15,15	●	●		189
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
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
R Mana Soundframes	125	For use under floorstanders and equipment racks, these make music effortless and natural. Can be stacked	5		●	●		1373 146
E Partington A-4	119	An odd-ball stand with a sound that's sheer class. More open and focused than almost anything below £150	50-100	19,22	●	●		189
R RMS/Stands Unique Vivus	349	Pricely carbon fibres give ultra-clean sound with exceptional voices	50	N/A				159
Russ Andrews Torlyte	599	Subtle and musical-sounding stands, though a touch more 'pizazz' is needed for Recommendation at this price	61	33.5,24				189
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
R Stands Unique HP	220	Real wood disguises high-performance tuned technology	59	22,23				159

CONTINUED

Stands & Supports

STATUS

PRODUCT	(£)	COMMENTS	TOP PLATE SIZE (cm)	FILLABLE WELDED	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER	FACTSBACK NO.
Target R1	280	Truly high-mass four-pillar design with superb weight and speed, giving music delicious attack	53	15,21	●	●	1373	146
Target TR60	68	Lively, dynamic midrange and detailed treble from a less-than-audiophile-oriented, twin-column design	60	15,15	●	●	1373	146

SPECIFICATIONS



Tonearms

Less expensive turntables are usually supplied with a matching tonearm (and often a 'starter' cartridge, too). However, hard-core vinyl fans should invest in a more expensive separate motor unit with specialist tone-arm – the only way to make the most of vinyl LPs. It is essential to achieve operational synergy between such components, so this is one area of hi-fi where the skills of a knowledgeable dealer are invaluable. The quality of a tonearm's construction and design affect sound quality significantly. There are three basic arm designs listed in the key, and each has strengths, but pivoted designs are the most popular, being usually the most practical and affordable.

KEY TO SPECIFICATIONS

- **EFFECTIVE MASS:** This relates to cartridge compliance. Generally high mass arms are suitable for low compliance cartridges and vice versa.
- **PARALLEL TRACKING:** An arm which allows the cartridge to track the disc in a linear fashion.
- **PIVOTED:** Arms which allow the cartridge to describe an arc as they traverse the record.
- **UNI-PIVOT:** Pivoted arms with a bearing that allows movement in two planes.
- **EFFECTIVE LENGTH (CM):** Length of the arm from bearing to cartridge mounting.
- **ADJUSTABLE HEIGHT:** Important for accurate cartridge set-up.
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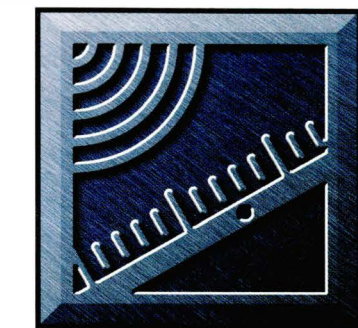
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Tonearms

STATUS

PRODUCT	(£)	COMMENTS	PARALLEL TRACKING	PIVOTED	UNI-PIVOT	EFFECTIVE LENGTH (cm)	ADJUSTABLE HEIGHT	ISSUE NUMBER	FACTSBACK NO.
Kuzma Stogi Ref	1,250	Large, solid and well-made arm, gives exceptionally clear sound with just a hint of brightness	High	●	●	●	●	79	79
Linn Ekos	1,500	Superb, state-of-the-art design which builds significantly on predecessor's strengths	Medium	●	●	●	●	67	67
Mothy/RB250	109	The ultimate budget arm? Refined, sweet, detailed and natural	Low	●	●	●	●	60	60
Rega RB300	174	Despite its modest price it sets exceptional standards and could be used on many high-end turntables	Low	●	●	●	●	60	60
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	●	●	●	●	91	91
SME Series IV	983	Superb engineering and finish with a finely balanced sound, impressive stereo focus and low coloration	Low	●	●	●	●	60	60
SME Series V	1,461	Excellent in all respects, this arm arguably sets the standards for pivoted arms, regardless of price	Low	●	●	●	●	60	60

SPECIFICATIONS



Tuners

TV has stolen radio's status as the foremost broadcast entertainment medium, but with its Radio Four plays and Radio Three music, the BBC still makes a potent case for audiophile reception equipment. For how much longer, under the cost-conscious Birtst régime, remains to be seen. Another new imponderable is the arrival of digital radio broadcasting, though reception apparatus is currently non-existent outside of the in-car market. These days tuners play second fiddle to hi-fi sources like CD, but in many ways they are a greater engineering challenge than digital equipment, and thus higher price-tags clearly equate to superior performance. High-quality, roof-mounted antennae are essential for audiophile listening, so factor them into your budget.

KEY TO SPECIFICATIONS

- **WAVEBANDS:** FM – (VHF), M – MW, L – LW.
- **PRESETS:** Number of station frequencies that can be stored.
- **RDS:** (Radio Data System) was originally designed for in-car applications. RDS tuners can identify and display the name of the radio station being received, traffic news and other information about broadcasts.
- **REMOTE CONTROL:** Infra-red control handset supplied.
- **SIGNAL STRENGTH METER:** Indicates strength of signal from aerial – useful for aligning your 'twig' during installation.
- **ROTARY TUNING KNOB:** Experience has shown that this analogue throwback is ergonomically far superior to the button-based approach.
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Tuners

STATUS

PRODUCT	(£)	COMMENTS	WAVEBANDS	PRESETS	RDS	SIG. STRENGTH METER	ROT. TUNING KNOB	ISSUE NUMBER	FACTSBACK NO.
AMC T7	130	Performance adequate but price is sharp, especially with remote control. Some hum	FM, M	30	●	●	●	1945	166
Arcam Alpha 7	230	Indifferent RF performance but a touch of audiophile sound quality with clean, strong signals	FM, M, L	24	●	●	●	1946	166
Arcam Alpha 10 DRT	800	The first DAB tuner and arguably still the best, but the system's still not perfect	DAB	7	●	●	●	199	199
Cambridge T500	180	Very capable tuner suited to good and less good reception conditions	FM, M, L	64	●	●	●	193	193
Creek T43	399	Quality UK-made tuner offering classy sound in all areas at a very fair price	FM, M, L	64	●	●	●	193	193
Cymbol C-DAB 1	1,000	The first 'high-end' DAB tuner, though format is the ultimate limitation. Gorgeous finish	DAB	8	●	●	●	199	199
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	193
Denon TU-425RD	200	A fine all-rounder with advanced RDS, good RF performance and decent sound. Remote extra	FM, M	40	●	●	●	1947	166
Denon TU-1500RD	250	A well-balanced and clean sound with good bass and treble extension	FM, M	40	●	●	●	184	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	184
Harman/Kardon TU950	200	Bulky but effective, delivering fine RF performance and good sound for the price	FM, M, L	30	●	●	●	1948	166
Linn Kremlin	2,600	Controversially good sound at a very high price	FM	80	●	●	●	1254	142
Marantz ST-48	120	A classic budget model which manages a performance only just behind much more expensive models	FM, M	60	●	●	●	184	184
Musical Fidelity E50	300	Sounds involving if coloured and with a subjectively larger-than-life presentation	FM	20	●	●	●	1810	157
Myryad T-30	400	Attractive product that produces attractive sounds too: capable of very musical performance with a good aerial	FM	29	●	●	●	193	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	184
NAD C440	200	Rather polite sound, a little vague at times, that seldom offends but never excites	FM, M	30	●	●	●	193	193
Naim NAT01	1,730	There may be better sounding tuners in the world, but we have yet to hear one	FM	●	●	●	●	1254	142
Pioneer F-504RDS	250	Cable-friendly with advanced RDS and excellent RF performance; slightly disappointing sound	FM, M	40	●	●	●	1949	166
Pioneer F-504RDS Precision	300	Lots of features, plus a sound that's low on noise and high on communication, adds up to a good value package	FM, M	40	●	●	●	184	184
Roksan Caspian	595	Neat fascia with great ergonomics, but sound is not really any better than models at half the price	FM	50	●	●	●	184	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	193
Rotel RT-935AX	160	Good ergonomics and sound quality at a realistic price, but limited features and RF selectivity	FM, M	20	●	●	●	1950	166
Sony ST-SA3ES	250	Clean, lean presentation but needs a quality aerial to perform at its best	FM, M, L	30	●	●	●	1810	157

SPECIFICATIONS

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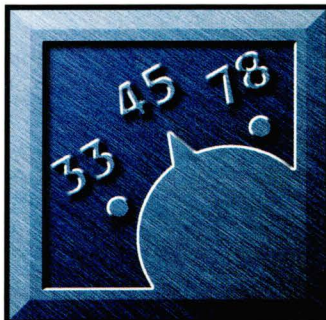
Tuners

STATUS

SPECIFICATIONS

WAVEBANDS PRESETS REMOTE CONTROL SIG. STRENGTH METER ROT. TUNING KNOB FACTSBACK NO. ISSUE NUMBER

PRODUCT	(£)	COMMENTS	FM,M,L	30						
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
Technics ST-GT350L	130	Decent RF performance is offset by sound quality more typical of a mini/midi system	FM,M,L	30		●	●	●		1254 142
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
Thorens TRT2000	499	Not exactly neutral sounding, but nonetheless makes listening fun	FM,M	59	●	●	●	●		1810 157



Turtables

Specialist turntables are at the heart of high-fidelity sound. CD players may offer ultra-low noise and a flat frequency response, but they can't match the dynamics and superlative rhythmic timing taken for granted by serious turntable users. Less expensive turntables are usually supplied with a matching tonearm (and often a 'starter' cartridge, too). Still better quality is found at higher prices among the separate motor units and tonearms. Because turntables are mechanical devices, designed to retrieve micron-small modulations engraved into vinyl, engineering quality is of paramount importance. This is also the reason why turntables cost as much as they do, and require the finest equipment support systems.

KEY TO SPECIFICATIONS

- **MANUAL:** You do all the work.
- **AUTO:** The record player does all the work.
- **SEMI-AUTO:** You put the needle on, the turntable lifts it off at the end of the record.
- **SPEEDS:** In RPM to correspond with long-playing records or seven/12-inch singles.
- **SUSPENDED SUBCHASSIS:** Sprung suspension to minimise structural interference.
- **EXTERNAL PSU:** Outboard power supply; generally indicative of higher-quality performance.
- **SUPPLIED WITH ARM:** Many turntables do not come with a tonearm fitted, but if this category is checked, the deck is already thus equipped.
- **SUPPLIED WITH CARTRIDGE:** If a turntable comes complete with arm and cartridge.
- **FACTSBACK REFERENCE:** The Factsback Reference number permits direct access to our fared revision reprint service. For full info, see the Factsback section of our Archive page.
- **ISSUE NUMBER:** The issue of Hi-Fi Choice in which an original review appeared.

B BEST BUY **R** RECOMMENDED **E** EDITOR'S CHOICE

Turtables

STATUS

SPECIFICATIONS

MANUAL AUTO SEMI-AUTO SPEEDS SUSP. SUBCHASSIS SUPPLIED WITH ARM EXTERNAL PSU FACTSBACK NO. ISSUE NO.

PRODUCT	(£)	COMMENTS	MANUAL	AUTO	SEMI-AUTO	SPEEDS	SUSP. SUBCHASSIS	SUPPLIED WITH ARM	EXTERNAL PSU	FACTSBACK NO.	ISSUE NO.
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				1328	144
DNM Rota 2	5,600	Tonally slightly bleached, but extracts detail like few others. Works well on its own table	●			33/45	●	●		1328	144
Dual 505-4 UK	250	Consistent sounding and well isolated turntable. It is slightly lacking in oomph	●			33/45	●	●			103
Kuzma Stabi/PS	1,950	(Tested with Stogi Reference) Solid oak plinth; sound is very clear, detailed and extended	●			33/45	●	●			91
Linn LP12 Basik	1,100	Trails the full LP12 significantly, but pace, rhythm, timing etc still top rank	●			33	●	●			103
Linn LP12 Lingo	1,750	The classic reference is improved by the Lingo, but charming character remains	●			33/45	●	●			91
Michell Gyrodec	875	Sweet and natural-sounding player, well matched to Rega RB300 arm	●			33/45	●	●			55
Michell Gyro SE	775	A stunningly desirable combination of looks, solidity and sound make this a tempting turntable	●			33/45	●	●			190
Michell Orbe 'SE'	1,725	A Superb turntable, able to mix it with the best at virtually any price	●			33/45	●	●			192
Moth Kanoot	329	Rather coarse-sounding deck that requires decent isolation and comes with a Rega RB300 arm	●			33/45				1907	164
Notts Analogue Spacedeck/Arm	750	No frills, just a first-rate, outstandingly natural-sounding deck that will last forever	●			33/45		●	●		159
Pink Triangle Tarantella II	850	A turntable that looks unlike any other, with rare ability too. Quirky, but sound is immensely likeable	●			33/45	●	●			192
Pro-ject 2	300	Remarkably effective at the price, with decent timing and a generally well defined sound	●			33/45				1907	164
Pro-ject Perspective	750	Flexible facilities and competitive package, but performance of turntable alone is behind the best	●			33/45	●	●			192
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
Rega Planar 2	214	A remarkable product at the price, surprisingly articulate and confident	●			33/45		●	●		48
Rega Planar 3	274	Sounds musical in a balanced manner, needs decent isolation and suffers a little pitch instability	●			33/45				1907	164
Reson RS1	600	Supplied set-up and ready-tuned, this unconventional deck is packed with mid-band detail	●			33/45		●	●		159
Roksan Radius 3/Tabriz zi	890	Elegant-looking turntable with a tidy, ordered sound. Bright and breezy if a shade lightweight	●			33/45	●	●			159
SME Model 10A	3,333	Elegant and extremely capable design with Series V/309 hybrid arm, superbly built	●			33/45	●	●	●		195
SME Model 20.2A	4,863	Beautifully built, extremely neutral damped and suspended deck with superb sound. Inc V arm	●			33/45/78	●	●	●		186
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
Thorens TD2001	700	Balances convenience and sound well, but deck lacks detail and bass could be better controlled	●			33/45	●	●	●		159
Well Tempered Record Player	850	Intriguing and challenging. Musically not ideal, but its limpid quality and lack of artificiality set standards	●			33/45	●	●		1180	136
Wilson benches The Circle	795	A beautiful turntable with a sumptuous sound, all at a very reasonable price – a clear Best Buy	●			33/45	●	●			192

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HI-FI CHOICE Nov 1998

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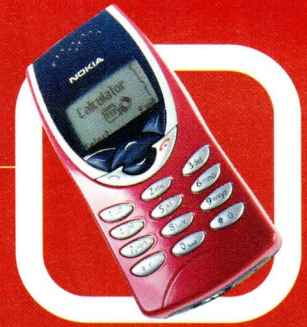


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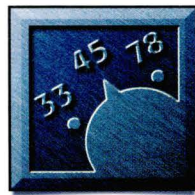
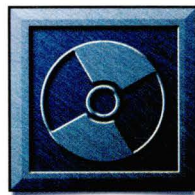
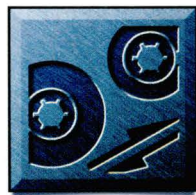
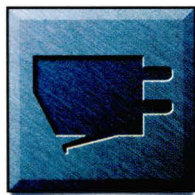
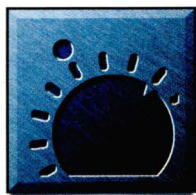
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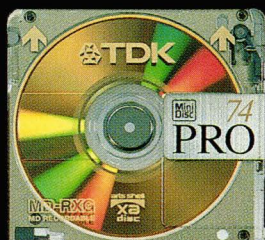
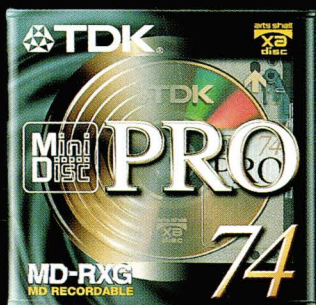
BUYING TIPS

Buying secondhand 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!



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1999	186-197	None sold out	Good
2000	198-	None sold out	Good

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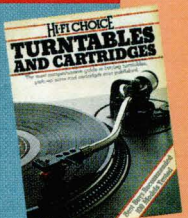
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JIMMY HUGHES

Given Jimmy's Grandmaster of the Tweak status, you'd be forgiven for thinking he'd been trying out *kitchen Sinks*...

Last month I posed some searching questions about hi-fi systems and the way they reproduce music. Is listening a comfortable experience? Do you simply hear music, or are you critically aware of your hi-fi system struggling to recreate a believable sound? Is it a relief when you switch the system off, or is the result so pleasurable you never want it to end?

Because the enjoyment of music is a subjective, emotional thing, it can be difficult to isolate exactly what makes one system sound informative and involving, and another sterile and boring. It's obvious when things sound right, but not so obvious why. Some people don't want to know why, and don't really care.

Yet it's important to find out, if only because most of us assemble systems by cherry-picking what we think (or hope) are the best components from different manufacturers. Get the right mix and you'll be

"Overall, the music sounded vivid but natural... just like the band were there singing in front of you. Well, almost."

rewarded with sound that's greater than the sum of the parts. Get it wrong, and the result will disappoint – no matter how much you spend. It's therefore vital to make the right choices. And that means asking the right questions...

A good hi-fi system must be capable of extremes: extremes of loud and soft, high and low. At the same time these extremes must be reproduced comfortably. It should seem as though the system can cope with a the music thrown at it. A really good system gives the subjective impression that voices and instruments are individuals; related yet independent, each in its own space.

The specific timbres of instruments and voices, coupled with subtle dynamic inflections, create a unique individuality that gives the performance character and makes

the music sound more interesting and eventful. Actually, you're simply hearing more of what's there; the detail and delicate nuances, and the broad brush strokes.

So how do you get your system to work? Is it down to the cost and quality of individual components? Is it getting a happy mix of components that's right for your taste and suits your listening room? Or is it more to do with how things are installed? Actually, it's all three, plus a slice of luck on the side.

Fortunately, for those wanting instant success, there's something that really makes a



difference to the very things just mentioned. Step forward Townshend Audio's Seismic Sink for loudspeakers. These are support platforms that isolate the speakers from the floor. And they work.

I'd already tried a couple of Seismic Sinks under my two REL subs with excellent results. But putting Sinks under a friend's full-range loudspeakers proved even more rewarding. The sound wasn't bad before, but with Sinks in place the music was clearly more natural and comfortable, with greater clarity and separation.

The improvement was noticeable on every CD we tried, transforming what was already a good system into one that made all kinds of music a pleasure to listen to. Playing the classic Beatles song *Nowhere*

Man (from the recent *Yellow Submarine* CD reissue), the combination of refinement, immediacy, clarity and subtle detail, was quite stunning.

This track is closely recorded, with forward balances and limited dynamic range. Stereo tends to be left/centre/right, with voices very 'present' in the mix. Yet it was possible to hear backing instruments and voices clearly at all times – there was no crowding-up. Overall, the music sounded vivid but natural and very comfortable – just like the band were there singing in front of you. Well, almost...

At the same time, although the sonics were impressive in hi-fi terms, the quality of sound never drew attention away from the music. The sound was excellent, but only as a vehicle for the music; not as an end in itself. My thoughts were how great the song was, and how well sung and played – not how clean the treble sounded, or how tight the bass was. Taking the speakers off the Sinks, the music still seemed pretty good. But something was missing.

THAT SINKING FEELING

There was now far more tendency for loud to dominate quiet, and overall things weren't quite so effortless and comfortable – for example, the bass line now seemed a bit heavy and obtrusive, while John Lennon's voice was a touch hard and tonally coarse. Also – and this is highly significant – it now seemed as though the volume level was set slightly too high; the music sounded 'loud' in a busy slightly aggressive forward sense.

Curiously, my split-second reaction, after taking the speakers off the Sinks and putting them back on the floor, was that the sound had actually improved – superficially, things seemed slightly sharper and more crisply focused. However, within five or ten seconds it was obvious that the effortless clarity and ease of reproduction previously noticeable had all but evaporated. Whereas before, with the Sinks, it was difficult to 'hear' the system doing its job, now it was all too obvious...

Maybe Seismic Sinks under speakers are no panacea, but I'm willing to bet my shirt they'll make any system more comfortable to listen to. The difference isn't subtle, but you're more likely to appreciate the significance of the improvement after an evening spent listening than a quick A/B comparison. I'm now wondering if Mr T can make Sinks big enough for my Impulse H-1s. If he does, you'll be the first to know...

HIGHLIGHTS OF NEXT MONTH'S ISSUE ...

BUDGET SPEAKERS TESTED

The search is on to find the best budget speaker for under £500. Contenders include: Mission, B&W, Eltax, Tannoy, Acoustic Energy, Heybrook and ALR Jordan. The winner of the battle will be revealed next month.

THE AMPLIFIER CHALLENGE

Looking to buy a new amplifier? Alvin Gold puts six of the classiest new models to the test. Prices range from £500 for a Primare A-10 to £1,000 for the Arcam FMJ.



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COMPETITION

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