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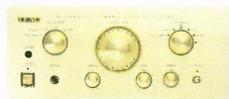
T-H500 TUNER



AV-H500 PRO-LOGIC AMP



A-H500 AMP



MD-H500 MINI DISC



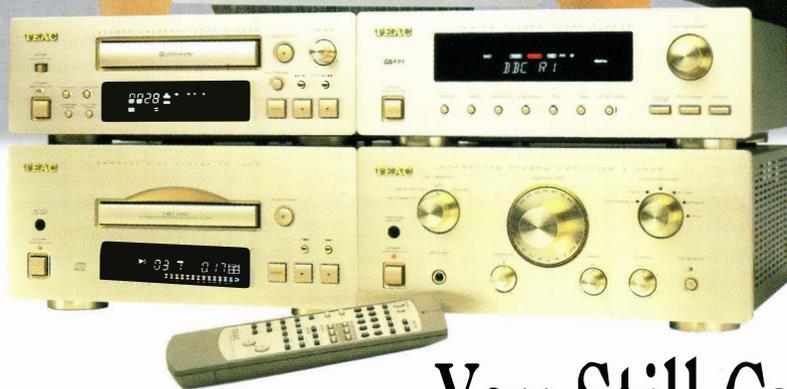
R-H500 CASSETTE DECK



PD-H500 CD PLAYER



VRDS-9 CD PLAYER



"TEAC mini sets standards"

WHAT HI-FI, Jan 97

"All three sources sound big and confident, with an accuracy and delicacy more akin to separates than minis"

WHAT HI-FI, May 97

"In terms of its good looks, the system's asking price could just about be doubled"

Gramophone, Jan 97

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500

You Still Can.

DUE TO TECHNICAL DIFFICULTIES BEYOND THEIR CONTROL, OTHER MINI SYSTEMS WILL NOT BE DELIVERING THIS LEVEL OF PERFORMANCE

Chief Musical Officers' Warning

TEAC

● **QUERIES (PAGE 28) AND LETTERS TO THE EDITOR (PAGE 19)**

Accepted by letter only to the fax number, e-mail or postal addresses given. We deeply regret we are unable to speak with readers or answer queries on the telephone.

● **BACK ISSUES – SEE PAGE 129 FOR DETAILS.**

A number of selected back issues are available at £4.00 each (£6.95 overseas) including p&p. Call (01789) 490215 to order — all major credit cards accepted.

● **SUBSCRIPTIONS – SEE PAGE 40 FOR DETAILS**

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● **PHOTOCOPIES**

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Editor's Notebook



PHOTO BY SEAN BLOOMFORTH

Editor-in-Chief **Stan Vincent** is dreaming about DVD possibilities!

Welcome to September's edition of *Hi-Fi Choice*. Yet again we've been ducking and diving to bring you the ultimate hi-fi accessory — our magazine. The big news this month is an exclusive chance for readers to win a trip to New York, simply by voting for their favourite hi-fi dealer! This unmissable Prize Draw opportunity has been arranged with our good friends at Marantz and Tannoy, and you'll find full details on page 27. Not all hi-fi dealers are created equal, but for once, here's a chance to reward the ones who really make an effort to serve and satisfy their customers. Cast your vote with pride!

DVD Audio — drawing nearer?

Reviews Ed Alan Sircom and Reviewer-At-Large Alvin Gold have been privy to exciting new developments in DVD Audio, which may promise playback quality that until now has been the stuff of dreams.

The Whoops! corner

I'll apologise to any reader who is still waiting for a list of winners from competitions we've staged over the past year. Now, however, thanks to an Herculean effort by our Production Editor, Tina Bunce, we have a full list of winners from February 1996. Everyone who's written in for a list will automatically receive a copy, otherwise just send a stamped, addressed envelope to Tina at the *Hi-Fi Choice* address, and she'll be glad to send you the details by return.

On page 39 of the July/August issue there were two slight errors. Cardas products are distributed by Audiofreaks (0181) 948 4153, not Audiophile International; and the Shun Mook Isolation Platform (again, from Audiofreaks) costs £150, not £130. We apologise for any inconvenience this may have caused.

Enjoy your listening this month!

Stan Vincent

DVD AUDIO

The International Steering Committee and the DVD Audio Working Group are working on the proposals for a new DVD audio standard, finally recognising that the audio and music industries are not just a subset of the video business. This news, potentially the most exciting for the industries since the introduction of the LP, comes from two organisations who between them represent the music recording and DVD manufacturing industry world-wide.

What is proposed is a new, hierarchical high-quality, multi-channel system with support for up to eight channels of 24-bit 96kHz non-data reduced audio on discs that will also be able to play (in 16-bit stereo) on standard CD players.

Amidst the plethora of fanciful announcements about DVD in recent times, the significance of this one is that it appears to have the firm backing of the industry as a whole, and that it will offer record shops a single inventory of discs which you will be able to play on your existing CD portable, and then transfer to your super multi-channel, 24-bit DVD player, with all the benefits that this implies. The specifications are due to be finalised at the end of this year, with production maybe a couple of years away. AG

STANDARD ISSUES

Korean consumer electronics giant Samsung has suggested the adoption of a new 192kHz sampling frequency, 24-bit word length for the forthcoming DVD-Audio standard. And it's not alone — a handful of major-league players in the DVD game are said to be taking ultra-high sampling frequency recordings seriously.

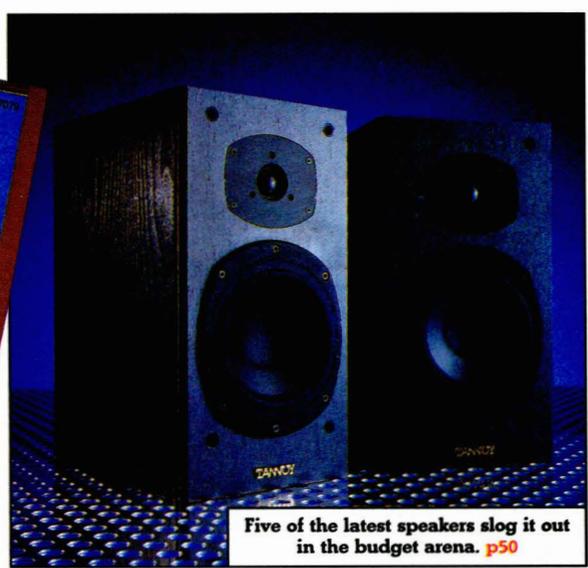
Cambridge-based professional-digital-recording specialist dCS has built custom-made 192kHz/24-bit D/A and A/D converters, based on its 96kHz/24-bit dCS 952 and dCS 902D machines. These were recently used to make a recording of the Gonville and Caius choir at Queen's College Chapel, Cambridge for Samsung.

The choir was recorded directly onto Genex magneto-optical disc recorders, with parallel recordings being made on 96kHz/24-bit dCS converters to a Nagra digital tape recorder and 44.1kHz/16-bit (CD standard) on a Panasonic DAT.

This was a unique chance to hear all three standards. As you'd expect, at each broadening of bandwidth and increase in bit rate the quality improved, until at 192kHz/24-bit, it was almost identical to the live feed into the studio. The question however remains; will 192kHz/24bit ever see the light of standardisation? AS



Audiophile recording comes under scrutiny this month — what exactly are you paying for? **p42**



Five of the latest speakers slog it out in the budget arena. **p50**

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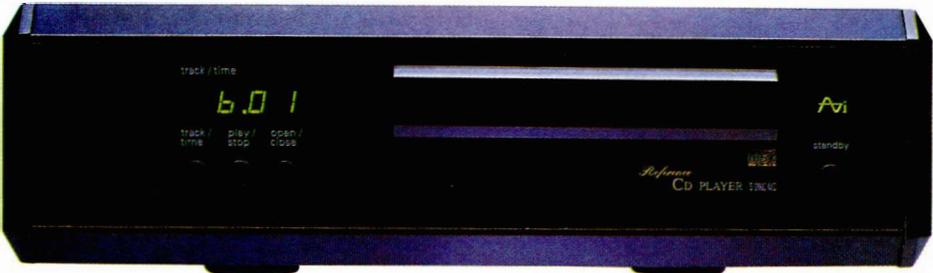
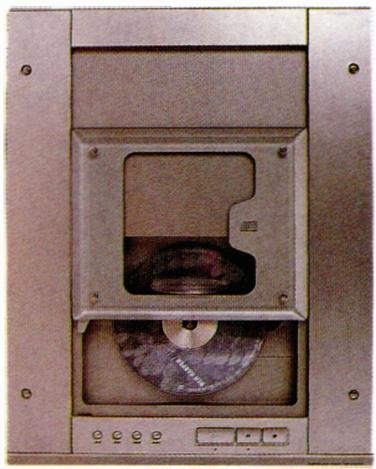
Jimmy Hughes explains how to get the CD ring of confidence with total digital hygiene.

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Our man at the piano, Richard Black, visits a dedicated music lover and serious hi-fi user and his high-end mid-Atlantic system.



Paul and Alvin get to grips with a dozen of the finest disc spinners. **p58**





Check out tube preamplification in the form of the sleek SJS Arcadia. **p11**

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15 Oasis of Sanity

Paul Miller has found something to really gets his probes into this month — a CD player with four alternative filter options.

17 Personal Messages

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David Vivian sacrifices a cubic metre of living room to a pair of Mission 735i floorstanders. Find out if he's still happily married!

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The dynamic dozen. Alvin Gold and his barny army of blind listeners take 12 of the best players on the market through their sonic paces. The mighty morphin' Paul Miller tests each player's metal in the laboratory.



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WIN! WIN! WIN!
PopeMusic
audiophile CDs
worth nearly £3,000



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Update

JUST IN THIS MONTH... BUDGET CD RECORDER FROM PHILIPS DUE OUT AT THE END OF THIS YEAR... AND MUCH MORE

In brief

Celestion's latest floorstander in the i Series is the 23i. This new £299 floorstanding two-way loudspeaker uses a ferrofluid cooled neodymium tweeter and a natural fibre bass cone. The fully-braced, computer-designed cabinet is finished in rosewood or black ash effect. ☎ (01473) 322222

Following close on the heels of Meridian, French digiphile Micromega has announced that it will be building a DVD player, said to be introduced later this year. It will be in the style of the Micromega ClassicLine — The Next Generation livery adopted by the company's latest Solo, Data and Dialog components. It will be shown at the Ramada Show in September and is expected to cost around £1,500. ☎ (01992) 573030

Symbol Electronics hopes to make a splash with its new £1,299 HDCD-equipped CD player and 50 Watt £499 integrated amplifier. Both products are designed by Tony Brady, formerly with Onix Electronics, who hopes to introduce two more CD players, a remote-control amplifier and power amps soon. ☎ (01273) 517358

GLL has dropped the price of four models in its Imagio i series of loudspeakers. The new prices start at £259.95 for the IC110i (a reduction of £40) and rise to £499.95 (previously £529.95) for the IC130i. ☎ (01705) 492777

Sevenoaks opens three more Sound & Vision stores this summer. The new shops are based at 3 Earls Lane, Carlisle ☎ (01228) 590775, 36-38 Park Road, Peterborough ☎ (01733) 897697 and at 112 Vicar Lane Leeds ☎ (0113) 245 2775.

Re-writing the CD format

Late-breaking news comes from Dutch consumer electronics giant Philips, which has announced the forthcoming introduction of a domestic CD-Recorder suggested to be released at the end of the year for only £500. Existing domestic CD-Recorders can record up to 74 minutes onto a write-once, read-many disc, but Serial Copy Management System protects the recording from piracy.

Scant information is available at the moment, save

that the as-yet unnamed recorder will be the first to be compatible with the forthcoming CD-ReWritable format. CD-ReWritable discs can be erased and re-recorded many hundreds of times, but are said to be completely incompatible with existing CD and CD-R machines. Once fixed, current CD-Recordable discs are compatible with the 500 million CD players world-wide.

Philips ☎ 0181-689 2166

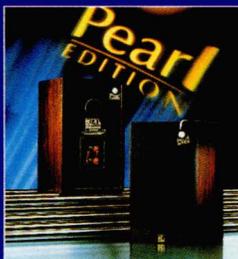
Pearl Twentieth

No sooner has a birthday version of its MS10i speaker appeared, than Mordaunt-Short gives the Pearl treatment to the MS20i to match. The new £199.99 MS20i Pearl speaker has been completely re-voiced, to give a more refined treble and a bigger, better soundstage, according to the company.

As with the MS10i Pearl, the basic MS20i spec remains unchanged. It still uses a 25mm anodised dome tweeter and a 165mm bass/mid driver, albeit one that has been improved for the Pearl edition. The key to the changes has been the development of the company's MCS5 cone surround. This uses a new isotactic polypropylene polymer substrate with a carbon filler, said to make the cone more pistonic while improving its sensitivity. This new surround technology has required the cabinet to be retuned, which is claimed to improve the bass performance in the process.

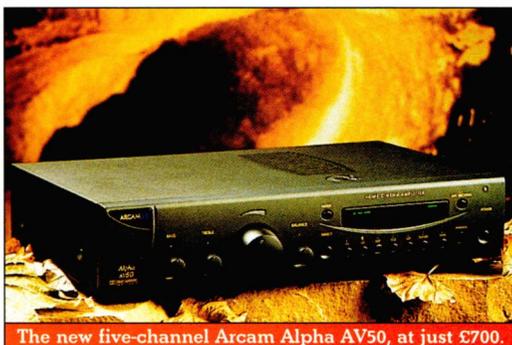
The changes have also facilitated using a new bi-wireable hardwired crossover with a dual capacitor HF filter. The crossover sticks to its audiophile guns, however, by being as minimalist as possible.

Mordaunt-Short
☎ (01705) 407722



Mordaunt-Short's MS20i gets the Pearl treatment.

British cinema for less



The new five-channel Arcam Alpha AV50, at just £700.

Arcam has just introduced a new Alpha amplifier in its steadily growing range. Called the Alpha AV50 and priced at £700, it represents the cheapest way of entering the home cinema amplifier market and staying with British products. A fully five-channel design, the AV50 incorporates five built-in 50 Watt amplifiers and full video switching. It uses Dolby Pro-Logic decoding with built-in Dolby 3 Stereo, but also sports the option to take Dolby Digital formats in the future.

It has no on-screen display, but instead comes with a comprehensive front panel display and a do-it-all remote control. AV50 can handle up to four video sources and seven line-level audio sources. Cambridge's premier hi-fi electronics company claims that the sound quality in stereo mode is in line with its existing Alpha 8 integrated amplifier. Arcam ☎ (01223) 440964

Vertical symmetry

JBL's professional experience is brought home with its new Symmetrical Vertical Array bi-radial horn loudspeakers. Unlike many domestic loudspeakers, the new SVA range uses a bi-radial horn to limit dispersion to a 60x40 degree arc, thus reducing reflections. This is said to create more accurate imaging than other box loudspeakers. The speaker is flanked by two heavy-duty bass drivers creating the symmetrical vertical array.

The combination of the bi-radial horn and symmetrical bass drivers is claimed to create a speaker that is less affected

by room conditions and positioning.

The models start with the £700 SVA 1500, an 88dB sensitivity, 150 Watt handling speaker with twin 130mm bass drivers. This speaker also has a virtually identical centre channel designed for home cinema use, priced at £350. The other three models in the range are bi-wireable and rise from the twin 165mm bass-driven SVA 1600 at £850 to the twin 254mm SVA 2100 that has a claimed sensitivity of 93dB and is said to handle 300 Watts for £1,250.

Gamepath ☎ (01908) 317707



The SVA range with bi-radial horn.

Pioneer picks pop products

Pioneer continues its up-market theme with a flagship AV amplifier and two receivers, a pair of speakers, centre and surround package, a new CD player, lower-priced CD recorder and two twin cassette decks.

The £550 PD-S06 CD player is top dog in the new line up. It features Z-Concept low-noise, low-jitter technology to run alongside the Legato Link S and Hi-bit enhancements. It uses the latest version of the Stable Platter CD transport with a new damper mechanism.

The £700 PDR-04 CD recorder still uses the Stable Platter transport, optical and coaxial digital inputs and outputs but has automatic analogue recording and does without the sample rate converter. The comprehensively equipped PDR-05 has dropped in price to £999.95.

Pioneer's digital recording knowledge has also extended to cassette decks. Both the £200 CT-W606DR and the £300 CT-W806DR twin-tape players feature its digital processing system, which replaces analogue functions such as bias, eq and noise reduction with their digital equivalents, thanks to 20-bit A/D and D/A converters. The recording on the tape, however, is still analogue, and fully compatible with any cassette player. The more advanced 806 deck has extra features such as parallel

recording, a microphone input and a coaxial digital input to make fully synchronised recordings.

The £1,300 VSA-E06 integrated AV amplifier sports THX 5.1 with five 100 Watt Mosfet amplifiers and its own multi-channel processor chip. Pioneer has also developed a Graphical User Interface, incorporated in the £800 VSX-906RDS and the £400 VSX-806RDS Dolby Pro-Logic AV receivers. The new £250 S-F707 speakers are designed for wall-mounting and blend in with the £400 S-CR707 centre and surround package. Pioneer ☎ (01753) 789500



CD recording for all, courtesy of Pioneer's PDR-04.

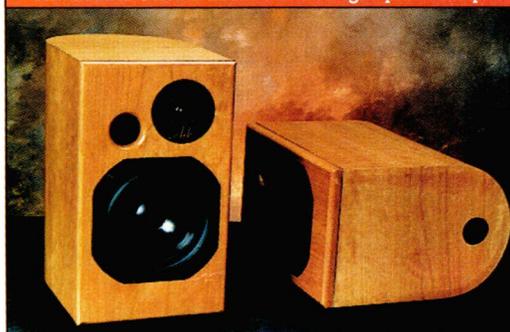
Raiders of the Lost Ark

When furniture maker Andrew Peace was asked to design a loudspeaker that matched furniture he had already supplied, the result became the Ark Model One. After 14 months of development the Model One is intended to be the trailblazer for a range that is said to include a floorstander and home cinema speakers, as well as cabinets and furniture to match.

The cabinet is 26mm thick MDF, stiffened with 2mm fibreglass and the front baffle is made from 40mm thick solid cherry or mahogany. The speaker driver is a 25mm aluminium dome tweeter allied to a 430mm mid/bass unit. The company claims an 88dB sensitivity, a nominal impedance of eight Ohms and a frequency response that stays within 3dB points across the 40Hz-18kHz range. Each 14.5kg speaker is bi-wireable via an unusually base-mounted Neutrik Speakon connector.

The price of the speaker is very much dependent on finish, but an approximate figure of £900 has been mentioned. Ark ☎ (0115) 920 5611

Ark Model One: available in mahogany or cherry.



Linn 'log lives on

To celebrate 25 years of turntable making, Linn Products has announced two additions to its top-flight LP12 turntable. First is the reworked Arkiv cartridge at £1,200. This low-output moving-coil has undergone several changes, including a new stylus shape with a boron cantilever and carcass of solid alloy. This makes the new Arkiv track the grooves more accurately than its predecessor, and ups the output to 0.4mV. It shares the three-point mount and flying lead-out wires common to top Linn cartridges of old.

A new phono preamplifier has also been launched; at £850, the Linn Linto is designed to directly couple the output of a moving coil cartridge to the amplifying transistors and does without resistor and cartridge loading in the signal path. This is said to transform the performance of any decent turntable, and can be tailored to suit the output of a wide variety of moving coil cartridges. It comes fitted with the Brilliant switch-mode power supply and a small screen-print on the Linto's underside, commemorating Linn's Silver Anniversary.

There are also rumours of a brace of strictly limited edition Silver Anniversary LP12-related products in the pipeline. These are expected to be more cosmetic than sonic and will therefore be the ultimate Linn collector's items. Linn Products ☎ (0141) 307 7777



Linn's Arkiv moving coil cartridge: now better.

Upgraded digits from Naim

Naim Audio has upgraded its *Hi-Fi Choice* Recommended CD3 CD player. While keeping the styling unchanged, the new £1,000 CD3-5 features some significant under-the-bonnet changes to both hard and software.

The obvious change is the provision for future upgrading, although the company has not reneged on its refusal to fit a digital output. Instead, it has opted for an external power supply option, so that the internal power supply can be bolstered by adding a Flat-Cap, Hi-Cap or Super-Cap supply. The on-board PSU being left to feed the digital section, with the external power supply driving the analogue stages.

That aside, the CD3-5 uses the latest Philips CD7 components, including a VAM1205 variant of the CDM12 transport mechanism. Naim has reduced noise and jitter, thanks to careful positioning of the DAC on the circuit board and use

of Naim's master clock to control the major digital functions.

Naim has used its own software engineers to maximise the control of the servo and decoder, helping to improve the user interface, and incorporating track programming. Naim Audio ☎ (01722) 332266



Naim's user-friendly CD3-5 allows PSU upgrades.

In brief

Sevenoaks Sound & Vision stores stock hi-fi and home cinema products from Yamaha, Pioneer, REL, KEF and many more. Sevenoaks Hi-Fi Head Office ☎ (01732) 740583

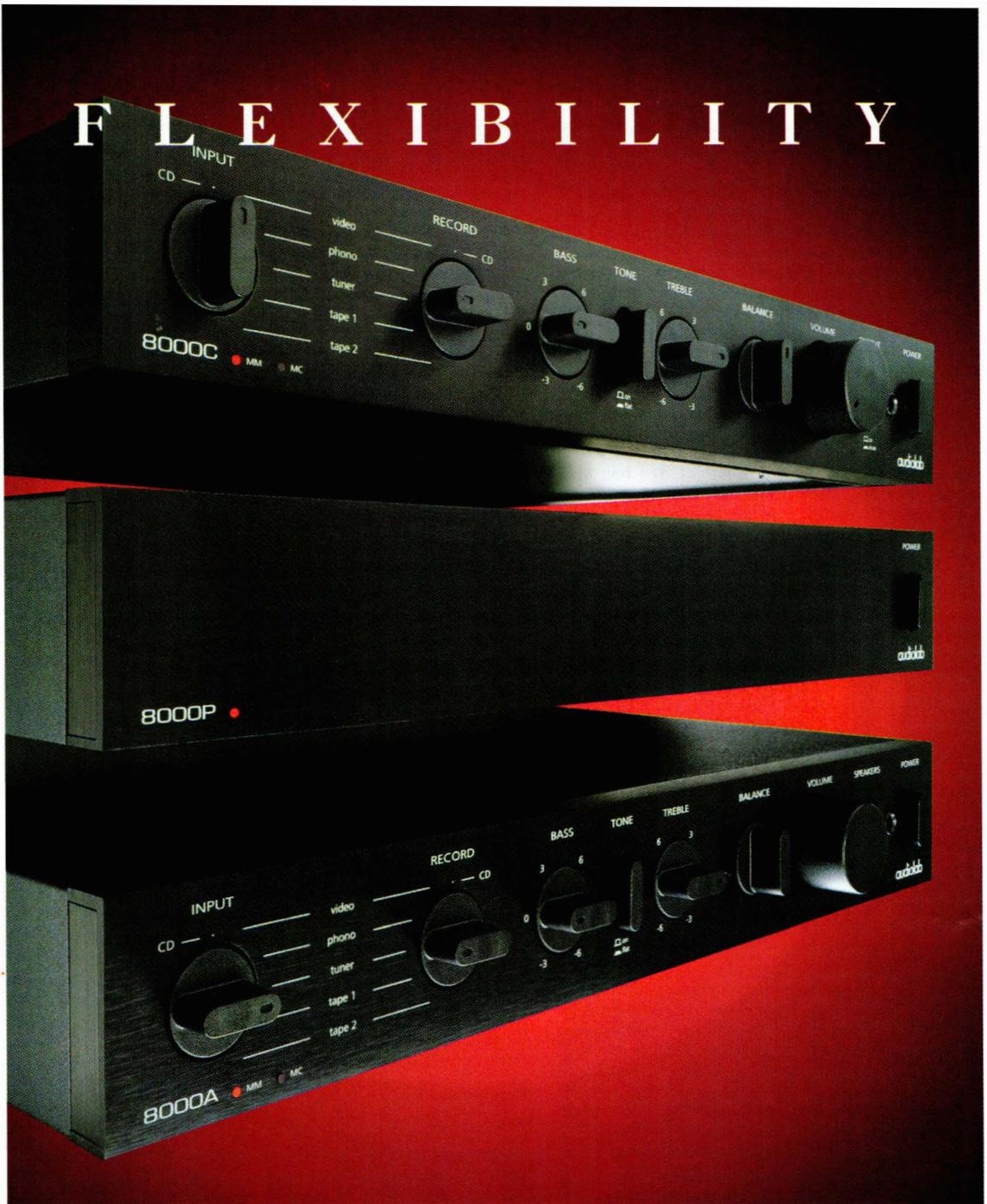
Acoustic Energy has relaunched the £199.95 AE100 speaker. The new AE100i features upgraded and realigned components in the crossover and an injection-moulded grille. The price remains unchanged. ☎ (01285) 654432

Three of Harman/Kardon's home entertainment electronics packages have had their prices slashed. The ADP303 Dolby Digital decoder has been reduced from £600 to £475, and when used in partnership with the AVI250 amplifier, the package drops in price from £1,700 to £1,500. The ADP303/AVR80 combo falls £150 to £1,700. H/K has also teamed up with JBL, providing new purchasers of an AVI100 or AVI200II amplifier with a free JBL MR centre channel loudspeaker. JBL is introducing a new home AV system, the £899 Power Pack II. This comprises a pair of TLX121 front speakers with a TLX103 centre, TLX111 surrounds and the active PSW1200 subwoofer. Finally, on the subject of AV subs, JBL has announced its twin 300mm HTPS300 active subwoofer. This 200 Watt THX certified subwoofer forms the backbone of the revised £2,500 HT1-A THX speaker package, or is sold separately for £1,000. ☎ (01908) 317707

Satellite and cable viewers. Tune your black box to the music station VH-1 every Monday, Thursday and Saturday. Why? Because loudspeaker supreme KEF Audio has sponsored the respected "Take It To The Bridge" live music show. ☎ (01622) 672261

Failing that, nip round to your local Tut 'n' Shive, where you can plug into a Databeat Listening Post and listen on headphones to one of six CDs played two weeks before they are generally released. Up to five Listening Posts can be fitted into a pub, the first being installed in the Tut 'n' Shive pub in Fulham's New Kings Road, playing tracks from the Creation, MCA, BMG and React labels. ➤

FLEXIBILITY



Audiolab 8000DAC
Audiolab 8000CDM
Audiolab 8000C
Audiolab 8000P
Audiolab 8000S
Audiolab 8000T



Audiolab 8000Q
Audiolab 8000M
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Audiolab 8000S

The Audiolab 8000A Integrated Amplifier, 8000C Pre-amplifier and 8000P Power Amplifier have earned an unrivalled international reputation for outstanding sound quality, engineering excellence and flexibility.

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AUDIOLAB

B&W bookshelves stretched



Consolidating its position as Britain's largest loudspeaker manufacturer, B&W has introduced two new floor-standing speakers: the CDM-7 and the Signature 30.

The £999.95 CDM-7 is a new floorstanding design, which supplements its EISA award-winning range of CDM bookshelf loudspeakers. It's a 38-litre, two-way speaker that stands some 950mm tall and features a free-space 25mm metal-dome tweeter, mounted for time alignment in the manner of the CDM-1 monitor.

The tweeter is allied to a 165mm Kevlar mid/bass unit, which is said to take the best aspects from the existing B&W loudspeakers, using the CDM-1 cone and die-cast chassis with the voice coil from the Matrix 804. Even the crossover takes the best parts, using a third-order filter with polypropylene capacitors for the tweeter and first-order filter for the mid-bass driver. This speaker is then bolstered up by a 165mm Cobex homopolymer bass driver, taken entirely from the Matrix 804. This allows the new CDM-7 to reach down to a claimed 40Hz while retaining a high suggested sensitivity of 90dB.

The CDM-7 features 18mm MDF throughout both the cabinetwork and the internal bracing. Externally, it can be finished in a choice of black ash, red ash or cherry.

The second model in the Signature range, the £6,995

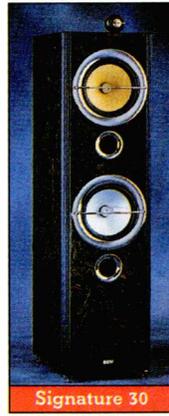
Signature 30, is, not surprisingly, the company's 30th anniversary model.

Its one-metre tall, 40litre cabinet uses B&W's Matrix technology to brace the cabinet and damp internal standing waves. The Signature 30 has pushed the Matrix concept further than ever by creating customised cells for midrange and low-frequency sections, making for optimal damping throughout.

The treble and mid/bass drive units are refinements over existing Silver Signature drivers. The 25mm aluminium-dome tweeter is similar to the one used in the mighty Nautilus speaker, and is mounted in a larger, polished chrome-steel housing than the unit used in the original Silver Signature. This is mated to a 180mm Kevlar mid/bass cone with a large magnet and a fixed phase plug. A 180mm aluminium-cone bass driver has been employed to bring up the bass end of things, taking it down to a claimed 30Hz. With a claimed sensitivity of 89dB, the Signature 30 should not tax even the lowest powered of high-end systems.

Naturally for such a speaker, finish is paramount. B&W has addressed this with a choice of grey tiger's-eye, or red bird's-eye piano gloss veneers. It has also retained the distinctive silver bar driver covers.

B&W ☎ (01903) 750750



In brief

Once famous for classic loudspeakers, turntables and even the occasional piece of electronics, the name Acoustic Research is about to resurface once more — as a brand of cables, connectors and accessories. Aside from regular phono leads and speaker cables, the company also supplies wall-mounted connector plates and complete hook-up kits for hi-fi and home cinema systems. ☎ (01204) 862026

Roksan Xerxes and Garrard 401 turntable owners who want to use the QR Ringmat have been unlucky until recently, due to a small well in the centre of each platter. Fortunately, QR Design has announced 1.6mm and 4.6mm Neoprene and foam rubber inserts to alleviate this problem. Prices are £4.50 for the 1.6mm Neoprene insert for Garrard users and £6.25 for the larger model designed for Roksan decks. ☎ (01277) 200210

Bishop's Stortford dealer The Audio File has joined forces with C&S Installations to become the Connection Specialists. A member of CEDIA, the new company is dedicated to all aspects of home installation and multi-room systems. ☎ (01279) 465445
The Audio File has also mingled with Harlow's Objective Audio, spawning a new hi-fi emporium in Hoddesdon. The new shop, at 37 The Tower Centre, Hoddesdon, will be known as The Audio File Objective when it opens on August 1. ☎ (01992) 478666

ALBUMS PLAYED IN THE HI-FI CHOICE OFFICE THIS MONTH
Fila Brazilia Luck Be A Weirdo Tonight
Supergrass In It For The Money
Bill Hicks Relentless
Radiohead OK Computer
Brad Interiors
Kevin Coyne Matching Head And Feet
Ian Dury & The Blockheads Jukebox Dury
John Zorn Spillane
From Dusk Til Dawn, music from the motion picture Various Artists

Responsible loudspeakers

ProAc has yet again upgraded its highly successful pocket rocket Response One high-end loudspeaker. The latest model, called the Response One 'SC' uses a new bass driver with a copper magnet and phase plug arrangement, a highly damped transparent cone, a die-cast chassis and a high-temperature voice coil. Other improvements include modifications to the internal damping and crossover network, all of which are claimed by ProAc to improve the frequency response, lower distortion and make for cleaner bass and midrange. Cabinet size, tweeter, choice of finish and stand all remain unchanged.

The price of the new Response One 'SC' begins at £1,199 in standard veneers and rises to £1,439, depending on finish. In addition, existing ProAc Response One 'S' owners can upgrade to the latest 'SC' specification for £250. ProAc ☎ (01280) 700147

MiniDisc mayhem

Sharp's latest duet of products rams home the commitment the company has to MiniDisc. The new £999.99 MD-XV300H component system and the £349.99 MD-MS200H personal recorder are heavily pro MD.

The MD-XV300H is a conventionally-shaped aluminium-finished (read: brushed silver) mini-sized component system featuring a sleek, file system three CD changer and a 40-preset AM/FM tuner. It does without cassette entirely, relying instead on the more digital charms of a single MD drive with all the functionality common to the format, including sophisticated editing and titling features and

Price-conscious Panasonic power

Panasonic's latest trio of multi-CD changer mini systems place a strong accent on hefty power output but also boast plenty of useful gadgets and the option to store up to 51 CDs on board.

The new range begins with the £279.95 SC-AK20 system. Belting out 50 Watts into its two-way Dynamic Linear Suspension loudspeakers, it sports a five CD MASH-based changer complete with a built-in CD manager and tape programme sensor for making fuss-free recordings on the twin auto-reverse cassette decks. These functions are augmented by the 3D spectrum analyser, V-Bass equaliser, 3-D space signal processor and a 24-preset AM/FM tuner.

The next model in the range, the £329.95 SC-AK40, builds upon this specification, by doubling the power output and using three-driver speakers. New king of the Panasonic mini system hill is the SC-AK90 at £399.95. Punching out a healthy 150 Watts into its four-way speakers, this system comes complete with a 50+1 CD changer and a jog-shuttle dial to steer your way through the profusion of music on offer.

Panasonic ☎ (0990) 357357

sampling rate conversion to suit CDs, DATs and satellite broadcasts. The 50 Watt MD-XV300H also features the Sound Retrieval System to create a more 3D sound from the two Active Servo speakers.

The personal MD-MS200H recorder features a Lithium-Ion battery that bestows nine and a half hours of playback or seven hours of recording time, and has a worldwide AC power supply for MD jet-setting. It has a 74 minute recording facility (or 148 minutes in mono) and, with the sound synchro recording facility and a microphone input, makes a dictation machine or note pad as well as a music playback device. Cor! Sharp ☎ (0800) 262958

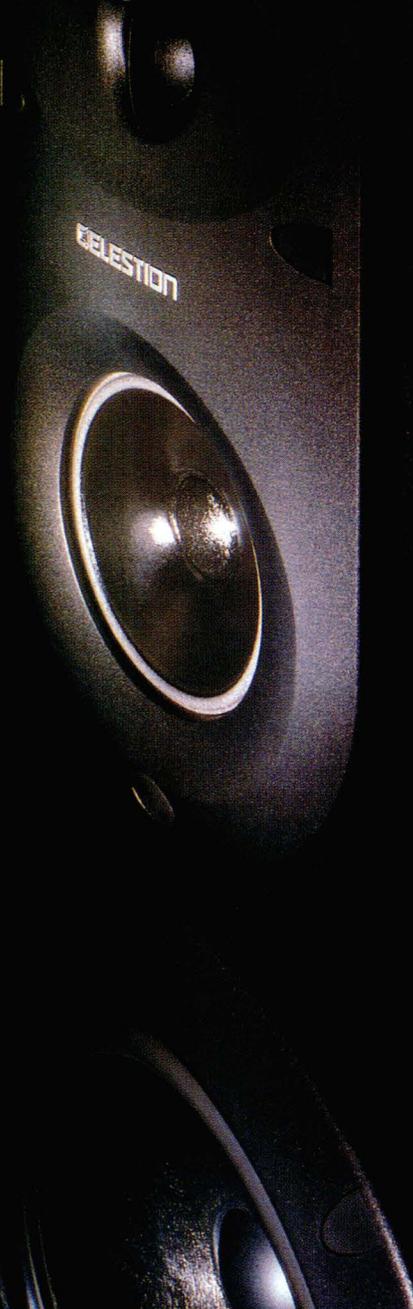


One of Sharp's latest MiniDisc offerings, the MD-XV300H.

Predictable start.



Spectacular finish.



Every loudspeaker manufacturer has the basics. The cones, coils, crossovers and cabinets. The woofers, tweeters, magnets and faceplates. But only one really knows how to put them together. The proof, Celestion's new i Series.

Built with 70 years experience of pioneering development in loudspeaker technology, this range blows your mind. It combines the highest level of audio fidelity with outstanding dynamic range. So you fully enjoy the true power of contemporary music and film recordings. Time and time again.

But don't just take our word for it. Take it from Hi-fi World. "Powerful, dynamic, musical and convincing", the i Series "shows just how strong British loudspeaker engineering really is".

Spectacular praise, you might think. But where Celestion's involved, it's almost predictable.



Ear Waxings

Once you've built your valve power amplifier, where will you find a decent tube preamp for less than £1,000. **Jason Kennedy** may have the solution.

It would seem that everyone and their brother is building valve amplifiers these days, but if you look a little closer you'll realise that most of them are building power amps — very few have got the nous to build a preamp. In fact, if you want a tube preamp at around £1,000, they are surprisingly few and far between. Once upon a time there was the Audio Innovations P2/L2 phono stage/line pre combo, but that has disappeared with the rest of the company's tube line-up, and it would seem that some people have missed it. One person is Simon Shilton, the proud creator of the SJS Arcadia preamp you see before you. This aims to fill the gap left by the L2 and improving on its sonic and aesthetic qualities at the same time.

SJS Electroacoustics is a Manchester-based outfit which supplies parts for valve amps as well as producing two versions of the Arcadia and a very glossy copper chassis power amp of the single-ended persuasion. If you fancy a bit of audio cyber-porn this amp can be seen on Simon's web site (http://ourworld.compuserve.com/homepages/Simon_Shilton/).

The Arcadia is a six-input line preamp with two tape outputs and separate listen/record selectors, balance control and an extra pair of main outputs for bi-amping. The chassis is constructed from steel with an acrylic fascia, the latter making the most of the rather nice chrome knobs and unusual Golden Section shape, somewhat reminiscent of the British Audio Note preamps that are a bit bigger and feature fewer controls. The shape allows for a direct signal path and keeps the power supply away from signal control. Internally it uses a pair of 5687 signal tubes and a 5Y3 rectifier; critical capacitors are Hovland and the volume knob is an Alps Black Pearl. Even more unusual than these designer components is the presence of choke-input filter transformers in the power supply — a pretty serious statement of intent if I ever saw one. The last, and only, time I did was in the Border Patrol power supply (reviewed in issue 165), which cost £595 alone. Ah yes, the price. In Model 1 form as reviewed the Arcadia costs £1,000. In copper chassised, souped-up components Model 2 guise the price doubles.

When Simon brought me the preamp he also produced a shiny Model 2 which ended



SJS Arcadia Model 1
Salvation for all who seek a well made, fine sounding and cunningly conceived preamp.

up balancing a Michell Alecto Stereo power amp better than its sibling, although I ended up trading the latter for an Audio Innovations Series 700 with a Border Patrol supply. The Model 2 still sounded better but the 1 proved a happy partner for this rather effective combo and most of my listening was done with it. Speakers were, and still are, Living Voice Auditoriums — a valve-friendly design.

A sign of distinction

Reviewing tube amps is generally loads of fun and quite easy. By which I mean they tend to display distinct tonal characteristics, something that tranny designs only do by comparison. The Arcadia didn't prove so easy to pin down, however. Its consistency and all-round balance made it very difficult to get to grips with. Compared, for what it's worth, with a Michell Argo, the latter sounded brash at high frequencies, tighter in the bass and a bit more spacious as a result. But once one has adjusted to the relatively smooth treble of tubes and started to revel in the sound of

instruments and voices, you realise that the superb timbral resolution and dynamic subtlety on offer from a preamp like this is very easy to live with.

It does hi-fi stuff well, mind you; it's not another slow and mellow machine like so many tube designs. Put a power amp that digs stereo on the end, such as the back-breaking Audio Research VT100, and there's your depth and effortlessness. In its own slightly dark fashion this is a very fine preamp. I've heard it in more sympathetic systems doing some incredible, three dimensional, hip shaking stuff. In my system I couldn't quite elicit the dynamics I know it's capable of, but neither could I fault it. There's none of the wispy airiness and soft, slow bass that one associates with the breed — just consistently fine tone, edge-of-your-seat dynamics and effortlessness. Let's put it this way: if you're a tube-and-horn man or woman, you're going to have a lot of trouble walking away empty handed from a decent demonstration of this product. You have been warned. ▲

SJS Electroacoustics ☎ (01706) 823025

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Adding a new dimension to music at home or on the move.

All on a neat little MiniDisc that no tape can match.

The unreel, made real by Sharp.



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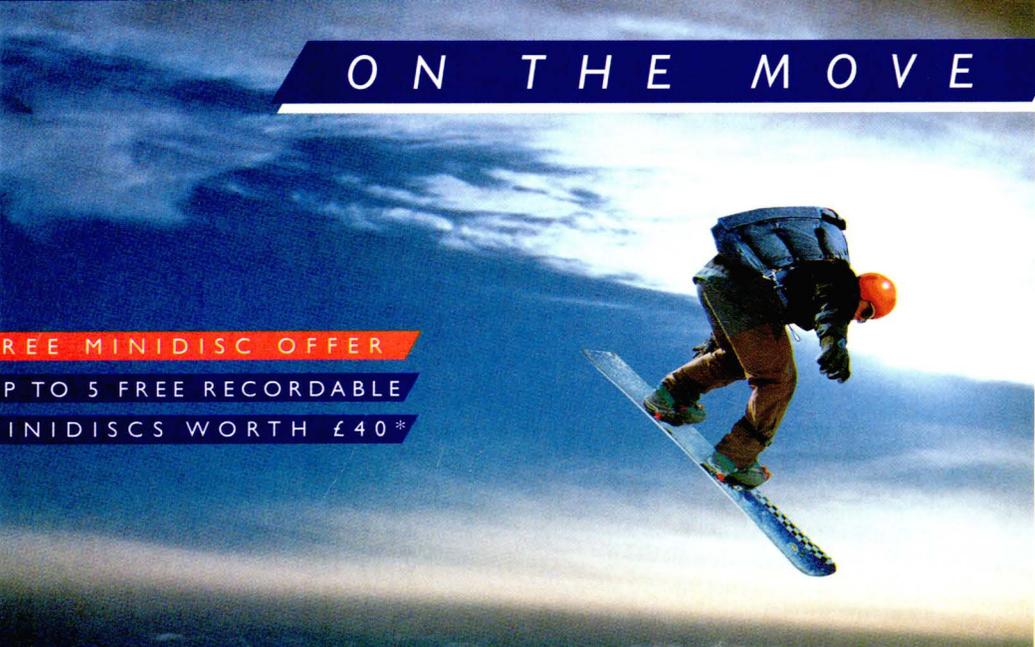
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The Jimmy Hughes Experience

Jimmy Hughes has found a subwoofer for all seasons in the REL Q100E, and discovered a new source of power for Musical Fidelity's X series.

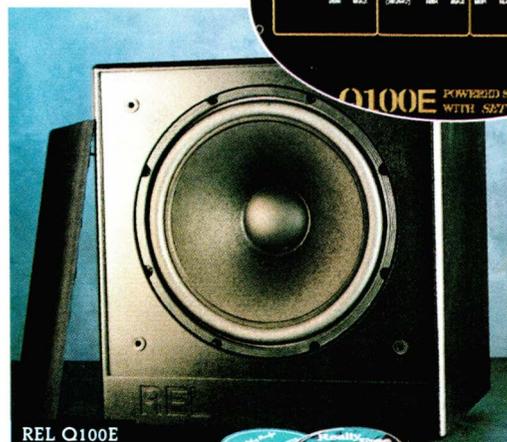
You can experiment with cables, try a different amplifier, or even buy a bigger pair of speakers. But if you crave deeper bass, adding a good sub-woofer is potentially the simplest and most cost-effective way to get it.

It's not just about gut-wrenching thuds. Of course, adding a sub should increase a system's ability to move air, but more importantly, reproducing the very lowest frequencies seems to increase treble purity and sweetness. It improves the placement of voices and instruments in the stereo soundstage so the music sounds more natural and realistic.

Here's the problem. Listeners' requirements of a sub vary enormously. Some simply want big, fruity bass with lots of energy and impact. Others require something subtler, a sub that isn't apparent until it's switched off, and a hitherto vividly holographic soundstage collapses 'flat'.

With its new Q100E subwoofer (£500), REL has tried to meet the needs of both kinds of user. The secret is a switch marked Depth and Slam. The Depth position gives deep, controlled low frequencies with very little upper-bass — so you only get bass when it's naturally part of the performance.

Switch to Slam and immediately the upper frequency range of the sub is enhanced, leading to a bigger more 'obvious' bass that has greater kick and impact, if less subtlety.



REL Q100E
Choose between the subtlety of Depth and the gut wrench of Slam with this versatile new subwoofer.

With this setting you'll achieve maximum impact for home cinema explosions and sound effects.

Serious hi-fi enthusiasts seeking to enhance existing speakers should stick with the Depth setting. Correctly set up in this mode, the Q100E underpins main speakers, reproducing only the lowest frequencies without muddying the lower mid-range.

You take the high road

Most usefully, the Q100E has separate high and low-level inputs, each with individual volume controls. Previous REL subs have offered more than one input, but with just a single volume control. So it wasn't possible to independently adjust the sensitivity of each input to suit precise needs when used with both hi-fi and home cinema systems.

REL's new arrangement allows you to connect the sub's high-level input to your hi-fi amplifier's speaker output for best sound quality, while using the line-level input for the effects output of a Dolby Digital home cinema processor. Both may be adjusted for precise level matching.

Connected to Impulse H-2s, fairly large speakers with very good bass extension, the Q100E immediately created a more full-bodied sound that was more gutsy yet

also more subtle. Just as you'd expect, kick drums had more power and impact, while bass guitar lines had greater drive and authority.

Less predictably — and this will surprise hi-fi subwoofer novices — the speakers produced a much more three-dimensional image, liberating voices and instruments from the speaker cabinets to float in space and project more positively.

Amazing stories

Even when playing music with no deep bass content, the effect is bizarrely evident. You can turn off the main speakers to hear what the sub is doing, and it appears to be silent. But if you play the complete system and cut the sub in and out, it's a different story.

You don't need blockbuster music to highlight the difference, as you'll hear it just as easily with a quiet mandolin as with a mighty pipe organ. Naturally, the latter puts the sub through its paces more obviously.

I believe the contrast between Depth and Slam is maybe a little excessive. Even if you set the Depth mode so the sub just subtly underpins the main speakers, switching to Slam is almost absurdly loud and crude. But at least the two settings are keenly contrasted, giving users the choice of two very different options. An excellent product in all respects.

REL Acoustics ☎ (01656) 768777



Musical Fidelity X-PSU
A new engine for your train set, this time providing power for four of its friends.

Power to the people

I'm sure quite a few readers have by now begun to accumulate a collection of Musical Fidelity's 'Thomas-The-Tank-Engine'-shaped X-series products, each with its own plug-top transformer. If mains sockets are becoming clogged with these, help is at hand in the guise of M-F's new X-PSU power supply (£129). This will power up to four X units (supplying to each 12VAC at a 20VA rating). It definitely improves sound quality.

Swap one or more of the plug-top transformers for an X-PSU, and you'll hear an altogether richer sound. By comparison, the plug-tops sound slightly shallow and tonally 'hard'. I heard a difference replacing just one transformer; connecting more X units to the X-PSU enhances the effect still further.

Last but not least, the X-PSU has a practical benefit: a mains on/off switch for those who'd rather not leave their X components switched on all day, despite the maker's exhortation to do so. X marks the spot! ▲
Musical Fidelity ☎ (0181) 900 2866

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Paul Miller's Oasis of Sanity

Paul Miller takes a deeper look at Sony's intriguing new CDP-X3000ES CD player, reviewed on page 67.

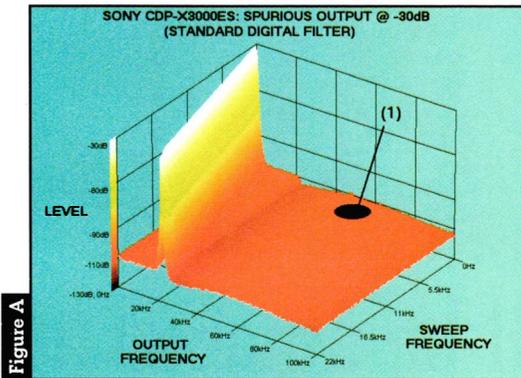


Figure A

Digital Filter Setting: Standard Position

Here, the CDP-X3000ES performs like a 'standard' Sony CD player with three cascaded FIR digital filters (2x2x2) comprising the eight times oversampling stage. The response (black trace) drops away quickly to suppress any digital images within the stopband area (1). This is a superb result, obviously free of distortion, but, because the filter has a Finite Impulse Response (FIR), it

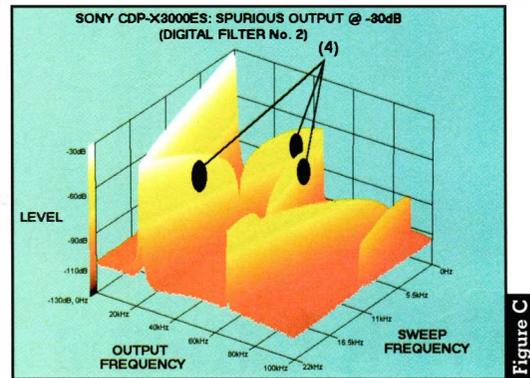


Figure C

I had promised a short treatise on the quality of digital volume controls for this month's *Oasis*, but the launch of Sony's extraordinary CDP-X3000ES CD player has provided us, instead, with something of scoop-worthy interest. Our review of this top-loading digital puzzler can be found on page 67 of this issue, while this month's *Oasis* provides sufficient space to explain why the CDP-X3000ES is like no other CD player.

Sony's 'variable-coefficient digital filter' is the key to the CDP-X3000ES's split personality. Its choice of four very different filter types provides four distinct sonic flavours to suit both music and mood. Historically, the idea of dabbling with digital filters to manipulate sound quality has always been popular with US designers while, elsewhere in the world, the choice of DAC technology — multi-bit, bit-stream or hybrid, for example — has tended to hold sway. In recent years, however, there's been a convergence of ideas and Sony is just the first to combine a whole raft of alternative ideas in one user-selectable package.

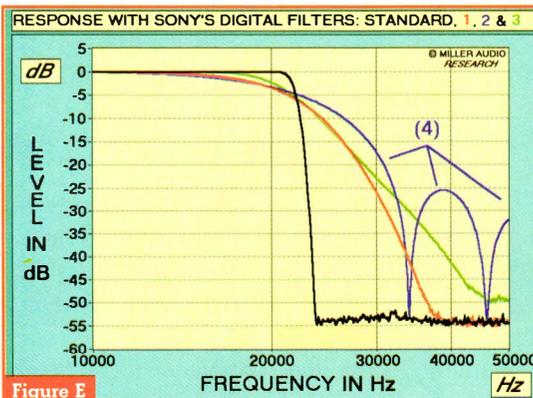


Figure E

Digital Filter Setting: 1

This setting basically emulates Pioneer's Legato-Link filter which, in turn, was inspired by Wadia's Digimaster converters. A gentler 10th-order roll-off is achieved (red trace) by use of a Spline curve-fitting algorithm and cascaded eight times oversampling which, under ideal conditions, shows little or no 'ringing' with transient signals. The digital mirror-image (2) of the audio signal (3) rises up to dovetail with the extreme end of the 'real' audio spectrum to give the impression of an extended response.

Digital Filter Setting: 2

Sony refers to this as a 'Plane filter' that utilises a single-stage eight times FIR digital filter with a low-order roll-off. In practice,

its equi-ripple stopband response (4) (having accounted for the influence of Sony's final analogue filter stage) is a hallmark of a Chebyshev II filter algorithm. Stopband images of this magnitude (4) will cause audible distortion from some amplifier/speaker combinations, so expect unpredictable results from this filter setting.

Digital Filter Setting: 3

Closer to filter No.1, filter No.3 uses a single eight times oversampling stage whose coefficients are designed to emulate a Butterworth filter. This yields a gentle, 7th-order roll-off (green trace) that falls in monotonic fashion (5) at a steady 42dB/octave. Butterworth filters are described as 'maximally flat', offering a smooth, monotonically decreasing frequency response but lacking the sharp transition between the audioband and stopband provided by the other filters and, in particular, the standard FIR setting. ▲

Do you have a subject matter for the *Oasis*? Please contact P. Miller via E-mail on 100576.3021@compuserve.com

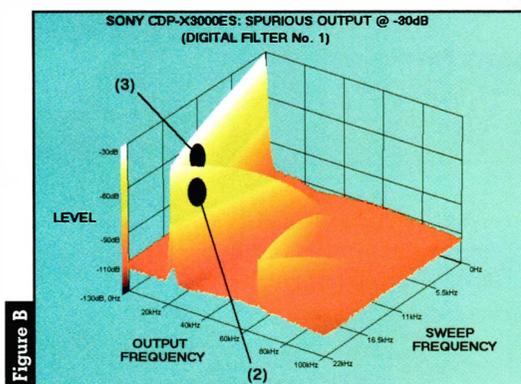


Figure B

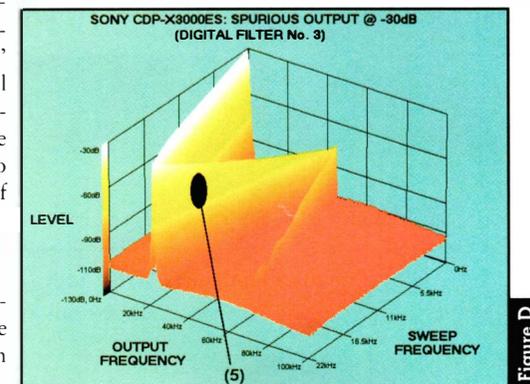


Figure D



With Cinema DSP, you'll be amazed at what comes out of the woodwork.

Bats screech overhead. Wolves howl in the distance. And footsteps crunch across your living room floor.

No, it's not your imagination. You're hearing sounds placed around the room, just as the director intended.

All courtesy of Yamaha Cinema DSP. The home theatre technology that gives dialogue more definition. Music, more dimension. And sound effects, more graphic detail.

Only Yamaha Cinema DSP creates phantom speakers that fully replicate the experience you get in multi-speaker movie theatres. It sounds so real, in fact, you'll swear you hear sounds in places that you don't even have speakers.

As you might imagine, a breakthrough like this is no small feat. It's accomplished by multiplying the effects of Digital Sound Field Processing and Dolby Pro Logic.[®]

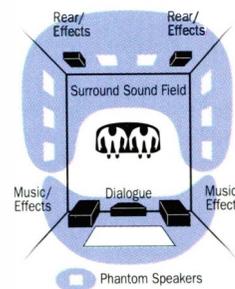
Digital Sound Field Processing is Yamaha's unique technology that electronically recreates some of the finest performance venues in the world. And Dolby Pro Logic is the technology responsible for placing sound around the room, matching the dialogue and sound effects with the action on the screen.

Together, these two technologies allow Yamaha to offer a complete range of home theatre components that outperform other comparatively priced products on the market.

Stop by your local Yamaha dealer for what could be a very eerie demonstration. Maybe we can't talk you into a system, but that doesn't mean we can't scare you into one.

For your local Yamaha Dealer telephone: (01923) 233166.

CINEMA DSP[™]



Only Yamaha Cinema DSP creates phantom speakers. It sounds so real, you'll swear you hear sounds in places you don't even have speakers.

YAMAHA



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Personal Paul Messenger is struggling with an oil-rig-like structure in his living room, thanks to new stand technology!

Messages

Most of the time I reckon it's at least an advantage, if not a downright essential, for someone in my position to be a serious hi-fi nut. It's the only certain way to keep tabs on what's happening at the sharp end of things hi-fi, of that I'm sure, but all too easily it can lead to a species of ivory tower mentality that's a little out of touch with the real world (heresy — Ed).

I happily enjoy a hi-fi system that, to these ears at least, is about as good as it can get. Its pricetag of around £20,000 seems almost an irrelevance in the Search for Truth and Quest for Enlightenment which represents the enthusiast's self-indulgent Big Picture.

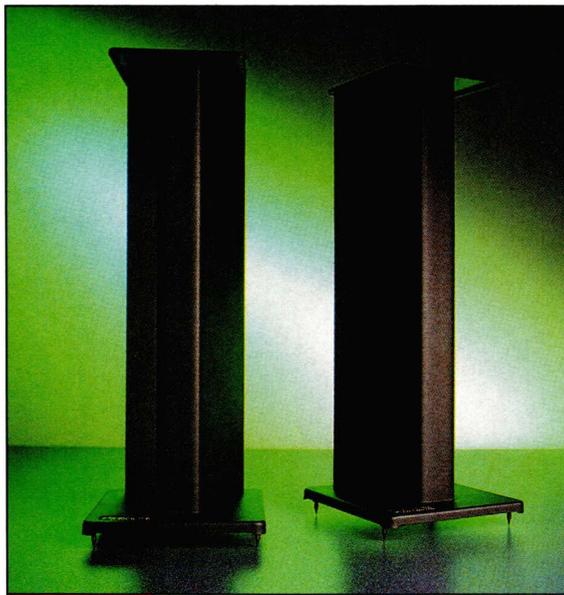
Since I concentrate mainly on speaker reviewing, I tend not to monkey around too much with the front-end of my system. The decision to subject this month's budget speaker group (p.50) to 'trial by budget electronics' brought a useful alternative perspective to the reviews themselves, but also meant spending a week or so with something altogether more mundane than my regular fare.

I put the TEAC CD player and Cambridge Audio amp onto a common-or-garden Sound Org trolley, added mains and interconnects and moved my (relatively low-cost) speaker cables over. The JPW ML510 speakers were connected at the time, and my first reaction with a couple of familiar CDs was that a week slumming it wasn't going to be too bad. Dynamics didn't have quite the punch or range, and the bass and treble didn't seem to go as deep or high, which probably contributed to a more forward presentation.

Then I noticed the speaker stands. The Kudos S100s are fine all-rounders, and usually my first port of call with any new stand-mounts. But at £270 they're twice the price of the speakers I was reviewing, and therefore a rather unlikely real-world combination. I dug out and substituted a pair of Atacama SE24s, which seem to be everybody's favourite at around £70.

The result came as quite a shock. I expected to lose a little resolution, but hadn't bargained for such a dramatic change when using such a modest system.

Ultimately the change wasn't as important as substituting the electronics, as I discovered later in the week when I picked up



Atacama SE24 Responds well to alternative fillings!

a copy of the Beck album *Odelay*. This was quite unlistenable on the budget system (especially track 1), but made a lot more sense on my 'high end' system the following week. The real payoff with serious upmarket hi-fi is that it gives access to a wider range of music. But when it comes to presenting that music, the stand can have a disproportionately large effect for its price.

That's not to put down the SE24, which is unquestionably fine value for money and deserves its class-leading status. But it does emphasise that the speaker stand is very much more than a peripheral accessory, and can play as big a role as the components that are directly part of the signal chain. It's a shame so many people settle for the cheapest available, without taking trouble to explore more upmarket options.

Nobody's fool

I made this point to my mate down the pub the other day. Barry's no rabid hi-fi nut. He works at the sharp-end of solid-state technologies, and is therefore pretty well immune from dubious mumbo-jumbo tweekery. I was quite taken aback when he told me he'd re-filled his SE24s with Sound Bytes (small irregular metal shavings intended for speaker stand fill), the more so perhaps because he was so chuffed with the results, and deemed it well worth the £60

upgrade (two tubs of SBs). I've now ordered the same and will report in due course. Sound Bytes ☎ (0141) 339 7595.

Beauty on the inside

The point at issue here is that the whole field of stands and supports is very much at the leading edge of hi-fi development, often yielding sonic improvements way out of proportion to the relatively modest expenditure involved.

The progress inhibitor is usually aesthetic. For every enthusiast prepared to put up with a tanglework of angle-iron, a hundred consumers would like to hide everything out of the way. And you can bet your life the best looking won't be the best sounding, and vice-versa. Serious equipment supports make a serious design impact, and while I've grown to like the look as well as the sound of my Mana stacks, they do rather dominate the loungescape, and I gave up the unequal struggle to keep them dust-free long ago. As I've moved up to seven layers under the turntable, my only regret is its susceptibility to footfall shock via a suspended wooden floor.

To which end I've spent the last couple of weeks experimenting with the prototype of Max Townshend's Seismic Sink Stand, an ingenious device that offers much greater isolation from structure-borne vibration than anything else to date.

This is still very much work-in-progress, and so far I've only started investigating its potential as a turntable support (not really the design intention). The bass end sounded wonderful but the treble was disappointing with the SSS on its own, so I'm now trying a combination of SSS alongside a Mana top section.

The ensemble now looks even more like a baby oil rig in the middle of the lounge, and there's still the odd practical problem to sort out, but preliminary results are so good I'm determined to make it work. It's not quite the best of both worlds, but it is the best combination of bandwidth and dynamic resolution I've heard from vinyl yet. Add in a complete freedom from footfall shock and it looks like the recipe for a whole lot of fun. ▲



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LETTER OF THE MONTH

Long live vinyl!

I have been collecting music since 1971. Back in those days we had mostly seven inch and 12 inch plastic platters. Cassettes were only just beginning to appear, but they improved considerably in the late '70s. Suddenly with Dolby A came the outcry of the end of LP as we knew it — cassette would rule. At the time I thought this was nonsense and its quality would never match that of vinyl.

Then in 1983, CD was hailed as the perfect music medium. And yes, death was nigh again. Then came DAT, which was supposed to kill off both CD and LP in one fell swoop, closely followed by DCC and MD which were supposed to be the final nail in the coffin of compact cassette. Yet, during this time the LP and cassette have remained on the market, with vinyl sales said to have actually increased since the early '90s.

Now we have DVD and computer internet music with the same shout, that these will kill off CD, LP and what-have-you. Although I do see a market for both MD and DVD, I cannot see them replacing cassette, CD, LP or LaserDisc just yet. So, when someone tells you that the latest computer internet music-playing video interactive super hi-fi is going to revolutionise the way we live, and make everything else obsolete, don't believe them!
DA Graham, Lisburn, N Ireland

How many wires...?

Concerning the loudspeaker test in HFC 167, I would like to know if you bi-wired the loudspeakers or did you test them single-wired? Or triple-wired? With my Tannoy D-500 I find the results to be vastly different. Not always better. Bi-wiring seems to bring an improvement over single-wiring but can be quite aggressive after a while. At least with my loudspeakers (Naim NAC-A5, Audio-Research LS-3, D-200).

Michael Heine, via CompuServe

As speakers come in all shapes and sizes we felt that it was best to keep them single-wired. AS

Seedy CD

In last month's Jimmy Hughes' Experience (HFC 168), he wrote about the variance in the

quality of CDs. I agree, and how...

Out of my 30 CDs only about six give me the sound quality I expect. I have two CD players; an Arcam Alpha 5 Plus and a Kenwood 7090.

My finest sound comes from my tuner, a Magnum Dynalab with a Ron Smith Orion 10 aerial aligned to the Wrotham transmitter and giving 1,000 microVolts to the tuner.

For sheer musical quality I listen to Radio 3 and Classic FM. The quality of Classic FM beats my CDs for sheer depth and clarity. Opera broadcasts always sound superb, the voices are clear with great depth and the sense of atmosphere comes over from the venue. Why can't

I get this from my own CDs and player? My theory is if I could spend £10,000 on a CD replay system I'd get this.

What does Classic FM use in the way of CD players and what electronic bits and pieces are they using in the replay chain? £50,000 worth no doubt?

RJ Smith, Worthing, W Sussex.

I think you aren't giving CD a chance, with so small a selection of discs and the CD equipment you are using. A decent £1,000 domestic CD player will outperform any CD replay Classic FM can muster. Most radio stations use broadcast-quality CD players from the likes of Denon and Technics, which are designed for ruggedness and longevity

as much as sound quality. You have a particularly good tuner and aerial, so get a decent CD player and 100 discs and then see how you feel about Classic FM's sound quality. AS

That same old feeling

I am starting to get a bad feeling about loudspeaker performance and standards. Many manufacturers have introduced so-called Reference or Monitor loudspeakers for an ultimate performance in a specific price range.

Soon there will be so many 'reference' loudspeakers that nobody will know the true one to refer to! I had this problem when trying to audition several pairs of speakers considered to be reference models. I ended up with the new Mission 751 Freedom which was not recommended as a

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monitor or a reference piece but performed qualitatively better.

Manufacturers now seem to name so many models as 'monitors' because of market competitiveness. A monitor used to be a significant loudspeaker, encompassing technology or at least performance in contrast to today's average designs.

Surely, there must be someone who cares more about standards and less about money.

Constantinos Sinopoulos
Fulham, London

There are no formal guidelines for the use of the terms 'reference' or 'monitor', which is why these words appear on so many loudspeakers. It comes down to taste and preference. There are a handful of professional monitor loudspeakers available in the domestic market, but these often cost over £1,000. AS



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Luxurious luvvies

To be, or Wb; that is the question! **Paul Messenger** sings the praises of The Actor, a Thespian transducer that won't forget its lines.

Sheffield-based manufacturer Wilson benesch is that rare phenomenon: a specialist British hi-fi company which has built a considerable international reputation after only five years' trading. The foundation-stone of this impressive achievement has been the creative application of carbon fibre composites (CFCs for short, entirely unrelated to the gaseous ozone-layer-threatening variety), alongside some highly imaginative design ideas.

CFCs have been a key feature in turntables, tonearms and cartridges, as well as Wb's only loudspeaker to date, a compact and very pretty floorstander called the A.C.T. One (reviewed *HFC* 162). This has been very successful despite its handicap of a whopping £6,500 price tag.

Birth of The Actor

The task Wb set itself was to create a speaker that retained much of the A.C.T. One's performance at a rather more affordable price. Enter The Actor, still an expensive proposition at £3,800, but with the potential to broaden the brand's appeal quite significantly.

The Actors arrived on the doorstep with perfect timing. I'd just spent the whole of the previous month figuring out what level of performance two grand could buy (group test, *HFC* 167), so my sensibilities were well-honed to figure out whether doubling that outlay would make any sort of sense.

Four bars into the first number I knew. It's almost impossible to quantify loudspeaker subjective performance meaningfully, but unequivocally, and in every respect, The Actor stood head and shoulders above and beyond the sub-£2,000 group. It simply destroyed them. I was very impressed indeed — and I'm not easily impressed.

Mind you, I hadn't heard A.C.T. One yet. JK reviewed this older brother for *Choice*, and I'd made a few half-hearted attempts to borrow a pair out of interest, but Craig Milnes up at Wb (wisely) decided I should get to grips with The Actor first. I proceeded to do this with considerable relish (having slummed it,

relatively speaking, for the previous month). And it was pure serendipity that their arrival coincided with the release of The Chemical Brothers' new album *Dig Your Own Hole...*

Behind the scenes...

Let's start with a basic description. In size The Actor is about right, being big enough to impress and do the business, small enough not to impose, and possessed of enough clever detailing to look interesting.

The Actor's shape, size and styling cues are all very similar to those of A.C.T. One. The curved sides and narrow back give a usefully irregular plan section, while the distinctively-sloping hardwood top will prove equally frustrating to horticulturalists. Even the drive units are the same, and the crossover network likewise, judging from the near-identical impedance traces.

The 'down-costing' exercise from A.C.T. One to Actor is all about simplifying the enclosure engineering. There are two pairs of terminals instead of three (a pity, since this

limits upgrade flexibility). Copper rather than silver internal wiring is used, and a single hefty piece of shaped MDF forms the plinth, with floor-coupling courtesy of chunky 8mm spikes. This is a considerable simplification from the senior model. The driver-mounting front panel is conventional veneered wood-composite rather than machined metal, and the curved sides are instead of CFC a special wood-composite with a high air content — presumably to offer high stiffness alongside low mass.

The net result is altogether less flashy and more demure than A.C.T. One — and rather the better for it according to my partner, who preferred the more self-effacing veneer-and-black combination.

The drive-units, sourced from Scanspeak, consist of two very similar cone units. One operates over the bass range only, and is loaded by the larger of two separate internal enclosures, and a reflex-port created between the bottom of the enclosure and the plinth. The upper driver covers bass and midrange, and is loaded by a smaller enclosure and a port at top rear. Both cones are 130mm in diameter, and are made from a carbon-and-pulp-fibre plastic composite, with cast frames, very soft surrounds, and very large magnets. The latter are unshielded, which may pose problems for AV-literate listeners wishing to site a TV set between the speakers. The tweeter uses a 25mm doped-silk dome.

There's plenty of internal bracing, classy crossover components and hunky terminals, all conveying the impression that nothing has been skimped. A substantial all-up weight of 35kg reinforces the quality image.

Performing rites

A thoroughly solid and meaty sound complements the beefy build. The Actor packs a real punch while also sounding lively, and driving the music along with gusto. My first impression (subsequently confirmed) was of a rather brighter-than-average balance, bringing a welcome open-ness which

The Actors may not be plant-pot friendly but they can certainly pack a musical punch.



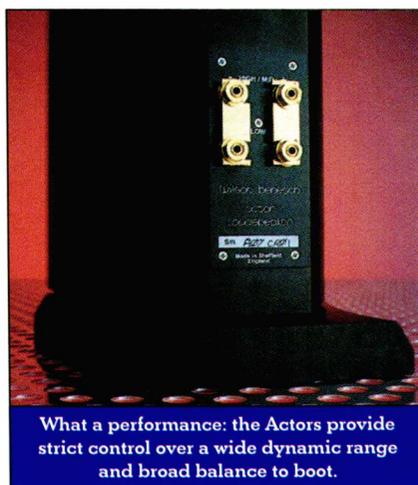


was all the better because it sounded exceptionally clean.

The bottom end is quick and well-timed, packing an impressive thump with plenty of power and authority. On further acquaintance there's maybe just a little too much thump, perhaps because the main port is very close to the floor and tuned to around 45Hz. Therefore it was a trifle inclined to excite my main floor-to-ceiling room mode (55Hz).

Where The Actor really scores over cheaper loudspeakers is in the tight grip it exerts over dynamic contrasts. While it doesn't have quite the punch of very high sensitivity designs, it does maintain exceptional control across a wide dynamic range, in a manner that makes lesser designs seem relatively sloppy.

The broad balance seems very well judged, though the upper midband is decidedly forward. On my far-field averaged in-room measurements, this registers as a 4-5dB peak 700-900Hz, and is undoubtedly responsible for The Actor's distinctively upfront character, which tends to over-emphasise detail at some expense in neutrality and transparency. In some ways, the effect can be rather attractive: fine detail remains clearly audible even at the very lowest listening levels. But there's also some potential



What a performance: the Actors provide strict control over a wide dynamic range and broad balance to boot.

for fatigue, with a slight abrasiveness and some lack of 'hear-through' coherence.

That's the only real criticism of what is otherwise an outstanding as well as exceptionally lounge-friendly speaker. Its fine all round performance represents a clear and very worthwhile margin of improvement over the many less expensive but similarly-sized models I've tried. I'm tempted to suggest it may well be the most fun you can have for under four grand, but there are several alternatives I've not tried. However, as an all

round package with bonus points for compactness and practicality, The Actor is going to be difficult to beat.

DistrACTIONS

Notwithstanding the The Actor's many charms, it cannot claim to define the performance of a 40-litre box. After two pleasant weeks spent in its company, I had a chance to try the A.C.T. One. When I did get a crack at the latter, it was immediately obvious why it is destined to become a classic.

The high-tech enclosure and luxury embellishments take the A.C.T. One's performance onto another plane of transparency from The Actor, making it quite difficult to believe that both are based on more or less the same drivers and crossover. Due to a 3-4kHz presence dip, A.C.T. One is just a little darker and more shut in, but its broad midband is altogether smoother, without The Actor's 700-900Hz peak, and the bass sounds cleaner, and slightly deeper too.

The Actor is a fine speaker which will do much to enhance Wilson benesch's burgeoning reputation. But I wasn't surprised when Craig from Wb told me that several potential customers have been down to their local hi-fi shop to hear the Actor, only to purchase a pair of A.C.T. Ones instead... ▲

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Do ya think I'm Xy?

Stan Vincent goes Class
A monoblok mad with the
new X-A50s from Musical
Fidelity. Smokin'...



don't get much opportunity for hands-on hi-fi exploration these days, but every so often there comes along a product or a range that I simply have to grab for myself. Musical Fidelity's new monoblok power amplifier, the £499.99 per pair X-A50, is one such product.

Why? Because it's different. Like all of the other offerings in the X Series that we've encountered over the past year — the X10-D, the X-TONE, the X-PRE, the X-DAC *et al* — the X-A50 claims to give big performance from a diminutive and novel-shaped enclosure. In an age when bigger is still considered better, fans of British hi-fi need excuses not to start believing the hype about the US having the monopoly on 'high-end' sound. Let the Yanks keep their Lincolns. We want sports cars! However, that doesn't explain why M-F boss, Anthony Michaelson, drives a Maserati Quattroporte, but it does describe perfectly his avowed belief that modern hi-fi has lost credibility through the 'salami effect'.

Perpetual downwards pressure on cost and upwards pressure on features and cosmetics have, Michaelson believes, distorted the relationship between what you pay and what you hear. With the X-Series, and particularly with the X-A50, Michaelson wanted to

prove that you don't have to spend a fortune to experience decent sound.

Sorry, Michaelson, we've heard that one before — but he's adamant that one cannot truly capture the vitality of music, in particular the leading edges of notes, in context of the insensitive speaker/massively powerful amplifier approach espoused in the US. In his book, if you thirst after vibrancy and brio in your listening, what you need is a very efficient speaker and quality, not quantity, by way of amplification.

MICHAELSON MAKES MUSIC

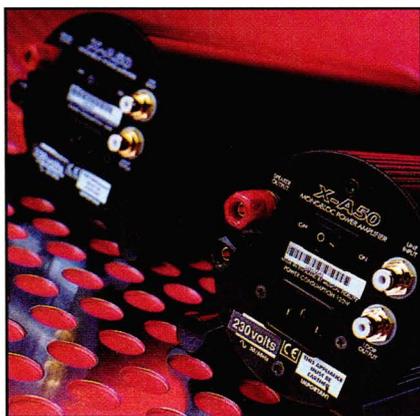
When he's not being Wembley's finest hi-fi purveyor, Anthony Michaelson is a rather accomplished clarinetist. He's just made his second recording, Johannes Brahms' *Clarinet Quintet op. 115*, which is now available on CD. Michaelson always puts his playing down, but, in fact, he's rather good. And if you'd like to help the Musician's Benevolent fund, to which all profits will be donated, why not buy a copy for £2.50 inc. p&p. Just send a cheque for this amount, made payable to Musical Fidelity Ltd, to the company's offices: 15/16 Olympic Trading Estate, Fulton Road, Wembley HA9 0TF. SV



There is very little to describe about the X-A50. On the front, its brushed aluminium front panel is enlivened only by a red 'Power On' LED. Round the back, there is a mains switch and IEC socket, two sturdy 4mm binding posts, and two phono sockets. One accepts a pre-amplified signal; the other offers it again for bi-amplification by daisy-chaining. The case, as in all X-Series products, is a ribbed, black extrusion. It is longer than the others, however, at 320mm, but its face-plate diameter is the family-standard 110mm, and its mass is 3.3kg.

My first experience of the X-A50 was in Michaelson's own front room, with the amps hooked up to prototypes of his new speaker, the Kelly KT-3, which will soon be on sale at £1,000. In keeping with Michaelson's philosophy, the KT-3 claims a very high efficiency of 95dB.

Hi-Fi Choice publisher, Simon Davies, and I spent an afternoon listening to very loud but cleanly delivered music, on the end of M-F's FCD CD player, via the X-PRE pre-amp. Michaelson tried to seduce us with cultured excerpts from his classical CD collection, but Davies blew it by playing *Enter Sandman* by Metallica. Nonetheless, even with peak SPLs hitting a faintly uncomfortable 104dB at the listening position, the X-A50s showed no more concern than a toked-up roadie.



The Thomas-the-Tank-Engine styled X-A50s feature both in and outputs for daisy chaining in multi-amp systems.

The hands-on test

Two months down the track, the X-A50s arrived in the *Choice* play-pen. Michaelson's demo was impressive, but I wanted to see if these amps would sing as well with less familiar partners. In truth, like the quiet specy guy at a party who goes home with the three hottest babes, the X-A50s only served to reveal some ancillaries' shortcomings.

The first configuration was with an Orelle CD100e CD player, feeding an M-F X-PRE that itself was hooked up to the X-PSU power supply (which JMH discusses this month, page 13). This worked fine, but surrendered refinement and detail to the combination of Teac's P-30 transport and M-F's own X-DAC, linked with Trichord Pulsewire.

On the business end, I wanted to see how the X-A50s fared with the Rehdeko RK115a speakers, reviewed in *Choice* 167. Like the new Daihatsu Move, they are truly weird on the outside but clever on the inside. More importantly, they are another super-efficient design in line with the hi-fi gospel according to Michaelson and a few others. I hooked 'em up with DNM speaker cable; all other interconnects were M-F's own X-LINX.

Well, it was good. Straight away I heard amazing imagery, metronomic time-keeping and authentic dynamics. I span Holly Cole's *It Happened One Night*, the old favourite *A-Tom-Ic Jones*, Mo Foster's *Bel Assis* and The Allegri String Quartet's *Schubert, Haydn and Ravel* set on Naim records. I also marvelled at the utter syntasticity revealed on the newly remastered Jean Michel Jarre *Best of... Images*; and some of the stunning recordings on the PopeMusic label. (Read more about the latter in this month's *Audiophile Records* feature, page 42.)

I'll admit I was cranking it. My SPL meter indicated an average of 90dBc at the listening position, and at this level I'd have expected mid-range madness from the Rehdekos. But actually, they just sounded enormous: snappy, informative, pacy. It's a mark of good amps when the sound is not just a polite tableau but, instead, a three-dimensional entity barely contained by the speakers. There was bass, there was treble — and there was music.

Using the same speakers, I compared the X-A50s with the £1,500 Audio Note Oto Phono SE. Perhaps the A-N had a slight edge in sweetness, but only up to a limited SPL. It could not maintain its poise, for example, with Gary Moore's *Marshall's Gibbo* on the Mo Foster CD, at 90dBc levels — through no fault other than the limitations of its vacuum-tube innards. Switching back to the X-A50s reminded me just how much detail they can transmit, as well as the power they seemed to hold in reserve.

Could the X-A50 do bass as well? I switched to the Audio Note AN-Es, enduring the temporary space-time wobble every Rehdeko listener must endure when returning to the real world. But it was just a case of the same virtues painted on a bigger canvas: detail, imagery, timing, power in reserve.

My final gambit was to substitute M-F's X-PRE for the SJS Arcadia preamp (which JK writes about in *Ear Waxings* this month, page 11). The X-PRE does a great job, even

though our sample was microphonic — when the input-select knob was turned, you could hear it through the speakers — but the Arcadia is clearly a cut above, and the X-A50s allowed you to hear it. Holly Cole's close-miked voice sounded like honey rather than molasses; Lori Lieberman's West-Coast warblings finally fulfilled their promise of micro-dynamic accuracy.

Is there nothing to criticise about these amps? Well, pass me the barrel and the bottom scraper... They run a bit warm, but not as warm as a big valve amp. Some listeners will always have a thing about solid-state amps sounding too hard. And while powerful, they are not sufficient to run a PA system. But all I can say is that I didn't want to put them back in the box. There's something special about the Musical Fidelity X-A50s, something that transcends the ordinary. If you can hear it, you should buy 'em. ▲

Musical Fidelity ☎ (0181) 900 2866

LAB REPORT: MUSICAL FIDELITY X-A50

Built into an elongated version of MF's X-series casework, the X-A50 monoblok amplifier is a new design, inside and out. Indeed, the fact that the amplifier runs warm to the touch is its only link with previous MF designs. For example, the X-A50 utilises a rather unusual quasi-complementary, bipolar output stage, run with enriched levels of bias current, to reduce crossover distortions. The influence of this is felt at low power and high frequency, where, say, at 1W/20kHz, distortion is just 0.007 per cent — a figure that compares favourably with the midband (1W/1kHz) figure of 0.002 per cent. But step on the gas, and distortion increases to a near-inconsequential 0.04 per cent (re. 2/3 output).

Noise is low enough at -82dB (re. 1W/8 Ohms), the response suitably extended (just -1.7dB at 100kHz) and the output impedance a usefully low 0.04 Ohms. However, the real potential of this amplifier is only truly grasped by looking at the two plots. These demonstrate just how well the



Figure 2

X-A50 grapples with 'real-life' loudspeakers (please refer to *Oasis*, issue 166).

First off, although the X-A50 is rated at 50W, it'll actually deliver 65W continuously into 8 Ohms. Under dynamic conditions, however, you'll squeeze 92W, 180W, 342W and a full 571W up to 1 per cent THD into 8, 4, 2 and 1 Ohm loads respectively (black, red, blue and green traces, respectively, on yellow background).

Plenty of juice on tap then, but note how VI-limiting causes the levels of distortion to increase, for a given power output, into 2 Ohm (1) and 1 Ohm loads (2) respectively. The second graph (vibrant blue background) demonstrates the load tolerance of the X-A50, as very little decrease in output voltage is detected into steadily reducing 8 Ohm (black), 4 Ohm (red) and 2 Ohm (blue) loads. Only into very low 1 Ohm (green) loads does the X-A50 lack sufficient reserves of current to support the maximum voltage output (3). Still, 23.9A remains spectacularly generous for a mere '50W' amplifier!

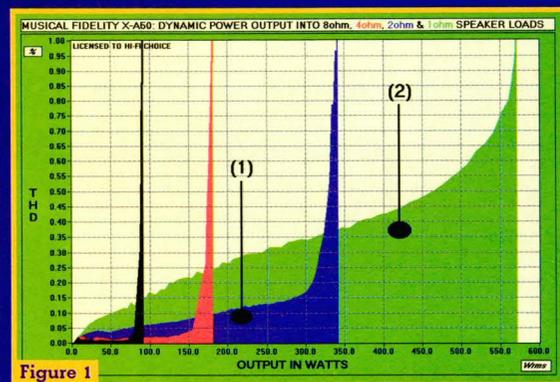


Figure 1

UNRIVALLED REALISM—Audio Research delivers a true reference sound quality in the Reference 1 preamp and Reference 600 monoblocs. Sixteen power output valves run with 50% partial cathode coupling and a high efficiency, tight coupled output transformer in each mono chassis deliver an effortless 600 watt for a naturalness and ease of dynamics only associate with live performance. And with its wide bias adjustment the Reference 600 can use of any of the popular output valves of the 6550, KT88/90/99/100 families.

The all-valve Reference 1 stereo line preamp has full micro-processor remote control of volume, balance, record and input selection with both balance and single ended inputs (eight plus full tape loop) and

UNRIVALLED

REALISM

outputs (two main, one tape). There are no mechanical switches to degrade the signal path. The array of awards and world-wide acclaim says it all.

REAL POWER—Audio Research offers a new 130 watt per channel stereo power amplifier for the solid-state enthusiast—the D130. This exceptionally hard driving power amplifier has been designed for the ultimate in speed and slam. Audio Research has also introduced a remote control solid-state preamp to replace the LS3/3B that enjoyed such a long and distinguished life. The replacement, designated LS9, is an all new, direct-coupled Class A design using the constant-current technology of the flagship Reference 1. A low profile design, the LS9 features two balanced and three single-ended inputs plus a full tape monitor loop.

REAL PERFORMANCE—the LS15 steps into the shoes of the much loved LS2 series preamps. Running both singled ended and balanced inputs with microprocessor controlled relays for gain control and switching the LS15 caters for those making an important transition into the real high-end yet who want to retain the convenience of full remote control of all front panel functions. In partnership with the VT100 power amplifier the LS15 will rock you back on your heels with its fine resolution and musical dynamics. The 100 watt per channel VT100 is a hard-driving amplifier with true bass slam matched by a liquid mid and top. Its speed and control have to be heard. At £8394 this partnership can put the excitement back into your music making.

REAL PRAISE—the all-valve LS22 brings down the cost of true Audio Research high-end performance.

This line stage preamplifier was reviewed in March 1996 (Hi-Fi News & Record Review, Martin Colloms) as "a truly first-rate line controller. The LS22

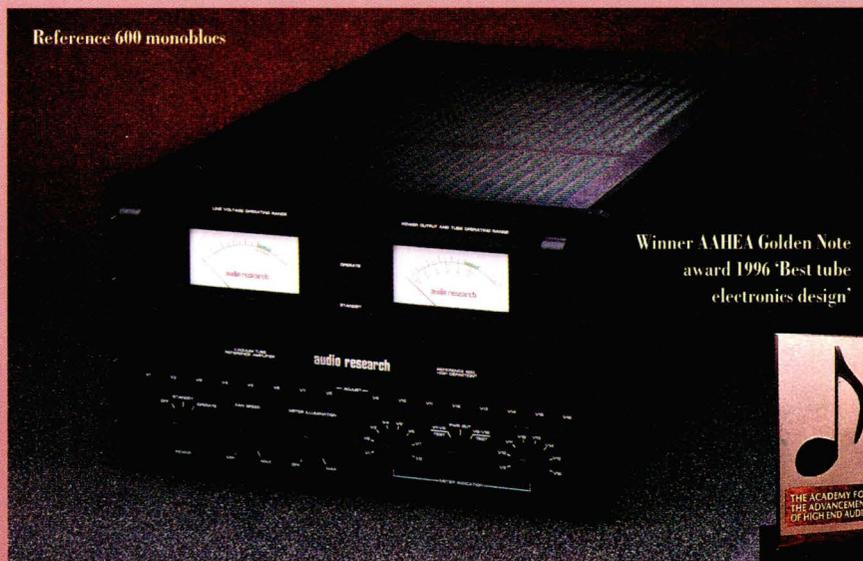
performed as flawlessly on the lab bench as it did in the listening room. (the LS22) proved uncompromising in its closest approach to the absolute—a neutral, transparent, musically honest gain control." The review concludes: "a work of reference, universal in application and a tonic for any system. In my opinion it's the best mixed mode pre-amplifier I've heard to date and in view of what it achieves, the price is nicely competitive".

REAL SOUND FOR HOME CINEMA—In answer to the demands of Home cinema enthusiasts for yet higher sound quality, Audio Research offers the Spatial Definition Processor. The SDP1 builds a 5-channel matrix from stereo information and is designed specifically to enhance existing audiophile

quality two-channel systems—it does not use Dolby™ noise reduction or steering logic, setting new standards in low noise and low distortion. Its

hallmark is in increased intelligibility and coherence of the sound 'envelope'. A partnering 4-channel amplifier, the SDA1, is available.

REAL INTEGRATION—the long-awaited CA50 all-valve, remote control integrated amplifier is here! Taking its styling cues come from the awesome Reference 1, the CA50 is matched by the new CD2 Compact Disc player. Conservatively rated at 50 watt per channel the CA50 was designed to be stunningly musical, handsome in appearance and completely convenient. Join the queues of those



waiting to audition this important product—an Audio Research first.

REAL QUALITY—Audio Research is now established as a producer of outstanding source components. An entirely new full 20-bit CD player, the CD2, replaces the single box CD1 and CDT1 transport. As a complete player Audio Research is convinced the CD2 can compete with anything in the market with its astounding resolution of detail and dynamics. For those seeking classic Audio Research sound quality ideals in an outboard digital converter the all valve-output DAC3 converter is the perfect choice. The DAC3—now in Mk II production with improved components and important mechanical improvements to reduce vibration is joined by the entry-level DAC5 converter.

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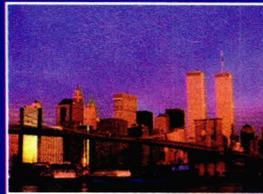
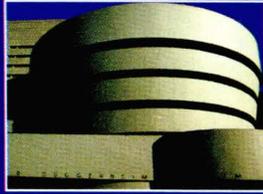
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HI-FI CHOICE

HI-FI DEALER OF THE YEAR 1997

IN ASSOCIATION WITH

marantz® TANNOY



VOTE FOR YOUR FAVOURITE HI-FI DEALER AND WIN A HOLIDAY IN NEW YORK!

Plus four Marantz CD players, worth £1,240, must be won in our fabulous Prize Draw!

Marantz CD-67

Marantz CD-67SE

Here's a fantastic chance for hi-fi fans to win a £1,000 holiday for two in New York. The First Prize winner plus friend will fly to the Big Apple on any date of their choosing*, to spend three nights in a Four Star hotel just 10 minutes from NYC's famous Fifth Avenue. Four runners-up will win one of two Marantz CD-67SE CD players worth £350 each, or two Marantz CD-67 CD players worth £270 each. There are five prizes in total.

So why are we doing this? To reward the shops that sell hi-fi the best. On the Prize Draw Voting Form below, we're asking hi-fi enthusiasts to tell us which UK hi-fi dealer gives the best service. The retailer with most votes will be awarded **Hi-Fi Choice Hi-Fi Dealer of the Year 1997 in association with Marantz & Tannoy**. The winning dealer will also receive a £1,000 New York holiday for two.

*Please see the Terms & Conditions below for full details of the holiday prize.

IT'S EASY TO ENTER!

Using the form below, fill in your name, address and daytime 'phone number. Then tell us which hi-fi shop you think should be voted **Hi-Fi Dealer of the Year 1997**, and why. Don't just write down the shop with the lowest prices — the best hi-fi dealers offer **integrity, customer service, product knowledge, friendly staff**, and the ability to **understand customers' needs**. Think of a hi-fi shop you visit again and again. That's the dealer you should nominate at point (1). Tell us why at point (1A). When you've decided on your favourite store, think whether there's a member of staff there who should receive special praise. If so, write down their name at point (2). Tell us why at point (2A). When you've filled in the form, just post it off — there's no need for a stamp as we pay the postage. Your name will be entered in the Prize Draw automatically.

Note: we must receive your form by First Post on Friday October 3 1997.

TERMS & CONDITIONS FOR PRIZE DRAWS

(Rules apply to the Hi-Fi Choice/Marantz/Tannoy prize draw)

- All entries must be on the entry form provided. Photocopies will be accepted, but not multiple entries.
- To be eligible for the draw, the entry form must be completed in full.
- There is no cash alternative to the prizes, nor an alternative prize. Should a prize be unavailable for whatever reason, an alternative prize of equivalent value will be provided in its place.
- The three-night holiday prizes each include a return flight to New York from London Heathrow airport, taxi transfers between airport and hotel in the US only, and accommodation in a Four Star hotel in the US. Winners are liable for all other costs, including travel to and from their home in the UK to London Heathrow airport.
- The holiday prizes may commence on any date chosen by the winners between January 1, 1998 and June 30, 1998.
- Employees of Dennis Publishing Ltd, its agents and associates, the manufacturers and suppliers of the prizes, their agents and associates, are not eligible to enter the prize draws.
- We regret that the competition is only open to UK residents.
- Entries must be received by October 3, 1997. Proof of posting will not be deemed as proof of delivery.
- Prizes for this draw will be awarded to the first entries chosen at random by the Editor-in-Chief of *Hi-Fi Choice* magazine after the closing date of Friday October 3, 1997. No correspondence will be entered into, and the Editor-in-Chief's decision is final.
- Winners will be notified by post.
- For a full list of winners, write, enclosing a stamped addressed envelope, to: Hi-Fi Choice Dealer Competition Winners, Dept 169/Z, 19 Bolsover Street, London W1P 7HJ, within six weeks of the draw date.
- Winners names will be announced in the Best Buys 97 edition of *Hi-Fi Choice*, on-sale Thursday November 20, 1997.
- Please tick here if you are under 18 years of age.
- Should you not wish to be informed of other offers and promotions, please tick the box.

PRIZE DRAW VOTING FORM

(1) My vote for the Hi-Fi Dealer of the Year 1997 (shop) goes to _____

(1A) Why? (in no more than 15 words) _____

(2) My vote for the Hi-Fi Dealer of the Year 1997 (salesperson) goes to _____

(2A) Why? (in no more than 15 words) _____

Name _____

Address _____

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Help!

Alan Sircom is here to answer your hi-fi queries this month.

Send your hi-fi queries to 'Help!' at Hi-Fi Choice, 19 Bolsover Street, London W1P 7HJ • fax on 0171-917 5512 • e-mail on 100433.1130@compuserve.com

Query of the month

High-End, high-pass filter

My system comprises Theta Data Basic II CD transport, Theta Pro Basic III D/A converter, Krell KAV-300i amplifier and Sonus Faber Elector Amator speakers. Cables are all by Transparent Audio.

The sound is on the thin, trebly side (also bass is a bit weak). I am looking for a fuller sound. What do you recommend I should change? I think I ought to be looking for a better amp, but how about the Theta Generation V D/A converter?

Andy Szlachetko, via the Internet

We're surprised that you are getting a thin, trebly sound from such a system. It may be that you are playing the system too loud, or that the room is particularly bright or huge. All could contribute to brightness to an otherwise good system. It's also possible that the Sonus Fabers are a little too demanding for the Krell amplifier — these speakers are often used in combination with large Krell pre/powers and the like.

Alternatively, you may be the type of person that craves the warm, rich valve sound. The only way of checking this is to have more demonstrations to find the best kit. But, before you take this ultimate step, make sure you are using Sonus Faber's own adjustable stands, as these make a massive difference.

Krell KAV-300i Overfaced by demanding Sonus-Faber speakers?



Into the Nineties

I am in the process of upgrading my stereo system. I listen mainly to jazz and classical music. My first upgrade (from a 1970 Heathkit/JBL system) was with Linn Keilidh speakers, complete with plinth bases, and I recently purchased a NAD 513 CD player.

I want to upgrade my (1978) Yamaha CA 2010 integrated amp. I spoke to a dealer who recommended the Arcam Alpha 9 either singly as an integrated amp or as an amp/preamp combo, or a Linn LK100 and a Linn Wakonda.

Dealers here do not provide A/B comparisons. What, in your opinion, is the optimum integrated amp or amp/preamp that would match the Linn

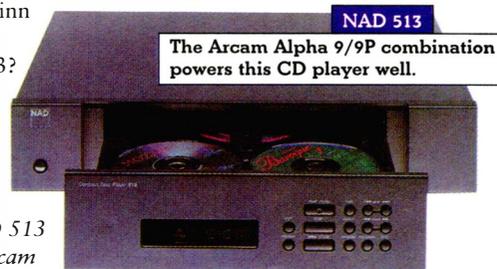
speakers given the input is a NAD 513?

Ken Richardson
Victoria, Hong Kong

If you intend to stay with the NAD 513 for a while, the Arcam Alpha 9/9P combination

is the one to go for. Used bi-amped with decent cable, this combination will drive the Keilidhs well, but it will not be so transparent that the restricted quality of the multiplay CD player will be overemphasized.

On the other hand, if you are prepared to start seeking out expensive CD players and especially if you like the dry, ordered sound of Linn, the Wakonda/LK100 package will make the Keilidhs sing, especially when partnered with a Linn CD player. My favourite CD and amplifier set up for the Keilidh is the Naim CD3, partnered to the Nait 3 amplifier. Although on paper this amp lacks the power to drive the Keilidhs sufficiently, in practice it clearly does, unless you want to play it very loud.



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Graham Radford

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HI-FI CHOICE

Questions, questions

My current system comprises a Linn Basik turntable, Linn Akito arm and Linn K5 cartridge, Arcam Alpha 3 amplifier, Marantz CD52 mk2 CD player and Cyrus 781 speakers.

My new listening room is approx 5m x 3m, and has wooden floorboards which will be carpeted. I need to purchase some equipment supports and speaker and interconnect cables for the CD, and will probably invest in some upgrades soon.

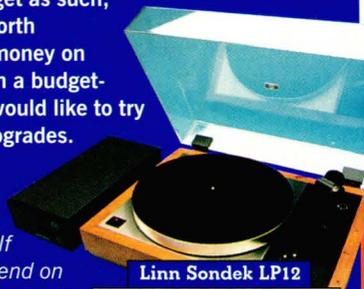
Should I wall-mount the turntable or use a table, bearing a possible upgrade to an LP12 in mind? I will also require a three-tier shelf for the boxes — what can you recommend at a reasonable price? Which stands suit the Cyrus speakers best?

I will need to bi-wire the speakers, and am planning to install the cables underneath the floorboards before the carpet is fitted. Which cable will be reasonably priced and will also accommodate future upgrades to amp/speakers?

Last of all, I require some interconnects for the CD player. Is £20-£30 reasonable for cable, and if so which ones?

I don't have any set budget as such, although I don't think it's worth spending huge amounts of money on supports and cables for such a budget-priced system. However, I would like to try and accommodate future upgrades.

Aldo Caparco, Bedford via CompuServe



Linn Sondek LP12 Will benefit from top-quality supports.

Whether you use a wall-shelf or a turntable table will depend on how bouncy your wooden floor is. If it is too springy, the deck will jump with every footfall. One thing is clear, though; what suits the Basik will suit the LP12. Steer clear of bargain basement shelves and tables, and opt instead for Target's TTW1 shelf, or preferably the designed-for-the-LP12 Audiotech or best of all, Mana Acoustics.

Whatever you use as a turntable table, use a model from the same catalogue for the three-tier table, as they all seem to sing better together. Stands for the speakers are easy to choose: either the Atacama SE24, filled with sand or SoundBytes would be the perfect choice. As for speaker cables, Cable Talk's Talk 3.1 bi-wire stuff makes a lot of sense with your equipment. Finally, a set of Linn Analogue or Cable Talk Studio 2 interconnect cables, while slightly more expensive than you suggested, will wring the most from your system as it stands and leave you with a little extra in hand for the future.

LP perfume required

I have a problem; my record collection stinks! The much-loved black discs have been in the same boxes since we came to Switzerland from Australia six years ago, pending permanent storage. Now that time has arrived, I find that slight mildew has attacked the sleeves — the discs themselves are fine and the sleeves look fine, but anyone opening the storage cabinet loaded with the discs would risk instant asphyxiation. I suspect that no amount of airing will cure them, so I'm in the market for new record sleeves and liners. I'll be sad to lose the old sleeves, but it beats going down to the basement every time I want a record. Do you know anyone who sells such things, e.g., for archival use? Alternatively, is there a sleeveless holding system for black discs? I have about £300.

J.A. McStea, Hölstein, Switzerland

It will take several procedures to rid your records of that musty smell, without resorting to throwing away the outer sleeves. First, wipe the sleeves one by one with a mild disinfectant. If the mildew is bad, you may have to undo the glue that holds the sleeve together and treat it as a flat sheet. Then, hang these out to dry on a bright sunny day. The combination of the disinfectant and sunlight effectively kills off the microbes spawning on the sleeves.

Replace your inner sleeves with anti-static sleeves available from Moth Marketing ☎ (01234) 741152. Before you re-sleeve the discs, it is advisable to get each disc professionally cleaned, which will make them sound better than they have for years.

Choice comments

My system comprises a TEAC X-2000R open reel recorder, Nakamichi BX-300E and Pioneer CT-95 cassette decks, SME 20A record player with vdH Grasshopper GLA III cartridge, Accuphase DP-70V CD, T-108 tuner, C-260/P-360 amplifier combo, Stax CRM-TI/SR-Lamda Signature headphones, Klipschorns (50th Anniversary) and Klipsch SW-15IIDV.

I use Straight Wire Encode for the Nakamichi, Straight Wire Maestro for the SME, Mogami 2965 (WR-03) for the SW-15 speakers and Accuphase pure oxygen-free wires (XLR type) for the rest. Finally, I use Canton wires for the Klipschorns.

I would appreciate your suggestions and cable to connect the loudspeakers since the Cantons were a temporary solution. Basil Nicholas Tsaras, Athens, Greece

Our comments — phwor, what a system! A fair amount of this equipment is the sort of high-end kit that we never get a look at. But, perhaps you should stick to a single family of cables throughout. So, use exclusively Straight Wire or Accuphase.



“Pioneer’s Precision source Hi-Fi components allow mere mortals to get a sample of the high life...”

Colin Parr (handwritten signature)

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HELP!

Quality Quad

I have a 30-year old Quad 33 tuner, pre/power amp and a pair of electrostatic speakers (but no CD player) that ceased to be properly functional about 15 years ago, and which have been in storage since. I am now moving house and am able to have a decent listening room again.

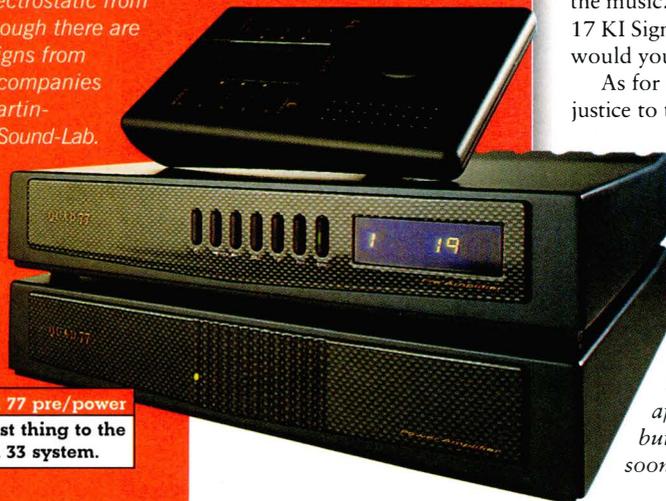
My question: is it worth spending money buying a CD player and having the Quad system repaired, or have amplifier and speaker technologies moved on to such an extent that I would be better off buying a new system altogether?

Richard Kimber
Keele, Staffs.

Quad equipment of this age is perfectly serviceable today, although a few parts in the original Electrostatics are becoming hard to replace. Send it all back to Quad to get it overhauled before firing it all up — fortunately Quad's repairs are still remarkably reasonable.

My only concern with hooking a CD to a preamplifier of this vintage is that no line level source of the day had the output voltage and impedance of a modern CD player. So it may be worth getting Quad to set up an input for the purpose.

You may be better off upgrading the Quad electronics with newer kit. But, to get close, you'd need to replace it with the latest Quad 77 pre/power or something like the ECA Vista/Lectern. However, the electrostatics are harder to replace. The nearest replacement to the old electrostatics is the 'new' ESL-63 electrostatic from Quad, although there are newer designs from American companies such as Martin-Logan and Sound-Lab.



Quad 77 pre/power

The closest thing to the old Quad 33 system.



TDL RTL2 speakers

Compact, punchy bass not a forté.

Bass, bass all over the place

I'm currently using a Cyrus III amplifier, TDL RTL 2 speakers and a Marantz CD-52 MkII SE CD player. I listen to rock and classical music. I am seeking your advice on upgrading the CD player.

The problem is finding a player that will suit the TDLs with their wallowing bass. I'm hoping that an upgrade will make the bass sound more compact and punchy with more clarity added to the music. I'm looking at the Cyrus 3AD 3Q or the Marantz CD-17 KI Signature. Which is more suited to my requirements or would you suggest something else?

As for the speakers, can you suggest a pair that will also do justice to the amount of money I'll be spending on the CD player?

Ariffha, via the Internet

Both the Marantz and Cyrus are good players that will be a considerable upgrade on your existing CD-52 MkII SE machine. However, don't expect miracle cures as TDL speakers are not known for their compact, punchy bass.

Why not try a new set of speakers? Upgrade your TDLs to a pair of Audio Note AN-Js, Celestion A1s or the Mission 753 Freedom loudspeakers. If you can only afford one of the two upgrades, try the CD player first, but don't be surprised if you have to change the speakers soon after.

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Linn lovers

Our current system comprises: 1996 specification Linn LP12 turntable with Lingo power supply, Linn Ittok tonearm and Linn K9 cartridge on a wall-mounted shelf, Linn Wakonda preamplifier, LK100 power amplifier, Linn Index II/Ku-Stone speakers and stands, Linn interconnects and K400 speaker cable.

We wish to purchase a CD player, with playback quality similar to vinyl, for up to around £2,000, if necessary. Your suggestions please, to replace a four year old £130 Philips player. Do we just go for a Linn Karik (and save for a Numerik DAC) or be daring, step outside the marquee and look at Quad or Audiolab perhaps? Clarity, naturalness and good bass are important.

Ann and Mark Eley
Berwick on Tweed, Northumberland

The Linn Karik CD player does seem to make a lot of sense in your system. Given your requirements, it will be a natural match for you and your system. It will not sound like your Linn LP12 — no CD player will — but will make a sound that you can live with.

Other CD options you should investigate are the Orelle CD-100EA, Marantz CD-17 and CD-17 KI-Signature, the Meridian 508.20 (which is said to be particularly well-matched with the Linn gear) and Naim's CD2.

Synth speaker shocker

My system consists of Alesis, Fairlight and Ensoniq synthesizers, Mackie Designs 16-channel mixer, Alesis 100 Watt pro amplifier, along with a Rotel RCD-965BX CD player, a Technics RS-AZ7 cassette deck, Pioneer PDR-05 and D-C88, Stax Lambda Signature, and Spirit Absolute 2 monitor loudspeakers.

I'm not satisfied with the sound. I do not want an amorphous sound, but something similar to the sound I get from my near-field monitors. Is this possible without sitting less than two metres away from the loudspeakers? I want to recreate the monitor sound in my rectangular 9m to 5m music room. I also want to feel the bass all around the room. I have about £2,000 pounds to spend. Taurus, Turkey, via the Internet

To get a near-field monitor sound in the mid-field is extremely difficult. When you sit close to the speakers, reflections from walls, floors and ceilings are more or less overcome. Sit three metres from the speakers and they become far more intrusive.

You will get some way towards mid-field reproduction with a pair of Harbeth HL Compact 7 or HL-K6 speakers. Even though both speakers are classical music monitors designed along BBC lines, they will get close to the sound you seek. They are ultimately limited in loudness, but are otherwise more than capable and will give you the oomph you require without losing clarity.

You could try the ATC SCM 20T loudspeakers. These will not fill the room with fat bass, but they can cut the monitor mustard when required and work well with a 100 studio Watt amp.



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HELP!

Marantz CD 63 KI Sig
Lovingly tweaked by guru
Ken for sonic satisfaction.



Where hi-fi meets AV

My system comprises a Marantz CD-67SE CD player, a Pioneer CLD-925 LaserDisc player, Yamaha DSP-A3090 AV Amp and a pair of Tannoy 632 Profile Plus speakers. Cables used are mostly AudioQuest, with Ruby 3 for the CD player and Indigo 2 speaker cables, as well as Sonic Link Vermilion to connect the LaserDisc. Is this a good combination or is there anything that should be improved in the system?

In addition, I like small speakers for both music (jazz, pop, sentimental and classical) and home theatre and I am thinking about upgrading my speakers. What type of speaker should I look at? I have the Monitor Audio 703 PMC in mind, is this a good match with the system I have now?

I am also considering the LAT International IC-100D interconnect for my CD player. Will this interconnect cable produce better sound than the Audioquest Ruby 3?

Lastly, why is the Marantz CD-63 mkII KI Signature considered to be better than the CD-67SE?

Lee Chi Min, Bournemouth

Your system as it stands hangs together nicely. Don't mess with it. Changing over to the LAT cable will not benefit your system as it stands; you need a higher-resolution CD and amp to reap the benefits of the LAT and besides, you already have a good interconnect cable — why change when the money is better spent elsewhere in the system?

Yet again, in home cinema, changing the main speakers should only be performed if the new models fit in with the rest of the speakers in the system. So, if you have a complete brace of Tannoy speakers the Monitor Audio 703 PMC would be an ideal match for the Yamaha amplifier, but you should also consider the sound of matching Monitor Audio centre and surround speakers, especially if you are using the Yamaha on Dolby Digital mode.

Although the Marantz CD-67SE is newer than the KI Signature, the level of modification performed on the latter player makes the KI Signature something quite special, for the money.

Activity centre

I currently own an all-Naim system, comprising CDI CD player, 82 preamplifier with Hi-Cap power supply, 250 power amplifier and a pair of SBLs. I now want to upgrade and thus seek your advice on the best route to take. I listen to all kinds of music.

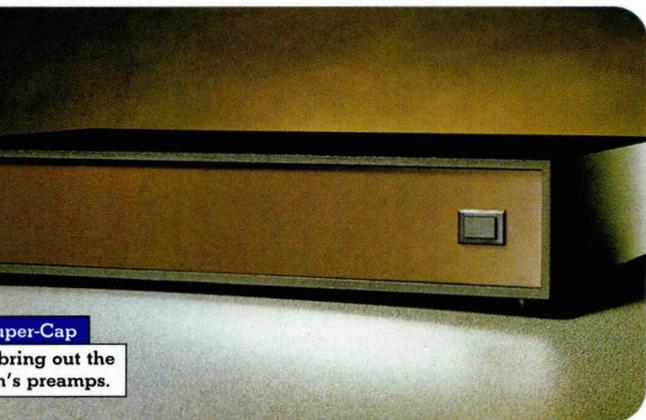
There seem to be two obvious options at the moment: either changing my Hi-Cap for a Super-Cap or going active, buying an S-Naxo and 180 power amp. The cost is similar either way.

Some people tell me the Super-Cap is an amazing upgrade from a Hi-Cap, and others tell me that going active is the ultimate aim. Also, is it possible to go active without buying another Hi-Cap to power the S-Naxo, as the built-in power supply would power my 82 preamp?

Finally, could you give me any advice on upgrading my interconnect cable between CD and preamp? I have tried a few, but find I still prefer the supplied lead as it was more natural.

Of the two options, the Naim Super-Cap would be the best for you at the moment. Why? Partly because you cannot do without that second Hi-Cap, and also because active operation needs the best possible signal fed to it and an 82 without a Super-Cap is not quite up to the mark. It will still sound good, but the Super-Cap option will sound better still.

Replacement interconnect cables are also hard to find for Naim systems. The only cable that may improve on the one supplied is the Chord Company Solid. Most reviewers who use Naim systems still use the standard lead supplied in the box.



Naim Super-Cap
Essential to bring out the best in Naim's preamps.

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precision are available at Oxford Audio Consultants
tuned component

Aura CA-200

Ideal to pair with B&W DM604s.



Return from AV mountain

My system comprises a Pioneer PD-S904 CD player, Pioneer VS-A701S AV amplifier used as a pre, three Rotel RB970BX power amps, TDL RTL 3 speaker for front speakers with a Nucleus centre channel and NFMs. My room is 5m x 3m x 2.5m high and I listen mainly to jazz.

I intend to add a Rotel RC-995 remote preamplifier and run Dolby Pro-Logic through the tape loop, then add a Meridian 506 or Audiolab 8000CD, and finally replace the speakers with B&W DM 604s (adding a CC6 centre channel and DM 602 rear speakers). Do you agree, or do you have any other ideas?
C Banda, Dartford, Kent

Your plan is basically valid, and with a couple of changes will prove worthwhile. Try substituting an Aura CA-200 preamplifier for the Rotel. When it comes to the CD player, an Acurus ACD11 may prove more in keeping with your tastes.

We have yet to test the floorstanding 604s formally, but if the CC6 and 602 are anything to go by, they should be competent and I see no reason not to recommend this speaker package.

Throb job

I'm a 17-year-old heavy metal, hip-hop fan. I enjoy playing music loud with a throbbing bass. I already have a Technics SL-PG380A CD player, a 15-year-old amplifier and a pair of Jamo speakers that are about five years old.

I want a new amplifier, new speakers and a subwoofer to achieve that bass. Please advise me on how to connect the subwoofer to the amp. If the speakers are 120 Watts, how powerful should the subwoofer be in relation to the amp and speakers?

Ben Dardoufas, Hydra, Greece

Given your CD player and musical proclivities, the choice of amplifier is simple: stick to the Harman Kardon HK610 amplifier and you'll do fine. On the speaker side, choose a pair from the following: Mordaunt-Short's MS10i, Mission's 731, Revolver's Beretta or the Tangent Monitor 9. Whichever you decide upon, use a pair of Atacama SE24 stands, filled with sand, lead shot or SoundBytes. Hook this lot up with lengths of Ixos 603 speaker cable and Ixos 104 interconnects to connect the CD to the amp.

When it comes to subwoofers, the best option is the REL Q-100e. This has good, deep and clean bass. But if you want more oomph at the expense of accuracy and clarity, the Q100e also has a setting designed for home cinema that would be perfect for those nights of raw, throbbing bass.



Break like the wind

I have an Arcam Delta 60 amp, B&W CDM1 speakers with vdH The Wind speaker cable, Pioneer PD-5700 CD player with Monster Cable Interlink 400, and a Technics SL1200MK2 turntable with a Shure V15TypeVMM mm cartridge. I am planning to upgrade the Pioneer and the interconnects, and am thinking of getting the Marantz CD-63SE or the KI Signature. There's a hi-fi store here that carries California Audio Lab's Icon and MK models, but I'm not really familiar with these brand names although they have been well rated.

I want a CD player that sounds sweet and warm. Also, I am thinking about using vdH The Source HB interconnects. There's

an IXOS distributor here and I was also considering some 103s. One thing I like about The Wind is its silver and copper combination that attacks the high frequency really fast.
Jean G. Young, via CompuServe

The Marantz 63SE is not as sweet-sounding, but the KI Signature is a supremely musical machine. The Icon would sound sweet and warm, and I'd say that it would be the player for you, unless you want to try for something like the Arcam Alpha 8 CD player.

The van den Hul Source HB cable would be a perfect match, especially as it has grit-free high frequencies that match the performance of The Wind perfectly.

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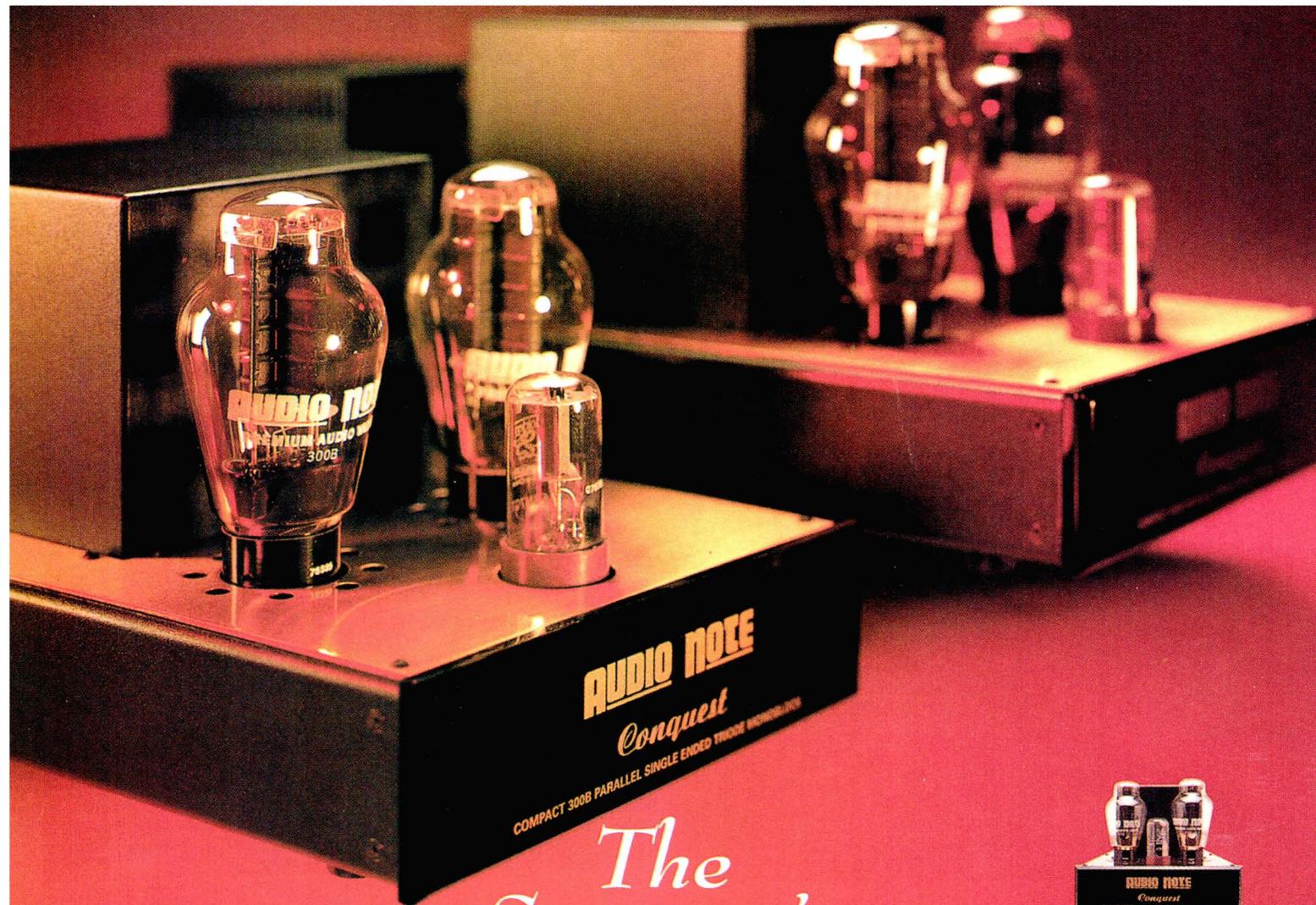
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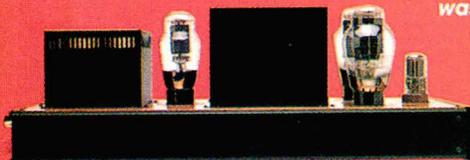
"...the mid-band is something truly special..."

"...yes, I really am sorry to see them go."

Ken Kessler
Hi-Fi News & Record Review

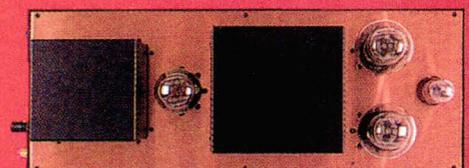
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HINTS & TIPS

CLEAN MACHINES

Clean your CDs — and zap that static!
Jimmy Hughes explains how.

In hindsight, CD did not benefit when the media hyped the young format's invincibility. Breakfast TV coated a disc with jam and butter to show that, once cleaned, the disc retained its 'pure perfect sound' unscathed. The trouble is, however, that CDs are sensitive to dirt and scratches, and while one might not hear damage in terms of audible background noise or clicks as on LP, the sound of a scratched CD will lack the freshness and purity of a pristine disc. It's vital to look after your CDs and not subject them to abuse. But if your discs do get soiled, what is the best way to clean them?

A product that gets my vote is ReVeel liquid, from Russ Andrews Turntable Accessories, as featured in last month's accessories round-up. A trial-size wipe, enough to clean two CDs, is available for 99 pence; or you can buy a kit that includes an applicator pad and a bottle of fluid that'll bull up 100 to 150 discs (currently on offer for £14.95). It's excellent at removing dust and finger marks, and leaves the surface totally free of contamination.

Treated discs sound cleaner, sharper and much more focused. Naturally, dirty CDs benefit most, but I've heard ReVeel wreak improvements even on brand-new shrink-wrapped discs that look spotless.

After cleaning, the sound has a firm, precise feel. Voices and instruments locate more solidly in space, and leading edges seem sharper and more precise. Clarity is better, and you get less of a sense of 'crowding' during complex passages.



Even if you're meticulous about the handling of CDs, it can still be difficult to keep them really clean. I've always tried to give my discs the five-star treatment, but I've noticed on discs that have been stored for a number of years, that fine dust can enter the jewel case through the little gaps in the caddy lid. If dust can get in so can the innumerable pollutants present in normal air.

One limitation: ReVeel can't eliminate scratches or surface damage. In such cases it might be best to try a CD polish, like Allsop's CD Repair Kit (£12.99, Path Distribution ☎ [01494] 441736) which coats the surface with a fine layer to fill in minor scratches and abrasions.

Russ Andrews ☎ (0800) 373467

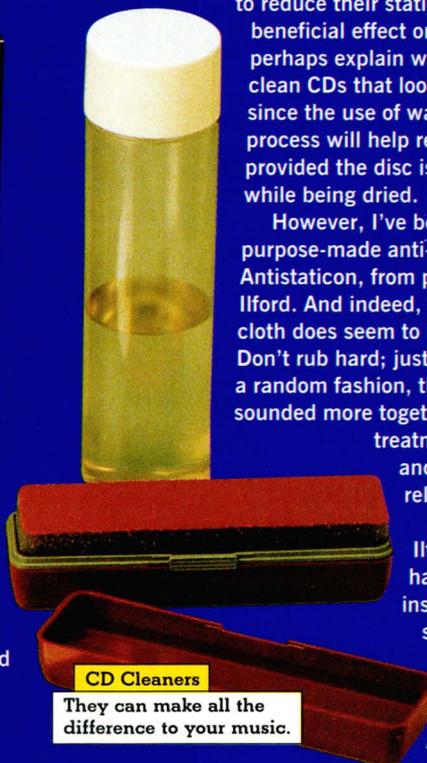
Static charge

It would seem that CDs (or perhaps more correctly, CD players) are extremely sensitive to static fields. Treating discs to reduce their static charges seems to have a beneficial effect on the sound. This may perhaps explain why ReVeel works on new, clean CDs that look absolutely spotless, since the use of water in the washing process will help relax static charges provided the disc isn't rubbed too vigorously while being dried.

However, I've been experimenting with a purpose-made anti-static cloth called Antistaticon, from photographic supplier Ilford. And indeed, wiping a CD with this cloth does seem to improve sound quality. Don't rub hard; just gently wipe the surface in a random fashion, then listen. I felt the music sounded more together and coherent after treatment — slightly sweeter and cleaner too, and more relaxed.

Apart from anything else, Ilford's Antistaticon cloth has a nice 'feel' that inspires confidence. It should be available from most photographic suppliers for about £4.99.

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GRAHAMS HI-FI

The American

Never one to turn down a challenge, **Richard Black** has been investigating a high-end system with a mid Atlantic accent.

A casual glance at the hi-fi system belonging to Clive Williams might lead one to think that its owner must be a classic hi-fi nut, more interested in the equipment than the music. All the ingredients are there: colossal monoblock valve power amps, tweaky cables, room acoustic treatment; but in fact nothing could be further from the truth. It proved difficult even to get Clive to talk about the equipment that has passed through his hands over the years, partly because for him the hardware is clearly only a means to an end, and partly because his reverence for the music (which he played almost continuously throughout my three-hour visit) made it seem a sin to talk over it.

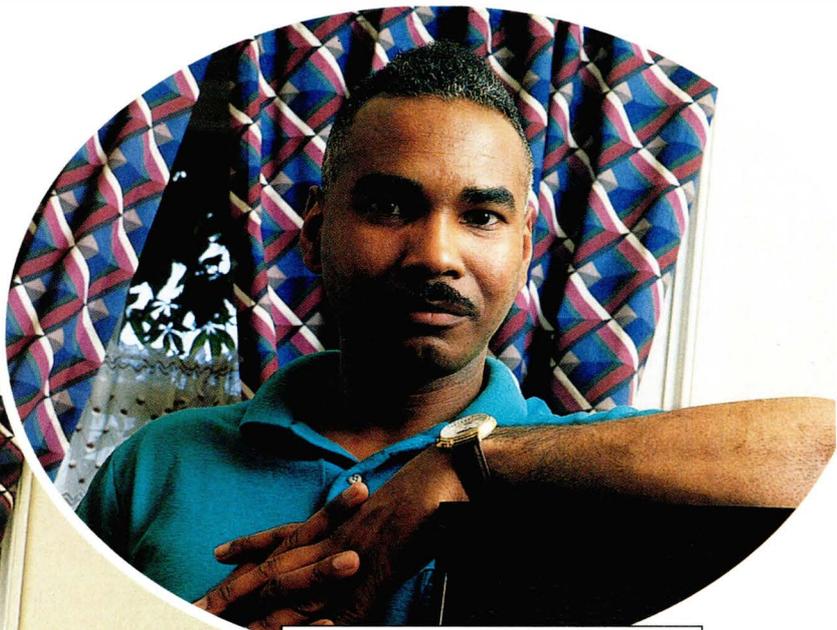
Nevertheless, the man clearly cares deeply about the quality of his sound system. "Anyone who has only ever heard a low-fi system has only heard a fraction of the music. If you really love music you owe it to yourself to get to a hi-fi show or a dealer or whatever and hear some top class hi-fi," he says. And he has carefully and methodically selected every single piece of equipment, from cartridge to mains cables, to enable him to hear the greatest possible detail of what's on his considerable collection of LPs.

One amusing irony of this system is that it is in many ways a typical American high-end system, and its owner is indeed American; but he bought most of it since coming to this country eight years ago to work in a civilian capacity at USAF Alconbury. However, he bought the English Quad loudspeakers while he was still in the States. Most of the equipment is currently available through UK distributors, the exception being the power amps.

Clive was first bitten by the hi-fi bug



Dream



Clive Williams has put together an awesome system and customised the room to suit.

when in his teens. "I grew up listening to good music — people like Otis Redding and Santana — and when I was about 15 I heard my first real hi-fi at a friend's house. It got me at once and I was hooked. My first system had a Kenwood receiver (the US has always been the land of the receiver), a Technica record deck with an Audio Technica cartridge, JBL speakers and Monster Cable speaker cables. The next big thrill was my first valve amp, a Conrad Johnson MV50 power amp. That opened my eyes to the magic of valves."

Other equipment? "Well, I had a Harman/Kardon Citation amp at one time, and Bose 901 loudspeakers. The Boses are really good in their way, but only until you hear something else, it seems to me."

Now, however, the system is dominated visually by a pair of Quad ESL63 loudspeakers, mounted on the subwoofers made to match them by Gradient of Finland. "I bought the Quads in 1985, very soon after hearing them. I just had to have them — but I didn't have an amplifier to drive them at the time so they sat in their box for six months!" They have been mildly modified, with the grille cloths removed and some bypassing capacitors added to the internal power supply.

Occupying considerably more floor space than the speakers, the power amplifiers are true esoterica: a pair of Sans Pareil Mk 5 monoblocks made by Fourier Components. These monsters, rack-mountable boxes nearly a yard long, belong to that exclusive breed, the output transformerless (OTL) valve amp. In order to deliver enough current to drive normal speakers, each monoblock uses 12 PL509 output valves (one of the very few valves suitable for the application), drawing a total of around 150 Watts for the heaters alone, and another 300-odd Watts of anode dissipation. Output is "somewhere



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Left: the Klyne 7PX phono stage surmounts the Melos preamp. Above: Quad electrostatic and matching Gradient sub. Below: Immedia RPM/Graham 1.5T. Below left: day two, the beast. A square metre of tube power.



around 100 Watts". On a warm and muggy night in late spring, the total heat output made a slightly unwelcome contribution to Clive's large listening room, but "they save on heating in the winter"! Other features of these amps include a mains transformer big enough to serve in an arc welder and a choke not much smaller, power supply capacitors which store enough energy to lift an average man four feet, and a pair of neon voltage reference tubes for power supply stabilisation. Clearly some no-nonsense audio engineering.

Meanwhile, the Gradient subs are powered by an Adcom GFA5800 solid-state power amp; as Clive puts it, "Nothing fancy, just a good, powerful MOSFET amp". Gradient's small and simple active crossover

divides the frequency range appropriately.

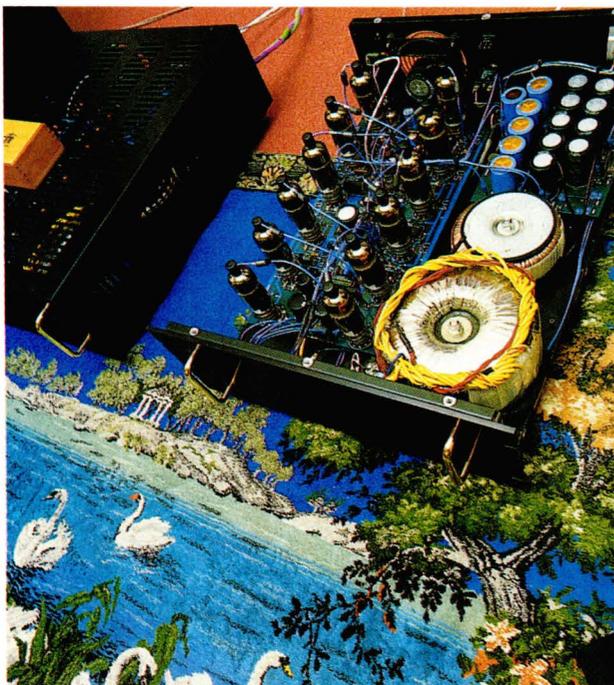
Moving further upstream, the line pre-amp is also a valve unit, but much more understated; in fact the Melos MA333 doesn't have its valves on display at all. A two-box affair, it features a separate, dual-mono, power supply. Any considerations of sound quality apart, its appearance has that certain something that simply screams 'high end', something the Americans seem to do extremely well. The beautifully finished knobs connect to switches and controls which simply ooze precision and quality. The same could be said for the phono amp, a Klyne 7PX, whose transparent top provides a clear view of the immaculately assembled innards, complete with encapsulated 'Music Modules' and banks of DIL switches providing compatibility with virtually any cartridge ever made.

Clive's turntable is an Immedia RPM, designed by an ex-SOTA engineer. Instead of a suspended subchassis, this deck has a sandwich chassis with some isolation afforded by a layer of Sorbothane. The platter is also a sandwich construction (and remarkably dead), and has an unusual bearing assembly built into it so that when you lift the platter the whole bearing assembly comes away with it. Mounted on this deck is a Graham 1.5T unipivot arm, completed by a Transfiguration AF1 cartridge. It's acknowledged as a fine cartridge but, warns Clive, "It took

me a lot of time to make it track and trace properly. Now I've got it properly set up, though — wow!"

CD is notable by its absence. "I had some Yamaha CD player a while ago but I didn't really like it and I still buy LPs. I'll have to get one some time...." A Scott 'Stereomaster' 333B tuner continues the valve theme. Interconnect and speaker cables are all top-range XLO types, while mains cables are by Silver Sounds and Kimber. A few Sonex acoustic panels adorn the walls behind the Quads, since "the room is part of the system. A lot of people forget that, but it can make a big difference."

Clive's tastes run mostly to jazz, with a bit of pop and R&B thrown in, and I was particularly grateful for being introduced to the joys of Tuck and Patti on Windham Hill records. This witty, moving and consummately skillful voice and guitar duo were beautifully recorded, and are very believably reproduced on this system. The highlight of the evening, however, was undoubtedly Miles Davis and Quincy Jones, recorded live at the Montreux Jazz Festival in 1991 — a stunning musical experience. With the lights down low, the musical image this system conjures up from such a recording really does justify the high-end ethos. There's clarity, detail, imaging, frequency extension and a complete lack of listener fatigue, but the most important and most striking aspect of the system is the involvement it can provide; you simply don't feel the urge to take the record off, or talk, or go and make a cuppa. And why? As Clive says, you just hear more of the music. That, I think, says it all. ▲



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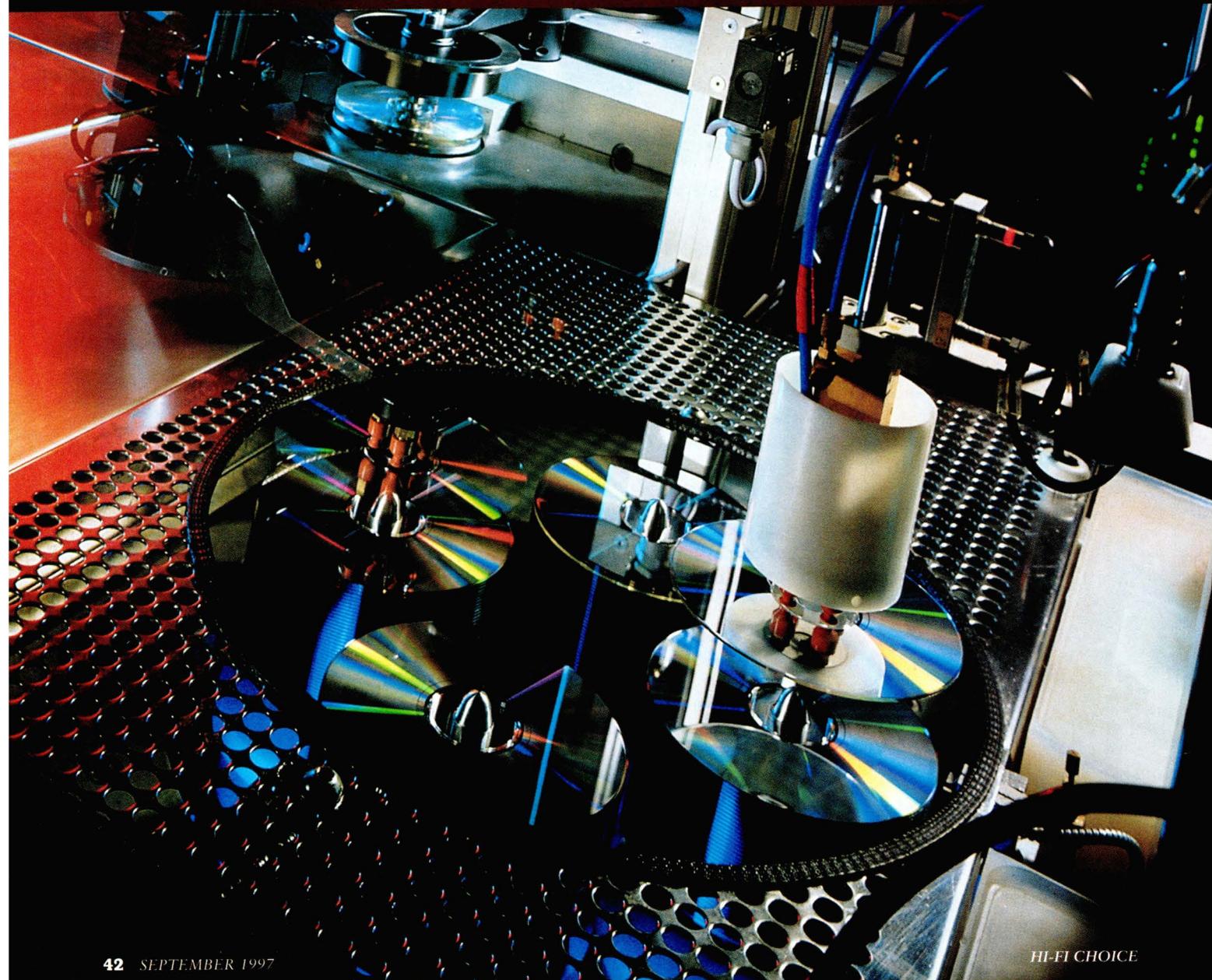
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The Recottd Makers



So you've got your dream hi-fi kit all set up, now all you need are some top quality tunes to listen to! We check out what's available and where to get hold of the best recordings.

Owners of expensive, state-of-the-art hi-fi systems often find them particularly fault-revealing. Hence the need for source material which is well-recorded, material that really puts a system through its paces, as well as highlighting a strong clear bass and detailed sparkling treble.

That could be one definition of an audiophile recording; one specially engineered for outstanding sound quality. But another might cover a 'standard' commercial album which has been meticulously remastered to the highest possible standard. The sound may still not be perfect in absolute terms, but it's close to the quality of the original master tape, without significant losses or degradation.

All of us have favourite recordings which disappoint sonically. So the appeal of a specially remastered LP or CD that promises higher fidelity is easy to appreciate. But even with recordings that already sound great in ordinary LP/CD editions, we may still be tempted by the prospect of an audiophile edition offering even better sound.

It's hard to say precisely when the first audiophile recordings were issued. Even in the '50s, record companies drew attention to special characteristics unique to their LPs, claiming 'breakthroughs' that finally resulted in 'perfect' sound. It's easy to laugh at such naiveté, but faced with the next big improvement in audio we'll probably see similar claims being made, and believed.

Speaking personally, my own baptism into the world of audiophile records occurred in 1973 when someone played me Sheffield Lab's direct cut LP *The Missing Link vol 2*. I'd never heard anything like it; crisp clean bass, sharp transients, incredible focus.

London dealer Audio T had copies at £4.50 (twice the cost of an ordinary record in 1972), but I had to buy it.

It still sounds good today, but the quality gap is much narrower than it once seemed to be: it no longer overshadows standard albums the way it used to. This highlights an interesting point; the better your system gets, the less dependent it is on

SOUND AND QUALITY

It's arguable that the quality of recordings should always be secondary to the music, but as one can't exist without the other it inevitably has a significant bearing on the end result. In the case of new recordings audiophile labels have considerable control over the eventual sound quality — they are able to choose all the hardware

involved and probably the recording venue as well. They are also likely to follow the piece through the mastering and pressing chain, making sure that standards are maintained. Mastering is an art in itself, and inevitably

some mastering houses are a bit more artistic than one might like. Even pressing plants are said to vary quite considerably.

The whole production process is therefore oriented toward fidelity to the original, a state of affairs one might expect from mainstream recordings but which is often not the case because record producers on the whole are going for a specific 'sound'. This even affects classical recordings where certain instruments will be picked out in the manner described in the Purist miking and Digital time delay sections of the main text. With non-classical acoustic material such as blues and jazz, commercial recordings are strongly influenced by the artist concerned who wants to achieve a specific effect with the sound balance. So it's refreshing to hear this type of music in such realistic tones, with no compromises made to the potential sound on radio, for instance, which often result in excessive compression.

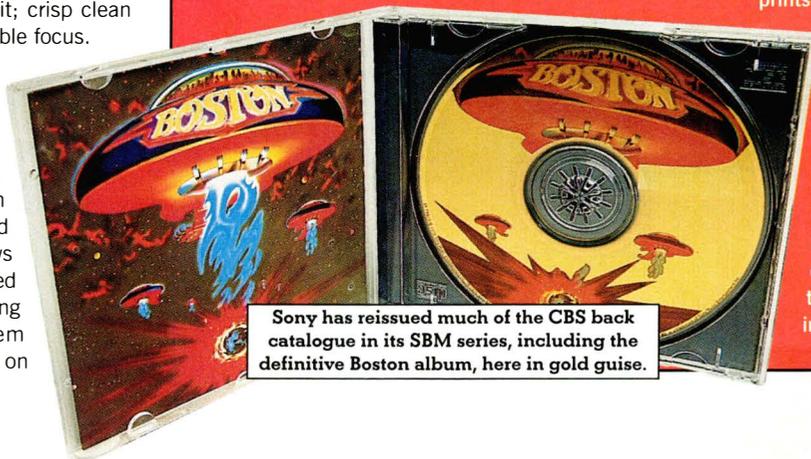
Another issue is the technology employed. Reference Recordings pioneered HDCD and Chesky is using DVD-ready 96kHz/24-bit hardware to produce some remarkably three-dimensional sounding discs. Even though CD is limited to 44.1kHz/16-bit resolution, the sound quality it produces can be improved by making higher resolution recordings, something the classical music industry has been doing for some time with 20-bit recordings.

The other side of the coin concerns reissues of established material, on either pristine 180gm vinyl or gold CDs. In the former instance material is being made available that had gone out of print long ago, leaving the analogue enthusiast dependent on the vagaries of the second-hand market. Plus the use of decent quality vinyl means that even if you've got an original, an audiophile re-release is likely to sound better, and of course it will not have been subjected to years of stylus abuse. The range of material available from audiophile labels is surprisingly broad, more so on vinyl because of its scarcity in the shops. Classic Records does a variety of highly sought after classical labels from the late '50s, including Mercury Living Presence and RCA Living Stereo, reproducing titles that command several hundreds of pounds on the second-hand market. In their re-issued 180gm guise they cost between £20 and £25, a high price for an LP perhaps, but much of this material is not available in other formats and in real terms it's a lower price than that charged for the originals in the '60s — which works out at around £35!

Opinions are divided over sound; some like the warmer sound of well-worn originals while others prefer the clarity of the new prints. If you have a good original pressing of something, you'd be better off getting some new music than duplicating what you've got. But if you have a worn copy of a favourite piece and appreciate the qualities of vinyl then these beautifully packaged pressings are good value. JK



Analogue Productions has reissued the classic Art Pepper albums on vinyl.



Sony has reissued much of the CBS back catalogue in its SBM series, including the definitive Boston album, here in gold guise.

'perfect' source material to make it sound good.

From the late '40s most recordings were stored on magnetic tape, but prior to this in the days of 78s the music was recorded direct to disc. The musicians played live in the studio, and the performance was cut directly onto disc. There was no editing or overdubbing possible, and if someone made a mistake the whole side had to be redone.

So when Sheffield Lab resurrecting the direct-to-disc process in the '70s, it was an anachronism. The invention of magnetic tape with its long playing time was perhaps the single greatest breakthrough in the history of music recording. But as a storage medium it suffered problems of noise (hiss) and peak level saturation.

Direct-cut LPs avoid this source of noise and distortion, but the

whole side has to be recorded in a single take.

Direct-to-disc also limits LP side lengths to about 15-20 minutes in most cases, though Nimbus cut a 27+ minute side on its 1981 LP of Beethoven's *Diabelli* variations with pianist Bernard Roberts, a stunning example of the disc cutter's art.



Sonny Rollins on DCC, Decca SXL2000s from Speaker's Corner and a King SA Decca from Japan.



Testament's EMI vinyl reissues include this classic Callas, King Super Analogue also does Philips.



extremely primitive record players, pressing quality was not always as good as it should have been.

As a result, audiophile LPs used pure virgin vinyl, and lots of it, typically 150g to 180g. By comparison with commercial pressings on wafer-thin recycled vinyl, this gave a flatter, quieter surface, with fewer clicks and less rumble.

Audiophile pressings

There's little point in making an excellent transfer to disc if the pressing quality is substandard. So that was the other major goal of the audiophile LP: silent surfaces! Because LPs were mass-produced for ordinary people who played music on

In the late '70s, a company called Mobile Fidelity began to issue audiophile-quality LPs of popular rock and classical titles under licence. The music was half-speed mastered by engineer Stan Ricker, and pressed on a super smooth, quiet yet hard vinyl originally developed by JVC for CD4 quadrasonic records.

Half-speed mastering meant precisely that; playing the master tape and cutting lathe at half-speed to give the disc cutting head twice the time to engrave delicate groove shapes. It further increased the effective power available to the cutting head, so that higher peak levels could be cut without overheating.

Cutting at half-speed was (and is) controversial; it definitely helps the disc cutter, but isn't so good for the tape machine; for example the lumpy/wavy bass response you get with analogue tape around 30Hz is pushed up to 60Hz, where its effects are more audible. Nor was it a new technique; Decca used it for its earliest stereo LPs in the late '50s.

Mobile Fidelity LPs usually sound smoother than the original copies, but can lack brilliance and impact. Bass is often less taut and clearly defined (a legacy of half-speed cutting?), and (ironically) volume levels are often lower. But the Japanese pressings are immaculate and very quiet.

CD revives interest in remastering

The launch of the Perfect Sound Forever CD could have put a stop to such goings on. But, if anything, (because CD proved incomparably good at showing you what's wrong with a recording, rather than what's right with it), it actually intensified interest in remastering.

Elton John's 1983 CD compilation *The Superior Sound of Elton John* was one of the earliest discs to take things seriously, with engineer Gus Dudgeon going back to the original multi-track tapes to remix fresh masters. It's still quite rare (but increasingly fashionable) to do this for time/cost reasons, but acts like Frank Zappa and Steely Dan had their back catalogues remixed for compact disc quite early on as well.

More recently, the emphasis has been on the disc itself. Using a thin 24kt layer of gold rather than aluminium, gold CDs have been popular with audiophile companies — you can see the difference!

HDCD

Pacific Microsonics' HDCD (High Definition Compatible Digital) process utilises a sophisticated encode/decode system that is claimed to greatly reduce both additive and subtractive distortions in digital audio recordings, while remaining compatible with existing compact disc formats. HDCD recordings are said to offer wider dynamic range, more natural vocal and instrumental timbre, greater depth and space, and better resolution of low-level detail than conventionally produced CDs.

HDCD's performance is achieved by identifying and correcting distortion in digital audio reproduction. Such distortions include both additive artifacts of the analog-to-digital and digital-to-analog conversion processes, and subtractive distortions resulting from insufficient data present in the 44.1kHz, 16-bit PCM sampling standard of the compact disc format. HDCD is suggested to effectively cancel the additive distortions and simultaneously provide additional data to reduce the subtractive distortions. The resulting recordings are claimed to have improved resolution, yet remain compatible with existing CD players.

When an HDCD encoded signal is fed to conventional playback equipment, the additional information in the linear PCM signal should be heard as a clear improvement in fidelity. When the same signal is fed to an HDCD decoder, the information in the table of contents tells the decoder that the signal is HDCD encoded, and directs it to precisely reconstruct the high resolution signal, which is then output in a form appropriate for the D/A converter. Because the HDCD decoder replaces the conventional digital filter used prior to the DAC, it is also designed to function as a regular filter when reproducing conventional, non-HDCD recordings.

Over 40 CD manufacturers and nigh on 250 CDs have already taken the HDCD plunge. But, of course, there has been a backlash. There are many pundits who claim the sound from HDCD is not all it is cracked up to be, especially when the filter is used in non-HDCD mode. Still others claim it is the best sounding system around. So there is no definitive HDCD answer. AS



Keith Johnson of Reference Recordings was the first major advocate of HDCD.

Noise shaping techniques have been developed to enhance the resolution of 16-bit CD, enabling 20-bit master tapes to be transferred to CD without truncation. Sometimes the difference between an old CD pressing and a new remastered one can be vast, yet the improvement isn't always obvious.

For example, the standard copy of John Lee Hooker's CD *The Healer* was not significantly better by Mobile Fidelity's gold audiophile version; the latter was a bit clearer but also slightly clinical. With Glenn Gould's digital recording of Bach's Goldberg variations, I prefer my 1983 original CBS CD to Sony's 20-bit remastered Super Bit Mapped reissue; it's sharper and more focused.

And then there was the strange case of the Gold version of Miles Davis' *Kind of Blue*, which sounded about 8dB hissier than the standard issue! Mind you, the newest version (at mid-price, with an extra track) sounds excellent, if still a shade hissier.

Jimi Hendrix' *Ultimate Experience* greatest hits compilation is an HDCD transfer that impresses despite the limitations of the original source. Probably the best HDCD CDs are on Reference Recordings, *Trittico*, and *Pomp and Pipes*, and sound awesome on a big system played loud; audiophile CDs at their sonic best.

Despite my reservations, there has unquestionably been a breakthrough in the successful remastering of very old recordings using computer noise reduction systems like CEDAR and No-Noise. Michael J Dutton's incredibly vivid digital transfers of 78s for his Dutton Labs CD label bring old faded recordings to life with a clarity that's hard to believe. But clearly much patient expert work is needed to achieve such excellent results.

A resurgence of interest in the LP during the early '90s has led some companies to produce replica copies of vintage classical LPs, complete with original sleeve artwork and labels. Among the most successful are Classic Records' RCA Living Stereo series, Alto's HMV and EMI reissues, and Speakers Corner and Speakers Corner Decca SXs.

These replica copies offer excellent sound that can rival rare expensive LP originals, though opinion is divided on which sounds best. Generally, the new discs sound cleaner but slightly more 'contained' than the original issues, which are perhaps airier.

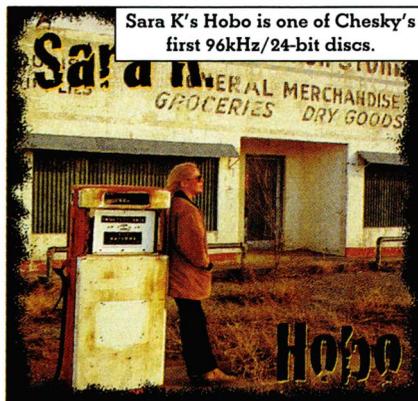


Speaker's Corner has some great stuff on vinyl, Classic Records has Mercury Living Presence.

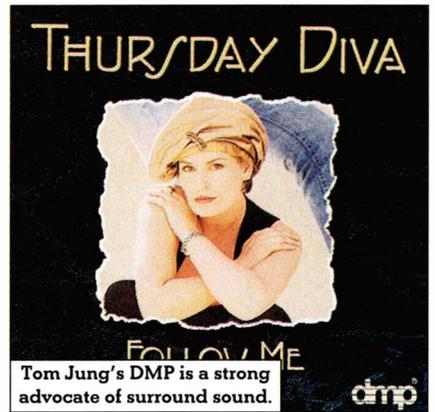
It's probably correct to say that many of these replica LPs are more faithful to the master tape than the original LPs. But some people actually like the sonic aberrations introduced by the limitations of early stereo disc cutting technology; restricted high frequency bandwidth and lack of wide stereo separation created a bright focused clarity that many prize.

Replica CDs

The success enjoyed by the classical label Mercury's CD reissues, using original LP cover art, led others, including RCA, Decca, and Deutsche Grammophon (DG) to pro-



Sara K's *Hobo* is one of Chesky's first 96kHz/24-bit discs.



Tom Jung's DMP is a strong advocate of surround sound.

duce their own line of vintage replica CDs. DG even made the CD look like a miniature vinyl LP by printing 'grooves' on the label!

Using the original artwork places a recording in its proper historical context, rather than trying to make it look 'modern' with an up-to-date sleeve. It's only surprising it took the classical record companies such a long time to realise this.

Purist miking

One important aspect of a true audiophile recording is that it's likely to be simply miked. Systems that image precisely tend to highlight the use of too many microphones. So purist engineers often try to use as few as possible. However, how many is too many?

While ideally one might use just a single crossed pair of microphones to achieve consistent phase and coherent stereo perspectives, this can cause balance problems, some instruments being too loud, while others are not loud enough.

For example, trumpets with their highly

AUDIOPHILE REISSUES VS ORIGINALS

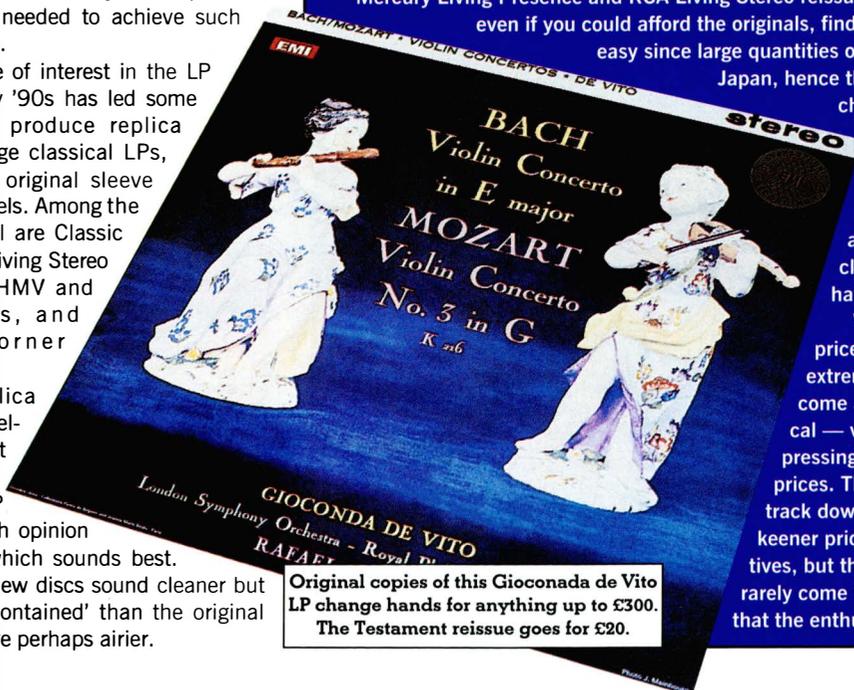
Apart from sound quality, one reason for the appeal of audiophile records is the fact that you can get mint vinyl copies of LPs that are extremely scarce and often very expensive.

Nowhere is this more obvious than in the classical music field where original LPs often sell for tens if not hundreds of pounds, which makes the £25 charged for Decca SXL,

Mercury Living Presence and RCA Living Stereo reissues seem quite reasonable. And even if you could afford the originals, finding the established classics is not easy since large quantities of them have found their way to Japan, hence the extraordinary prices being charged.

You also get a pristine unplayed copy which has been remastered with considerable care by people who are fanatical about sound quality. Even the cleanest looking pre-owned LP may have served time on a music centre.

With non-classical material the price/availability ratio is a little less extreme but in the jazz field you'll come across a similar problem to classical — very limited availability of original pressings and consequentially high prices. The record hunter may be able to track down 'regular' re-issues at slightly keener prices than the audiophile alternatives, but they are not a lot cheaper and rarely come in the quality and weight of vinyl that the enthusiast appreciates. JK



Original copies of this Gioconda de Vito LP change hands for anything up to £300. The Testament reissue goes for £20.

HOLY ORDERS

Gene Pope reveals how Pope Music recordings are making the best of regular CDs

"It's a mistake to think that digital is all ones and zeros," says Gene Pope III, President of New Jersey audiophile music label PopeMusic. "The only time that digital recording data is ones and zeros is in a computer editing system."

Spend five minutes talking to Gene and you'll never want to buy 'ordinary' CDs again. An outspoken and iconoclastic engineer and entrepreneur, Pope now has 11 titles on his label. Nine of these are classical, all recorded by Russian performers such as the Russian Symphony Orchestra under Mark Gorenstein, and the pianist Naum Starkman. The other two are by '70s-famed US singer-songwriter Lori Lieberman.



PopeMusic's USP is the buzz-word Dynamic Fidelity. This encapsulates Gene Pope's belief that the basic 16-bit, 44.1kHz CD process can give much more quality than most commercial CD releases permit.

"Basically, I had to take apart the entire [recording and mastering] process and backwards engineer it," says Gene. "The more we dug into it the more we realised how fragile a medium it is."

At a Pope recording session, all you'll see are two Brüel & Kjær 4165 instrumentation microphones, equipped with custom power supplies operating at 140Volts (48Volts is the norm). These are preamplified stage-side by modified Cello Encore preamps and fed directly into an Apogee Electronics A/D 1000 analogue-to-digital converter, and thence into a Nagra-D digital tape recorder. Gene monitors via Cello electronics and speakers, or Aerial 10T speakers, as well as top-end Stax electrostatic headphones.

Once the recording has been made Gene is fanatical that its precious digits are not corrupted by jitter while mastering takes place. He is very critical of the Sony/Philips Digital Interface Format (S/PDIF) and the balanced AES/EBU version of the same, even though these are industry-standard for the transport of digital musical data between recorders, editing systems and mastering equipment (and for domestic CD transports and DACs).

Instead Gene roots for SDIF, the original Sony format that is still used for some mastering machines. "It's clunky, crude but was designed to allow digital signals to go down wires in a cleaner fashion," he says. With this system, left, right and clock signals are transmitted down separate video-bandwidth coaxial cables, yielding performance increases that are as clear as "comparing balanced cables with unbalanced". His Nagra is currently being modified to support SDIF.

After editing at 24-bit resolution and equalisation in the analogue domain using the Cello Audio Palette, Pope pays equal scrutiny to mastering. Masters are on Sony PCM-1630 U-matic tape, glass masters are cut on a LaserDisc cutter at one of the US's original glass-master cutters (DMI in California), and the final CDs are pressed at Sanyo Verbatim in Indiana — these were the only companies who would indulge Gene's need to control the whole chain of recording and accommodate his obsession with jitter reduction and the SDIF interface.

Reading about this stuff is only part of the fun. You have to hear the PopeMusic CDs to appreciate how good they are. I used them while reviewing the Musical Fidelity X-A50 monoblocks on page 24, and they really do possess an uncannily lifelike quality.

They just sound natural. Goldring Products International (GPI) distributes the discs in the UK, selling the full-length albums for £16 each and three samplers for £8 each. You'd pay almost this much for mass-produced discs in the High Street anyway. But the best news is that on pages 48 and 49 we've got a monster competition for *Hi-Fi Choice* readers to win 200 Pope CDs. Don't miss it!

I had a fascinating chat with Gene Pope, which spawned many more choice quotes than I could use here. He's got some radical things to say about HDCD and the US hi-fi press's current obsession with 24-bit, 96kHz recordings. I'll be glad to e-mail an edited copy of the transcript to anyone who'd like it. Send your request to stan.vincent@pobox.com.

"My interest as a record label is to improve the state of the art for what you walk into the store and buy," says Gene. "When I get my Nagra back with SDIF connectors it's going to bring recorded sound to a whole new level." SV

GPI ☎ (01284) 701101



Linn Records has pioneered some interesting new acts.

directional sound tend to be 'louder' on a recording than French horns, even though listening in the hall you'd say they were equal in volume. Double basses often lack presence and need encouragement.

Digital time delay

To try and achieve the best of both worlds: clarity and superb balance plus a natural, spatially coherent soundstage, some engineers have tried using digital time delay to eliminate the inevitable phase shifts that occur when close and distant microphones are mixed simultaneously.

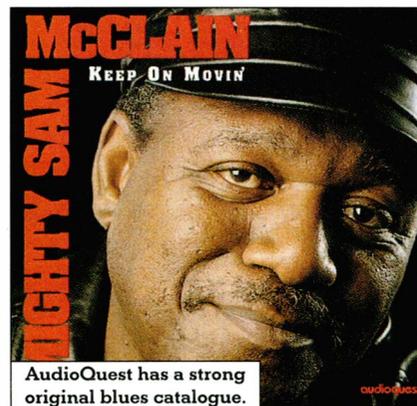
With this technique, the close mikes are given a fractional time delay to bring them into phase with the main microphones picking up the overall sound. The result is a truer, more consistent and natural tonal balance with less obvious 'spotlighting' of voices or instruments.

Denon was perhaps the first to try it, starting with a sonically superb Mahler Fourth symphony conducted by Eliahu Inbal. More recently, DG has used the same technique to remaster Herbert von Karajan's '80s digital multitrack recordings, often with very impressive results.

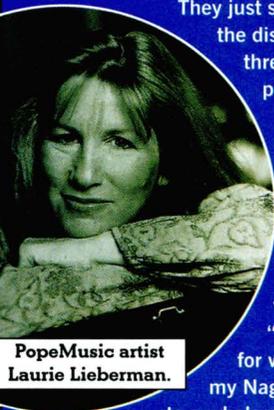
DG also claims to have applied the technique for analogue recordings issued on its Originals label. But as the Original Image Bit Processing logo appears on all titles in this series (even those taken from mono tapes!) it's clearly stretching the concept of multi-channel phase delay as originally stated.

Back to stereo basics

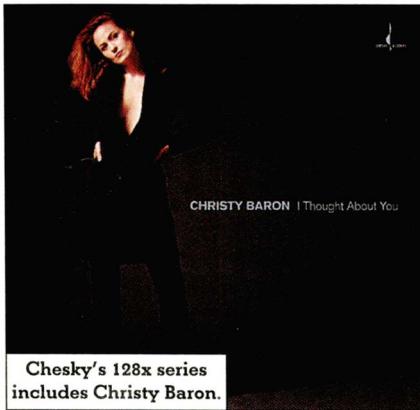
Many audiophiles felt that recording standards deteriorated during the '70s, as



AudioQuest has a strong original blues catalogue.

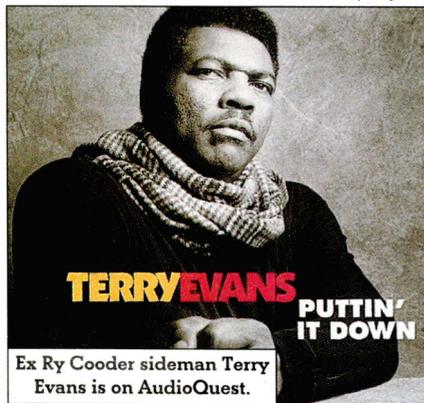


PopeMusic artist Laurie Lieberman.



Chesky's 128x series includes Christy Baron.

multitrack techniques were introduced in pop/rock, jazz, and classical fields. Of course, for music that is heavily engineered with lots of overdubs, multitrack tape is a vital tool. But for music that is played



Ex Ry Cooder sideman Terry Evans is on AudioQuest.

acoustically in real-time (as opposed to built-up in layers) there's much to be said for purist straight-to-stereo recording.

Most of the big classical labels now agree, and have ditched multitrack for many projects. However, there are some conductors who like the post production freedom multitrack recording allows, even if (in purist terms) there is a marginal loss of absolute sound quality.

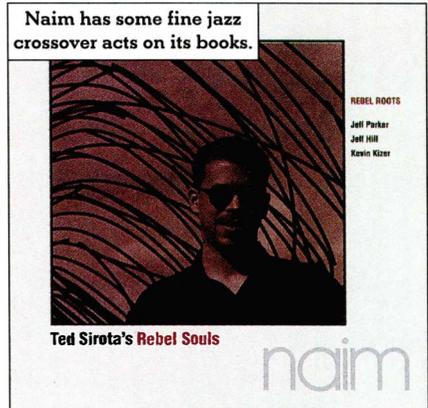
Summary

CD has had something of a levelling effect on absolute sound quality. With its silent background and lack of peak level distortion CD avoided the worst LP was capable of. At the same time, CD lacks the subtle finesse and delicacy of LP at its best, nor can it duplicate the power and attack of a good 12inch 45rpm single.

Perhaps because of resolution limits with the 16-bit/44.1kHz CD, it's been virtually impossible for a specialist record company to issue CDs that are as sonically superior to conventional silver discs as Sheffield's direct-to-disc LPs were to conventional vinyl records in the '70s, it's almost as if CD has the equivalent of a glass ceiling.

(Editor's Note: Gene Pope III, President of Pope Music, would disagree with this assertion. Read about his 'Dynamic Fidelity' process in the box on page 46.)

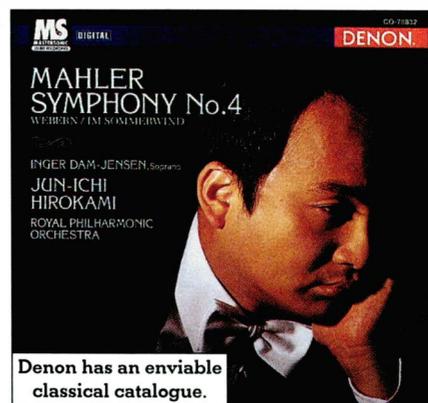
It would seem that the quality of high-bit digital studio master tapes doesn't fully transfer to domestic compact disc, whatever



Naim has some fine jazz crossover acts on its books.

Ted Sirota's Rebel Souls

lengths are gone to. Yet people seem pretty happy with CD, and it's a moot point as to whether there's a significant market for something with higher resolution. JMH



Denon has an enviable classical catalogue.

AUDIOPHILE RECORD LABELS

LABEL	MEDIA	MUSIC STYLE	NEW	RE-ISSUE	PRICE	DISTRIBUTOR
Absolute Analogue	LP	jazz		•	£17.50	Vinyl Demand 01425 654 545
Altarus	CD	classical	•		£15.00	Kingdom, 0171 713 7788
Alto	LP-180g	jazz		•	£17	Audiophile International 01276 855578
Analogue Audio Ass.	LP	classical	•		£15	Audiophile International
Analogue Productions	CD-24kt	jazz, classical, blues etc		•	£25	Audiophile International
Analogue Productions Revival	LP-150g	jazz, classical		•	£15	Vinyl Demand
Athena	LP	classical		•	£25	Audiophile International
AudioQuest	LP/CD	jazz, blues	•		£19.95/£15.95	A&R Cambridge 01223 203200
B&W Records	LP/CD	jazz	•		£14	B&W Records, 0171 729 0246
Chesky vinyl	LP	classical			£20	Vinyl Demand
Chesky CD	CD - 96/24, 128x	jazz, classical, blues	•		£16	Goldring 01284 701101
Classic Records	LP-180g/CD-24kt	jazz, classical, blues		•	£20/£25	Vivanti 0181 891 4195
DCC	CD-24kt	rock, jazz, blues		•	£25	Audiophile International
Denon	CD	jazz, pop, classical	•		various	The Complete Record Co 0171 498 9666
DMP	CD - 24kt, Surround	jazz crossover	•		£13 - £20	Wollaton 0115 928 4147
EMI Classical	LP-180g	classical		•	£20	Testament via Vinyl Demand
Fone	LP-180g/CD-24kt	classical	•		£25	Audiophile International
Impulse jazz	LP-180g/CD	jazz		•	17/£13	Audiophile International
JVC XRC	CD-20-bit/128x	jazz, blues	•	•	£25	Audiophile International
King Records Super Analogue	LP- 180g	classical		•	£25	Vinyl Demand
Linn Records	CD	classical, jazz, etc	•		£15	Linn Records, 0141 303 5029
MAP Recordings	CD	classical	•		£16	May Audio Marketing 01535 632700
Mobile Fidelity - Anadisq	LP- 200g	rock, pop, jazz		•	\$25	Vinyl Revival, http://www.vinylrevival.com
Mobile Fidelity	CD-24kt	rock, pop, jazz		•	£25	Audiophile International
Naim	CD	classical, jazz, avant garde	•	•	£14.50	Naim Audio 01722 332266
Pope Music	CD	classical, pop	•		£16	Goldring
Prophone	CD	Swedish trad, jazz	•		£14	May Audio Marketing
Reference Recordings	LP-180g/CD-HDCD	classical, jazz	•		£16	May Audio
Sheffield Labs	CD-24kt	classical, jazz			£10 - £20	Wollaton
Speaker's Corner	LP-180g	classic, jazz etc		•	£20	Vivanti
Water Lily	LP/CD-gold alloy	classical, acoustic			£25/£16	Audiophile International

Prices for single CD or LP, excluding P&P

WIN!

COMPETITION

THE PAPAL LEGACY

WIN! NEARLY £3,000 OF POPEMUSIC CDS MUST BE WON!

15 SETS OF 10 CDS:

- *Home of Whispers* Lori Lieberman
- *A Thousand Dreams* Lori Lieberman
- *Romeo and Julia* Bernstein, Prokofiev & Tchaikovsky (Kremlin Symphony Orchestra)
- *Polonaises, Ecossaises, Ballades, Fantasies* Chopin: Waltzes, Mazurkas, Nocturnes, Scherzos (Naum Starkman, pianist)
- *Symphony no. 40, 29, 25* Mozart, Kremlin Symphony Orchestra
- *Redemption* Shostakovich Sym. No 5 & Chamber Symphony for Strings (Russian Symphony Orchestra)
- *Schnittke: Gogol Suite, (K)ein Sommernachstraum Khrennikov: Love for Love* (Russian Symphony Orchestra)
- *Farewell* Tchaikovsky Sym No 6 & Francesca da Rimini (Russian Symphony Orchestra)
- *Unlikely Silhouettes* Shchedrin Carmen & Shostakovich Bolt (Russian Symphony Orchestra)
- *Entangled Devotions* Beethoven Emperor Cto & Moonlight Sonata (Russian Symphony Orchestra)

FIRST PRIZE!

10 SETS OF TWO NEW RELEASES:

- *Romeo and Julia* Bernstein, Prokofiev & Tchaikovsky (Kremlin Symphony Orchestra)
- *Polonaises, Ecossaises, Ballades, Fantasies* Chopin: Waltzes, Mazurkas, Nocturnes, Scherzos (Naum Starkman, pianist)

SECOND PRIZE!



Give your CD collection a boost by entering our PopeMusic competition – a CD extravaganza! The first 15 winners will receive a set of 10 CDs worth £16 each. These are state-of-the-art recordings of first class artists and orchestras, qualities for which PopeMusic is widely respected.

Two of these, *Home of Whispers* and *A Thousand Dreams*, are by Lori Lieberman, an original singer/song-writer who won a Grammy for her hit single *Killing Me Softly*. The remainder come from a wide selection of classical composers, including Mozart, Chopin, Bernstein, Tchaikovsky and Beethoven.

Second prize is two new releases from PopeMusic, Bernstein, Prokofiev and Tchaikovsky's *Romeo and Julia*, and *Polonaises, Ecossaises, Ballades, Fantasies* from Chopin. Ten lucky readers will each receive both of these superb new CDs, worth £16.00 each.

30 third-prize CDs are also up for grabs; the PopeMusic sampler CD, worth £8.00, boasts selections from Leonard Bernstein, Chopin, Russian POPs and Shostakovich.

All the discs are produced using PopeMusic's unique Dynamic Fidelity™ process, which utilises the best of audio-ophile recording, mastering and jitter-reduction technology, to create CDs of the highest quality. PopeMusic's standard recording hardware inventory includes a single pair of B&K omni microphones, custom Cello Electronics by Mark Levinson, and a Nagra D 24-bit digital Recorder.



CONGRATULATIONS TO THE FOLLOWING WINNERS OF OUR JUNE COMPETITIONS!

In the Cambridge Audio/Gale competition, the answer was d) Gale's banana plugs are gold plated. 1st prizes of six systems comprising: Cambridge Audio CD4 CD player and A1mklII amp, Gale 2i loudspeakers, 10m Gale XL-315 cable, eight Gale banana plugs and Cambridge Audio Pacific interconnect go to:

- Jason Budd of Dorset
- N Rickard of Bristol
- Keith Horner of London
- D J Chapman of W Yorks
- J Hyland of Norfolk
- Andy Marsh of Kent

20 runners up each receive a pair of Cambridge Audio Pacific interconnects:

- Bill Sayer of Middlesex
- Ellis Shipley of Leicester
- Lawrence Thomas of Caerleon, Wales
- Michael Walker of Perthshire
- John Palmer of Romford
- David Crabtree of Cambridgeshire
- Adam Keay of Leicester
- S R McAll of Hertfordshire
- Gary Stewart of London
- R M A Vyvyan of Surrey
- T C Hesketh of Brighton
- Harry Burns of W Yorks

- D V Noble of Hampshire
- Jonathan Ledner of London
- Julian Hughes of Derbyshire
- J G Leaver of Lancashire
- Colin Burt of Fife
- A Aldridge of Croydon
- Andrew Lyall of Herts
- V Efflain of Herts

In the Musical Fidelity competition, the answer was b) X-CANS is a class A, tube-based headphone amplifier.

1st prize of an F2/FX2 pre/power amplifier system goes to:
Paul Pearson of West Llandudno

2nd prize of X-DAC, X-CANS, X-LP, X-PRE, X-PSU, and six X-LINX interconnects goes to:
K Kibble of Dorset

3rd prize of X-DAC, X-TONE, and three X-LINX interconnects goes to:
R Turner of Birmingham

Three runners up each receive an X10-D and an X-LINX interconnect:
Sam Crewe of Northampton
Nasuhi N Kablawi of Surrey
C Milton of Devon

HOW TO ENTER

Answer the question below by circling the correct answer, then fill in your name, address and day-time telephone number in the spaces given below. Please remember to tell us whether you are over 18 years of age.

POST THIS ENTRY FORM TO:

Hi-Fi Choice Competition (CHFC709A)
Bradley Pavilions,
Bradley Stoke North,
Bristol BS12 0BQ

All entries must arrive by first post, Thursday September 11th, 1997.

THE QUESTION

What is the unique PopeMusic recording process called?

- a) Cello Electronics
- b) Dynamic Fidelity
- c) Dynamic Intervention
- d) Dynamite Flooding

YOUR DETAILS

Name _____
Job Title _____
Company Name _____
Address (inc. postcode) _____

Day-time Telephone Number _____

- Please tick here if you are under 18
- Please tick here if you do not wish to receive details of further special offers or new products from other companies.
- Are you a current subscriber? *OR*
- Are you a regular reader? *OR*
- Are you an occasional reader?

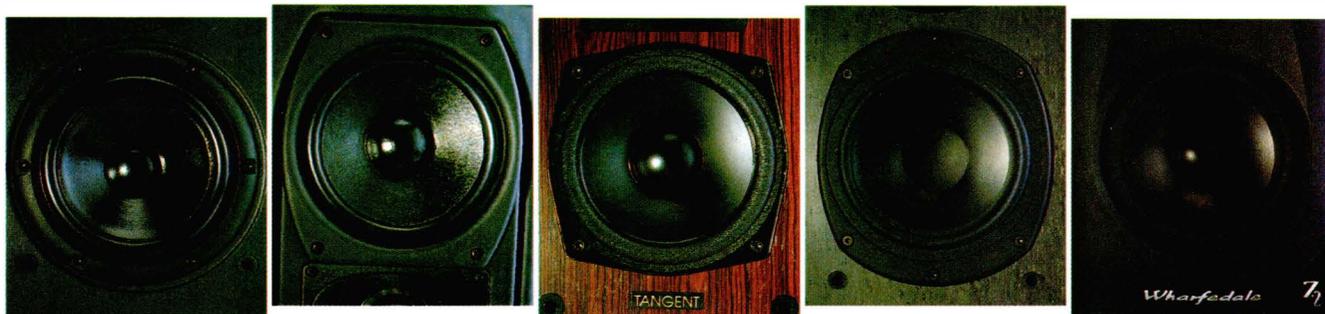
COMPETITION RULES

- The Closing Date for this competition is Thursday September 11, 1997.
- Winners of the PopeMusic competition will be judged from all correct entries submitted, and drawn at random after the Closing Date.
- Winners will be notified by post.
- The Editor's decision is final and no correspondence will be entered into.
- The PopeMusic competition is not open to employees of Dennis Publishing Ltd, Goldring Products, nor their suppliers, agents or associates.
- We regret this competition is open to UK residents only.
- No cash alternatives will be offered.
- By entering the competition you agree to be bound by the rules.
- For a list of the winners of the PopeMusic competition, write, enclosing a stamped addressed envelope, to: Hi-Fi Choice Winners, Dept 169/1, 19 Bolsover Street, London W1P 7HJ.
- All entries must be on this official entry coupon. If you do not wish to cut your magazine, you may send a photocopy of the page instead. Please note: only one entry form per household.

CHFC 709A

Loud and Proud

Paul Messenger and Paul Miller get to grips with a slice of the hotly-contested budget loudspeaker market.



By concentrating on the under-£150 budget price sector, this 'mini group test' serves as something of an update to the 'Best Sellers' speaker round-up we conducted a year ago (issue 156), as well as a precursor to a large and broader budget-speaker group test scheduled for next month.

Although B&W has recently started breaking the mould with its highly successful £199 601 and £299 602 models, the under-£150 sector still dominates the speaker sales charts, and therefore continues to attract the very closest attention from all the leading brands looking for a serious slice of the action.

So much so, in fact, that these usually tiny speakers often receive a much larger share of investment in time and tooling than more upmarket models. As a result they often look better than — and may well even outperform — more expensive models further up the range.

Four of our five are towards the top of the price band, at £130-£140, but the fifth, from relative newcomer Tangent, is something of an interloper at only £80.

While the £120-£150 models grab most of the headlines and feature strongest in the industry standard GfK trade sales statistics, brands like JPW have enjoyed considerable success with rather more prosaic £60-£90 models. But since JPW is distributed by the influential Richer Sounds chain, and Richer doesn't supply data to GfK, it's difficult to get the full picture.

Including the Tangent was quite deliberate, in order to try and establish what sort

THE CAST LIST

JPW ML510	£129.95
Mission 731 Pro.....	£139.90
Tangent Monitor 5	£79.95
Tannoy Mercury M2.....	£139.90
Wharfedale Diamond 7.2	£139.95

of compromises might be involved in opting for an £80 rather than a £130 or £140 speaker.

Even a £150 price ceiling limits the designers' options quite severely. All five are two-driver-plus-port standmounts, but within that outline spec there's a fair amount of variation nonetheless — the

Tannoy is twice the size and weight of the Tangent, for example. And every speaker has its own particular sonic 'fingerprint', which will exert considerable influence over the character of the system.

The speaker is a vital and influential component in the hi-fi chain, but because it's the last link, it's also the slave of components further up the line which will probably be the limiting factors of performance. Upmarket speakers can be a source of great pleasure, but even speakers as inexpensive as these are capable of fine results provided proper attention is paid to stands and cabling, and a good match is achieved throughout the system.

HOW THE TESTS WERE DONE

The main reference system used for the first part of the listening tests consisted of the usual collection of Mana-supported Naim and Linn components, viz: Linn LP12 turntable, Naim ARO tonearm, Linn Arkiv cartridge, Naim CDS CD player, NATO1 tuner, NAC52 preamp and NAP135 power amps. Speaker cables were NACA5, and the speaker stands were Kudos S100.

For the second series of tests we used the TEAC CD-P3450SE CD player, Cambridge Audio A3i integrated amplifier and Atacama SE24 speaker stands, again with Naim NACA5 speaker cable.

Music used during the testing included excerpts from the albums listed. BBC Radios 3 & 4 were also used extensively during the hands-on work

WHAT MUSIC DID WE USE?

- Fugees:** (*Refugee Camp*) *Bootleg Versions*; 486 824-1
- Massive Attack:** *Blue Lines*; WBRCD1
- Christy Moore:** *Live at the Point*; GRACD 203
- Sibelius:** *Symphony No. 6*; Maazel/VPO Decca Stereo D7D4
- Schubert etc:** The Allegri String Quartet; naimcd012
- Mozart etc:** *Serenade/Chamber Music*; Stereophile STPH009-2
- Laurie Anderson:** *Bright Red*; WB 9362-45534-2
- The Chemical Brothers:** *Dig Your Own Hole*; XDUSTLP2



JPW ML510

JPW is one of the largest and oldest British hi-fi speaker manufacturers, yet the company seems to keep a fairly low profile. Its UK distribution is delegated largely to the Richer Sounds chain, and vast quantities are sold through the Richer outlets, although it is less likely to be found in other stores.

Another reason for JPW's low profile is simply that the models don't change very often. The P1 — which could be regarded as the ML510's immediate predecessor — stayed in the range for at least 12 years, and was probably only phased out because of changing fashions in cabinet shape.

The 1997 introduction of the new Millennium Series is therefore something of an event, representing a significant step forward in a number of areas. There are nine models all told, with the £130 510 sitting on the fourth rung up the ladder.

JPW still very much believes in using particle board (rather than plastics) for the driver-mounting front panel, but accepts that plastic mouldings offer extra styling flexibility. To strike a rather effective compromise the 510 uses an ultra-thick (c24mm) front panel, formed by bonding separate layers of chipboard and MDF. Styling embellishments, such as the chamfered edging, driver rebates and a couple of stripes for good measure, are machined into the MDF layer,

which is then covered in a laminate to give a 'genuine plastic texture effect'. The 'cherry' vinyl woodprint is one of the more impressive examples I've seen.

The box may be wood-based, but JPW has opted for a plastic-frame main driver — less expensive than a casting, especially for large production volumes, but similarly effective in reducing the 'shadow' and impediment of the frame. The main diaphragm has a 100mm doped paper cone, and an 85mm magnet (slightly larger than average), while the tweeter uses a small 19mm doped-fabric dome. Twin terminals permit bi-amping/bi-wiring, provided the internal bridge-links on the crossover are removed.

A problem arose when one of the main drivers failed to do as it was told. The terminal block/crossover network was whipped out and the components wiggled to reveal a dry joint on one end of a thermistor which was part of the optional protection circuit. Alternative pins are available which bypass the protection, so these were selected for the rest of the test.

Sound quality

The underlying class of this speaker was obvious as soon as it was connected to our reference system, with a relatively smooth and enticingly open balance which maintained fine clarity even at very low listening levels. Inevitably, given the ingredients, there's no real bass weight or grip, though what there is balances up pretty well, if the speaker is mounted a foot or two from a wall.

Dynamics, too, are a little unexciting, though the dynamic range through the broad midband has a real touch of class and coherence, with good basic timing. Voices are a

bit forward and shiny, slightly pinched and nasal, so the sound can get a bit aggressive at higher levels.

It's this tendency towards aggression which proved a rather less happy combination with our 'Budget Best Buy' component system. One disc would sound fine; another, depending on miking and equalisation, could verge on the unpleasant. For the most part, the JPW gets away with it, and still manages to maintain an impressive degree of dynamic tension, while I dare say a little extra experimentation with cabling and so on could tame the sound a trifle.

Conclusion

Possessing fine all-round material value and a beautifully engineered balance, the ML510 is good enough to do justice to a pretty decent hi-fi system. Some will find its openness invigorating and communicative, but the sound might be a little too upfront and in-yer-face for some tastes and with the wrong combination of components. Nonetheless, a clear Best Buy. *PMe*

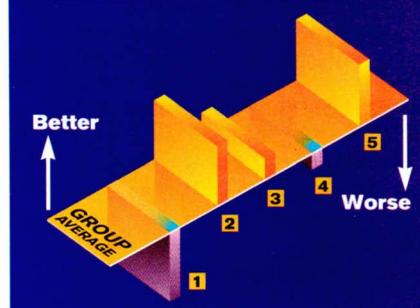
THE LAB REPORT: JPW

Judging by the output of the bass driver which peaks at 190Hz, JPW has chosen a Chebyshev alignment with a -3dB point of 110Hz and what amounts to a 3rd-order roll-off. This ties-up with the port resonance at 58Hz to yield a smoothly extended bass, and an in-room -6dB limit of around 55Hz.

Sadly, my nearfield analysis also revealed evidence of spurious resonances emerging from the port in the 1-3kHz (midband) region, just prior to the 3.5kHz crossover frequency and where phase angles approach a maximum on the impedance plot. Interestingly, this also coincides with a notch amounting to some 5dB in the speaker's axial response which shows up as a broad midband trough on the 3rd-octave trace (on and off-axis).

Otherwise, the upper bass, upper midrange and treble all look remarkably smooth, distortion is generally low and uniform across the band (as low as 0.9 per cent through the bass) and, overall, contributes to a good 88.4dB sensitivity that's only just short of JPW's 89dB/1W/1m specification. The nominal load warrants a 6 Ohm rating with 4.0 minima occurring at 220Hz and, more surprisingly, at 8.95kHz. A good job at a modest price. *PMi*

1	EASE OF DRIVE	-48%
2	RELATIVE LOUDNESS	42%
3	MAXIMUM LOUDNESS	15%
4	AUDIBLE DISTORTION	-10%
5	OFF-AXIS UNIFORMITY	45%



JPW - VERDICT

SOUND ★★★★★☆
VALUE ★★★★★★
PRICE £129.95

📦 Lots of good quality speaker for the price, but not an ideal match for budget components.

✉ Hi-Fi Direct, Richer House, Hankey Place, London SE1 4BB
 ☎ (0171) 940 2240



MISSION 731 PRO

This is the third *Choice* outing for Mission's market-leading 731. Following previous appearances in issues 141 and 156, Mission has introduced more changes which effectively amount to a new speaker, with PRO suffix and £10 on the price. The 731PRO now comes in at £140, replacing both the £130 731 and the £150 731LE.

The 731 didn't repeat the overnight success story of its 760/761 predecessors, but the basic model has undergone progressive refinement, which has been reflected in an increasing market share, and frequent appearances at the top of the sales charts.

It's smaller than the competition, so may look expensive to the untutored eye. In the land of loudspeakers, however, size isn't everything. A small box might sacrifice some bass extension, but it offers at least four advantages. It's visually more compact and discreet (especially as it needs to be placed closer to the wall than larger rivals). The area of the surface radiating unwanted sound is reduced, while the smaller panels are stiffer for the same thickness, and the small internal volume (around 7.5 litres) assists power handling by controlling cone excursion. All of which sounds like a pretty good trade-off, especially as the magnet at the back of the main driver here is the biggest in our group, at a generous 90mm.

The 731 follows the same basic two-way 'upside down' driver configuration that Mission pioneered years ago, although the

enclosure construction and driver mounting arrangements are unusual and ingenious. The main driver is actually mounted onto the back of the enclosure, via four of six hollow struts which are part of the back panel moulding. These struts travel through the innards to behind the front panel onto which just the tweeter is mounted, helping to isolate the tweeter mechanically from the vibrations generated by the main driver. Both the struts and the rear panel shaping should help spread internal standing waves, while it is possible to attach a wall bracket.

Construction feels solid, with a 15mm vinyl woodprint wrap sandwiched between the plastic front and back. Radiused edges combine with subtle shaping of the baffle and grille mouldings to give an attractively 'softened' appearance without exaggeration.

This PRO variation has a new tweeter, with a 25mm silk fabric dome and a smoother balance, albeit alongside an earlier roll-off. The main driver, meanwhile, has a steel frame and 100mm paper cone. Bi-wire terminals are fitted to the rear, and a 32mm anti-turbulence port to the front.

Sound quality

First impressions on the end of our 'reference' system were not too favourable. The 731PRO sounded dull, small, shut-in and boxy — which it is, by absolute standards. There's no deep bass grunt or grip either, even with close-to-wall reinforcement.

However, after adjusting to the rather polite and conservative balance, the subtle voicing and undoubted evenhandedness began to create a more positive impression. From midbass up through the broad midband, an essential smoothness is only marred by reflections from the wall behind.

Connecting up the 'Budget Best Buy' source and amp wrought something of a transformation — the 731PRO did a fine job

of achieving a good balance with our two contrasting classical recordings, retaining enough 'edge' to keep things interesting, yet without getting aggressive at the same time.

This wasn't a total surprise, as its 731 predecessor had performed a similar trick (with different components) the year before. This PRO has a noticeably smoother (if duller) top end, but delivers impressive dynamic analysis and tension through the upper bass and lower midband, and can be driven hard and loud without much distress.

Conclusion

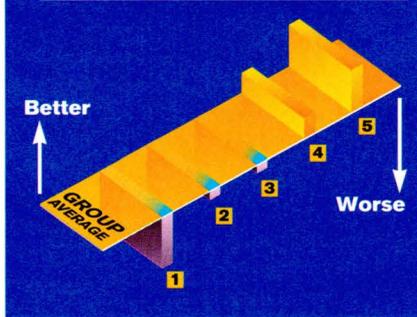
Assessed by absolute standards on a top-quality reference system, the 731PRO might be a bit of an under-achiever, but in the world of budget audio equipment and modest-sized rooms it starts to make a lot of sense. By deliberately opting for a rather dull tonal balance while ensuring it stays smooth across a limited bandwidth, the 731PRO does a fine job of communicating the essentials of the music without emphasising the limitations of the equipment. Clever stuff! *PMc*

THE LAB REPORT: MISSION

Although Mission's port-tuning is very similar to that adopted by Wharfedale, with maximum bass reinforcement occurring at 55Hz and a projected -6dB extension of some 52Hz in-room (assuming near-wall mounting), the bass alignment is fundamentally different. Specifically, while the maximally-flat bass output of the Wharfedale suggests a Butterworth alignment, a nearfield analysis of the 731 PRO shows a bass peak that's reminiscent of a Chebyshev (or C6) alignment. So, while on paper some of the specs look very similar, in practice the 'character' of their bass will sound very different.

But what of the 731 PRO's otherwise very conservative sound? This is probably due to the speaker's depressed presence band which is uniformly -3dB down between 2-6kHz. This inevitably affects its broad spectrum sensitivity, dragging Mission's 89dB/1kHz specification down to 86.4dB between 500Hz-8kHz and diminishing the speaker's subjective impact. It does, however, also serve to suppress its peakiness around the 3kHz crossover region if not the obvious cone misterrmination that occurs at 1.5kHz. Off-axis, this selective depression is traded for a generally downtilted response that drops away some -7dB from 200Hz to 20kHz (re. 30degrees horizontal). Nominal loading is closer to 6 Ohms than 8 Ohms with a mild minima of 4.4 Ohms at 250Hz. *PMc*

1	EASE OF DRIVE	-35%
2	RELATIVE LOUDNESS	-5%
3	MAXIMUM LOUDNESS	-5%
4	AUDIBLE DISTORTION	15%
5	OFF-AXIS UNIFORMITY	30%



MISSION - VERDICT

SOUND ★★★★★☆
VALUE ★★★★★★
PRICE £139.90

⊠ Cautious balance makes a fine match with budget equipment. A classy baby for smaller rooms.
 ✉ Mission Electronics, Stonehill, Huntingdon, Cambs PE18 6ED.
 ☎ (01480) 451777



TANGENT MONITOR 5

Tangent is a new name on the British loud-speaker scene — or, to be more precise, it's the revival of a name that first appeared back in the '70s but has been inactive for many years. Its revival is the brainchild of Peter Schmitz, who also runs the Hyper-Fi chain of hi-fi stores, and the motives behind the initiative aren't hard to figure out.

For many years, the sub-£100 speaker sector has been dominated by JPW, but its UK distribution is handled by the Richer Sounds group, and no independent dealer wants to purchase products from its most powerful rival. So Peter decided to source and launch his own Tangent range of speakers. I'm sure it's no coincidence that they just happen to hit very similar price/size points to the JPW and Gale speakers which Richer Sounds sells.

At first glance the £80 Monitor 5 looks very like the £60 and £80 JPW models reviewed last summer, though that's hardly surprising given the severe constraints imposed by such a tight budget. In fact the box dimensions are identical, even though the manufacturing source is quite different, and close inspection shows considerable detailed differences among the ingredients.

Most significant of these is perhaps Tangent's use of a 102mm plastic-cone diaphragm, with (unusually) a foam surround, for the Monitor 5's main driver. An

all-up weight of less than three kilos might not be very promising, but closer scrutiny shows some worthwhile details. It's good to see flush-mounted drivers at this price level, making for a much neater presentation if the grille isn't used. The main driver magnet is a decent enough 80mm diameter (like two of the £140 models), and the internal wiring is classy thick cabling, while the crossover uses well-rated components too. The small dome/annulus tweeter is certainly an economy measure, though it's of a type often found in budget speakers, and often performs as well as more pretentious devices.

The in-room measurements rang a few alarm bells. The small (around 5.5 litre) enclosure and port diameter (30mm) are bound to restrict bass output, but even with full wall reinforcement the Monitor 5 starts to struggle below 150Hz. The balance elsewhere is pretty wayward too, with a noticeable peak centred on 1.3kHz, followed by a broad presence suckout, 1.5-4kHz.

Sound quality

When played on the end of a high-class system, colorations were all too obvious and were related specifically to the balance anomalies. My first impression was that this Tangent was a hopeless case. Voices certainly suffered from a nasal, pinched and shut-in character, and although the bass seemed to have some weight, it lacked richness, dynamics and grip, and seemed to burble along rather halfheartedly. Driving dance music is simply not on the agenda since it does lack drive.

On the plus side, the presence dip encourages turning up the volume, yet it still manages to avoid sounding aggressive or loud. The treble is actually quite good, and at least there's no danger of suffering from boomy bass.

Changing over to our 'Budget Best Buy' source, amp and stands, however, did show the Tangent in a much more favourable light. The lack of aggressive tendencies became more of an advantage. So much so that I found it possible to drive the Monitor 5 harder and to marginally higher levels than the competition before my ears cried, a rather unexpected discovery which seems to defy logic, but was true nonetheless. It's partly down to the presence dip, and partly because the modest bass output and small box help keep the driver under control. It's also helped by the good crossover and internal wiring. That said, the bass still seemed a rather weak and indiscriminating affair.

Conclusion

A rather uneven performer, the Monitor 5 is best suited to the smaller room where its bass limitations will be less obvious. Sensitivity is low but the load is easy and power handling is quite good in practice, while the balance encourages generous use of the volume control — maybe this is just the thing for the teenage bedroom.

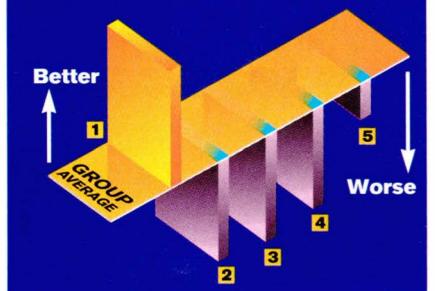
THE LAB REPORT: TANGENT

At this budget price it would be unrealistic to expect a superlative performance, and in this respect the Monitor 5 offers no surprises. A narrowband analysis, for example, shows a fairly uneven response with a distinct lump at 800-1.4kHz and ragged-looking peaks through what I presume is the crossover region at 4kHz and, latterly at 15kHz thanks to the treble dome's phase plate. Sandwiched between the first pair of 'bumps', the 1.5-4kHz presence band may, indeed, seem a trifle reticent, as suggested by Paul's subjective analysis.

A 3rd-octave trace confirms this trend with a clear -3dB to -4dB loss in the presence band, which worsens off-axis and contributes to a very low 83.1dB overall sensitivity at a nominal impedance of 8 Ohms. Maximum in-room SPLs of 97dBA may be possible, though the 2.2 per cent THD recorded through the midband at 96dBA reflects a degree of compression (remember, the midband is uniformly lower in output than bass and treble). At 90dBA, a figure of 0.7 per cent was recorded.

Bass tuning is unusual, combining an under-damped (C6) alignment for the bass driver with a very broad, low-Q port resonance that extends from 45-120Hz (+/-2dB) either side of the 55Hz system resonance.

1	EASE OF DRIVE	85%
2	RELATIVE LOUDNESS	-70%
3	MAXIMUM LOUDNESS	-75%
4	AUDIBLE DISTORTION	-70%
5	OFF-AXIS UNIFORMITY	-25%



TANGENT - VERDICT

SOUND ★★☆☆☆
VALUE ★★☆☆☆
PRICE £79.95

📁 An uneven performer best suited to small rooms and generous volume levels.
 📧 Tangent Acoustics UK, 115 New London Road, Chelmsford, Essex CM2 0QT.
 ☎ (0500) 828620



TANNOY MERCURY M2

This new entry-level model from Tannoy came as a real surprise when it was launched a few months ago. The £140 Mercury M2 may have come in as the least expensive model in the Tannoy portfolio, but it's by no means the smallest. Indeed, the internal volume of around 15 litres is probably three times that of Tannoy's 631 miniature, even though the price is slightly lower.

In fact the M2 is considerably larger and heavier than any of the other models assembled here — or, for that matter, any of the other obvious competitors in the market-place. Watch out for other surprises too: a £230 M3 floorstander is following hard on the M2's heels, and more are expected.

The revival of the Mercury name is particularly appropriate, as this new M2 version certainly brings that '80s success story to mind, as well as emphasising the degree to which speakers have shrunk over the past 15 years or so. The original Mercury looked perfectly normal in its day, while today's M2 positively dwarfs its rivals.

The larger box (and for that matter main driver diaphragm) makes it quite obvious that Tannoy is offering rather more for your money. How's it done? By carrying out much of the manufacturing in Hungary, at the factory which also makes the Videotone brand (whose MiniMax enjoyed considerable UK success back in the '70s).

On perceived value grounds, the Mercury M2 looks the business, but speakers are complex things. Extra size and weight confer some benefits, but pose difficulties too: larger box panels are harder to control, and larger internal volumes can make it harder to control small drive-unit cones.

The plastic-cone main-driver diaphragm is roughly 120mm in diameter, which represents about 40 per cent more driver area than the other models in this group. The 46mm port is larger than most, and tuned to a lower frequency (40Hz), so it's not surprising the M2 goes deeper into the bass, delivering decent in-room output down to 30Hz. The most even bass was obtained with the speaker a foot or two out from a wall.

The main driver has a moulded plastic frame, which helps open up the pathways for the rearward radiation, while the magnet is a modest 80mm affair. The tweeter has a 25mm plastic dome, and both are fed via cheap cabling from a pair of rear terminals.

Cosmetics are sober and restrained, though leaving the grille off reveals a quite attractive 'bird's-eye' decorative laminate over the front panel and edging. Construction feels solid enough, using 16mm panels.

Sound quality

The extra bass extension of the M2 compared to the others was immediately obvious on audition. This speaker simply generates a greater sense of scale and weight than anything known to the author at this sort of price, and that fact alone is its own reward. Given a hard time with some dance cuts, some of the limitations will become apparent. Qualitatively it's not the fastest or best controlled bass, and doesn't overload too gracefully, but it's still a fine all-round compromise provided you don't try too hard to kick the neighbourhood's collective butt.

The character of the sound is a bit dark and laid-back — not in any way shut-in, just a little cautious and restrained; and probably wisely so considering the low cost equipment it's likely to partner. Some might find it a little short of punch and drama, but the overall perspectives are beautifully even and naturally balanced, and seemed equally well suited to both our reference and budget systems. It also handled two classical recordings with strongly contrasting balances very well, and without unduly favouring either.

The midband isn't without some coloration: there's a measure of boxiness, and voices sound a little pinched. The top-end could be sweeter and is just a touch obvious, becoming rather more so when played loud.

Conclusion

The M2 is a beautifully balanced all-rounder which is bigger and offers deeper bass than you're entitled to expect for £140. It also provides a rather different compromise set from most rivals at the price, and as such represents a very worthwhile newcomer to the budget speaker scene. *PM*

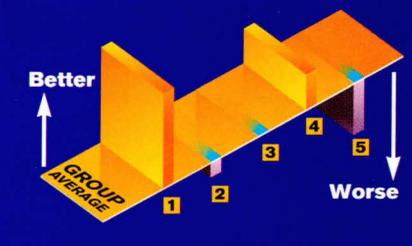
THE LAB REPORT: TANNOY

This speaker's 3rd-octave response looks very smooth through the midrange and treble though its bass is a little lumpy by comparison, betraying a slight 'honk' around the 200Hz band that becomes more prominent off-axis. The impedance trend betrays a slight cone misterrmination at 230Hz and while the M2 enjoys a very low 1 per cent THD through much of the bass region, this does momentarily increase to 3-4 per cent around 200Hz. Distortion at high treble frequencies is very low at 0.25 per cent, I might add.

A narrowband analysis reveals a mild 'ripple' in the response, peaking at 800Hz and 1.8kHz either side of a mild -3dB suckout at 1.2kHz, though this has been ironed out in the wideband 86.2dB/1m sensitivity measurement. The remainder of the response continues within +/-2.5dB limits right up to 16kHz, beyond which the soft-dome tweeter begins rolling-off. Yielding a nominal 8 Ohm load, the M2 will be easy enough to drive, though it does drop below 8 Ohms at HF, so expect some sensitivity to different speaker cables.

Maximum bass reinforcement occurs at a low 40Hz via a very well-engineered port that rolls-off at 12dB/octave (2nd-order) and is entirely free of spurious tube harmonics and/or cabinet reflections. On the whole, a fine job. *PM*

1	EASE OF DRIVE	68%
2	RELATIVE LOUDNESS	-10%
3	MAXIMUM LOUDNESS	0%
4	AUDIBLE DISTORTION	25%
5	OFF-AXIS UNIFORMITY	-35%



TANNOY - VERDICT

SOUND ★★★★★

VALUE ★★★★★

PRICE £139.90

☑ A fine all-rounder with big box and deep bass for the price; could be sweeter and tighter.

✉ Tannoy Ltd, Rosehall Ind Est, Coatbridge, Strathclyde ML5 4TF.

☎ (01236) 420199



WHARFEDALE DIAMOND 7.2

Wharfedale's original Diamond was one of the first to ram home the message that tiny speakers were practical and fun, as well as cheap; it was a monster commercial success back in the early '80s. Since that time a number of new Diamonds have appeared — a MkIV in late 1990 and MkV two years after, both of which came under the *Choice* reviewing microscope. Presumably there must have been a MkVI some time around '94/'95, which sneaked past the *Choice* listening rooms without venturing in, since now we're up to lucky-for-some 7, with nary a V nor I in sight.

In fact, the Diamond concept has now expanded from a singleton to a three-strong range. The £140 model under test is dubbed the 7.2 and has two siblings: a same-size cheaper 7.1, and a 7.3 floor-standing variation on the theme. AudioStealth is the Wharfedale marketing department's term for the mineral-loaded plastic mouldings used for the front and back panels. Besides the self-damping properties of the material, the panels are bolted to each other and deliberately slightly decoupled from the quite substantial (16mm) vinyl-finished box wrap.

In size it's close to the mean of our group of five, but feels quite a bit larger than the original Diamond, and is certainly at least one size up from the IV and V (for which data is readily available). The aesthetics are very

well handled, convex curvature providing the currently fashionable 'soft-contoured' look, giving the speaker a chunky and very purposeful appearance. It feels pretty hunky too; the 4.5kg weight is comfortably on par with the cost and size. The grille treatment is very neat: the minimalist frame offers little sonic impediment, though the asymmetry (without mirror imaging) does look a little strange. The 40mm diameter rear port is well executed too, with flared ends inside and out to minimise turbulence.

The basic ingredients here are typical enough for the class, the main driver using a 95mm mineral-loaded plastic cone driven from an 80mm magnet. A single pair of terminals takes the amp's drive, and the internal wiring is very basic stuff, but decent quality capacitors are used in the network.

Sound quality

On the end of our 'reference' system the Diamond 7.2 made a strong initial impression for its fine portrayal of detail, nice up-front coherence and a lively, open balance, only marred by some nasal and cuppy voice colouration.

However, it's not the smoothest sound around, and while the detail projection can be quite welcome with the typical multi-channel pop mixdown, adding a little extra bite to vocal lines, it's apt to become a trifle obvious and mildly irritating with more naturally recorded classical music, inhibiting transparency and sacrificing some delicacy. The top end is a little brighter than average, relatively speaking, which makes some lack of smoothness all the more obvious. It's quite directional here too, giving some phasiness in the far field.

There's the inevitable lack of weight and bottom-end drive that goes with this class of speaker, but the 7.2 still manages to deliver a pretty good in-room bass align-

ment and weight when mounted a foot or two out from a wall. Timing is also pretty good, but bottom-end poise and analysis are both a little weak.

On the end of our 'Budget Best Buy' system the mid-forwardness was that much more obvious, and while it served to keep the detail going well, it became all the harder to follow what was going on elsewhere across the spectrum. Although the bass seemed well enough timed, definition was decidedly disappointing, with a loss of texture and tactility.

Conclusion

General all round competence and a good looking box with curves in all the right places are good points in the Diamond 7.2's favour, but the sonic performance is nonetheless a bit uneven. Its up-front detail projection is initially impressive, giving a good-hearted, lively sound, but one that's ultimately a little short on smoothness and subtlety. *PMc*

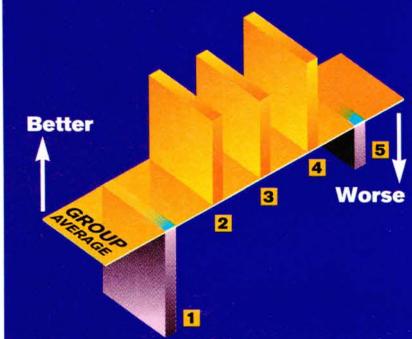
THE LAB REPORT: WHARFEDALE

Although rated at a nominal 87dB/1W/1m, this diminutive Diamond is actually capable of 89.3dB, even taking into account the very prominent +4/+5dB hump at 700Hz-1kHz (naughty, naughty). With this higher sensitivity, it should be possible to achieve SPLs up to 104dBA in the average living room! However, the response does show a clear mid-band peak at 1.8kHz before levelling out from 2-6kHz, after which the treble dome takes over, rising to a +5dB peak at 12kHz (ouch!).

Moreover, the Diamond is also the toughest load in the test with an *average* impedance of just 6.2 Ohms which drops to 3.5 Ohms at 270Hz and never rises above 10 Ohms up to 20kHz.

Bass is accurately aligned with the 54Hz port resonance coinciding with another impedance minima of 4.3 Ohms, rolling-off at 12dB/octave to yield a best-case bass extension of 52Hz (re. -6dB). The port output is free of spurious resonances, unlike the Diamond's plastic fascia moulding, which quite clearly 'buzzed' throughout the dynamic low frequency distortion tests, evidently colouring its bass output. A great pity, because THD through the mid and treble is just about the lowest in this group at 0.7 and 0.2 per cent respectively. *PMj*

1	EASE OF DRIVE	-75%
2	RELATIVE LOUDNESS	60%
3	MAXIMUM LOUDNESS	55%
4	AUDIBLE DISTORTION	65%
5	OFF-AXIS UNIFORMITY	-30%



WHARFEDALE - VERDICT

SOUND ★★☆☆☆
VALUE ★★☆☆☆
PRICE £139.95

☐ A good-hearted, lively and up-front performer that's a little lacking in subtlety and smoothness.

✉ Wharfedale Loudspeakers Ltd, 30 St Peters Road, Huntingdon, Cambs, PE18 7DG
 ☎ (01480) 431737

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BEST BUY

Malcolm Steward, Hi-Fi Choice February 1996

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Rob Doorack, Listener Summer 1996



Verdict Mana Acoustics Reference

- ▲ **PROS:** Superb performance; great effects for a mere table
- ▼ **CONS:** A right royal pain to clean and dust

SOUND QUALITY
■■■■■
VALUE FOR MONEY
■■■■■

The Mana Reference Table

★★★★1/2

Listener Magazine (USA)

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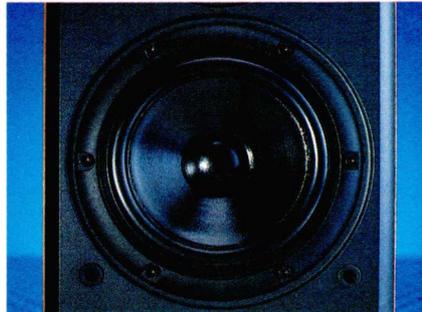
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Conclusion

Covering a smaller and more tightly focused group than our normal loud-speaker reviews, this particular bunch of five budget boxes achieves the twin objectives of getting to grips with several key new £140 contenders from the established top brands, while also checking out what newcomer Tangent can come up with for only £80.

Tangent's Monitor 5 turned out to be a quirky little number. Objectively speaking, its performance lags the group, and it doesn't really match up to the JPW cheapies (Mini Monitor and Gold Monitor) we tested a year ago. But the Tangent is balanced so differently from the two JPWs, it will have a different appeal, primarily to those who like to play their music loud in smaller rooms.

The five models covered in this test do show plenty of similarity in their basic ingredients, but the subtle variations, and the way they've been put together, all conspire to produce contrasting end results.



Such is the nature of comparative reviewing, I feel a certain pressure to come up with just one Best Buy 'winner' from a group of five. Being stubborn I can then take some pleasure in refusing to kowtow to such over-simplification, by tripling out three to receive the accolade on this occasion. Too high a hit rate? Perhaps, but each is a fine example of the budget speaker breed in its own right, while showing up the limitations of the other two.

One of the endemic problems of speaker reviewing is that they only work on the end of a system of other components in a specific listening environment. Change the conditions and you're liable to change the results — as our test programme showed.

The speakers that delivered the most impressive results when used with top quality ancillaries could sound uncomfortably forward and aggressive when used with budget equipment. Similarly, the best subjective match for our budget components sound small and lacking in ambition on the end of our top quality system.

Such findings place the reviewer in a quandary. It would be churlish not to give due praise to the speaker which performs best on the best equipment, but the real-world practicality of the less ambitious design also deserves recognition. Because the speaker is the final component in the chain, 'absolute' standards of goodness aren't necessarily the most useful. *PMc*

BEST BUYS



At a smidgeon cheaper than its immediate Best Buy rivals, the **£130 JPW ML510's** most obviously distinguishing feature is its super-thick'n'tuff front panel, and it's tempting to assume this is responsible for the fine coherence of this compact package. It certainly maintains JPW's fine reputation for offering good material value for money, but while the open and forward balance will



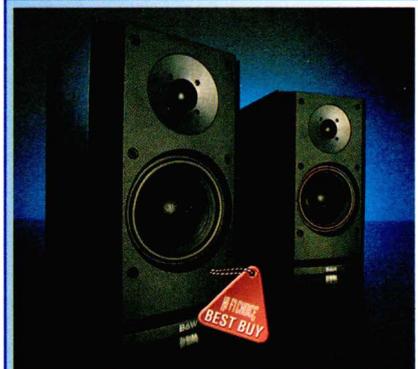
suit some tastes and systems, others might find it a bit too aggressive in the wrong combination.

A process of progressive refinement has brought a steady improvement in the **Mission 731**, now in **£140 Pro** guise, with a new silk tweeter, bi-wire terminals and the biggest main driver magnet in our group. Tiny dimensions and clever cabinet work give a smooth balance, well-suited to budget sources and amps, and enthusiastic listening levels.



The new **£140 Tannoy Mercury M2** is a lot larger than similar price rivals, and size has been used intelligently to deliver significantly deeper bass extension. The neutral, slightly laid-back balance represents a fine all round compromise for a broad variety of system characteristics, and this is clearly a logical choice for the larger room, if not the heaviest sounds.

BEST OF THE REST



BEST BUYS

- B&W DM302 (above) (£150)
- JPW Mini Monitor (£60)
- JPW Gold Monitor (£80)
- Mordaunt-Short MS10i (£140)
- Revolver Beretta (£100)
- Tangent Monitor 9 (£150)
- Tannoy Profile 631 (£150)

RECOMMENDED

- KEF Coda 7 (below) (£130)
- Revolver Colt (£140)
- Rogers LS1 (£150)



Dynamic range

Alvin Gold (listening tests) and **Paul Miller** (lab tests) take 14 CD players priced between £500-£1,400 through their digital and analogue paces.

This month's CD player test looks at models from the top of the one-box CD player market, and includes some of the finest disc spinners outside the real elite, which consists almost entirely of two-box combos. The list is interestingly varied, including technology-laden models from industry majors such as Sony; designer-guru reworkings of popular products from Trichord and Marantz, to name but two; models from well-known high-end specialists like Heybrook and AVI; even one name that will be as new to most readers, as it was to us: Meracus. Highlights include the latest Q version of the well-known Cyrus DAD3, and a player to match the Musical Fidelity A2 amplifier, inexplicably called the A2 — and more, plenty more.

Prices start at £500, and extend to £1,400, and if you're wondering whether they can possibly be justified, the answer is given by the fact that even the best of the players tested is still some way short of the ideal established by some more costly machinery still. Non-hi-fi aware buyers may still cling to the notion that CD players are all much of a muchness, but this is only true when they're played through the kind of equipment that those with even half-critical listening facilities wouldn't give house room to. The real tragedy for the gentle art of music appreciation in the home is that this kind of hi-fi is not only the stock in trade of the major high-street electrical multiples, for the most part it is the only kind of equipment they recognise as hi-fi at all.

If this test has a larger purpose, it is to promulgate the idea that CD players, like other components, really do come in different quality levels, and it is this, rather than their feature count or the type of digital con-

verter employed, that distinguishes one from the next. The context for judgement should be high-quality amplification and speakers, preferably using music that is not altogether familiar to you. Pick out recordings that usually cause you difficulty, or that are unfamiliar. In many ways that is what good hi-fi is about: it should act as an advocate for the difficult and unfamiliar. Any fool system can play the other stuff. Of course this means using the services of a legitimate specialist hi-fi dealer, and if you don't know where to go, check out the ads at the back of this magazine (p.123), or ring the BADA information line, on 0171 226 4044.

THE CAST LIST

MODEL.....	PRICE	PAGE
Alchemist Nexus APD32A.....	£579.90	p61
AVI S2000MC	£1,399.00	p77
Cyrus DAD3Q.....	£898.00	p71
Heybrook Signature	£989.00	p79
Marantz CD-63MkII		
KI Signature	£499.90	p63
Meracus Tanto.....	£1,395.00	p80
Micromega Stage 6	£949.99	p81
Musical Fidelity A2 CD.....	£499.99	p65
Roksan Caspian	£895.00	p73
Sony CDP-X3000ES.....	£499.99	p67
Teac VRDS-10SE	£849.95	p75
Trichord Genesis	£549.00	p69

HOW THE TESTS WERE DONE

The test programme included sighted hands-on listening, physical examination and functional testing, which involved a wide variety of programme material and partnering equipment.

There were two days of blind panel testing in which each player was presented unsighted to an experienced listening panel, and a standard programme was played, levels having been equalised first using appropriate test signals and measuring equipment. The equipment was chosen to be at a level that would not limit any of the players, but which was not out of touch with the general group standard of attainment. All equipment was run-in thoroughly before the tests began, and players remained switched on until all tests had been completed. The system included a Copland CSA-14 amplifier, Sonus Faber Concerto floorstanding loudspeakers (on spikes and Sonus Faber platforms), and Nordost Silver biwire speaker cables and interconnects.

Each CD player was also subjected to a computerised test in Paul Miller's laboratory, using sophisticated instruments of Paul's own design.

As has been pointed out before, this is by far the most searching series of tests used by any magazine. The measurement and listening tests are conducted independently, and are not cross referenced before the reports are written.

WHAT MUSIC DID WE USE?

Alison Krauss: *Baby, Now That I've Found You* from *Now That I've Found You* on Rounder CD0325

Ry Cooder: *Face To Face That I Shall Meet Him* from *Jazz* on Warner Bros 7599-27355-2

Beethoven: *Diabelli Variations Op.120: Theme and Variation 1*/Daniel Barenboim on Erato 4509-94810-2

Ravel: *String Quartet in F major/second movement (intro)*/Julliard String Quartet on Sony SK52554

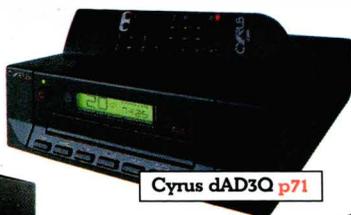
And others too numerous to mention for the hands-on testing.

THE LISTENING PANEL

Special thanks as always for the expert listening services of our panel. They were: Alan O'Rourke (Ruark Loudspeakers), Jonathon Jordan (The Audio Partnership), David Inman (The Audio Marketing Department), Keith Haddock (Gamepath), Robin Marshall (Mission), Russel Kaufmann (More!), Jason Kennedy (*Hi-fi Choice*) and Alan Sircom (*Hi-fi Choice*). Oh yes, and last but not least, that nice Mr (or Mrs?) Pizza Pizza



Heybrook Signature p79



Cyrus dAD3Q p71



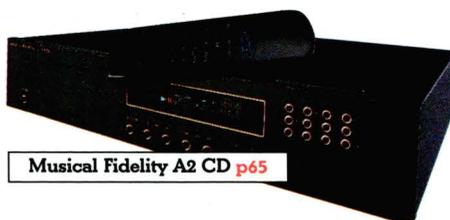
Sony CDP-X3000ES p67



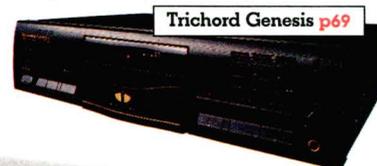
Marantz CD-63 MkII KI Sig p63



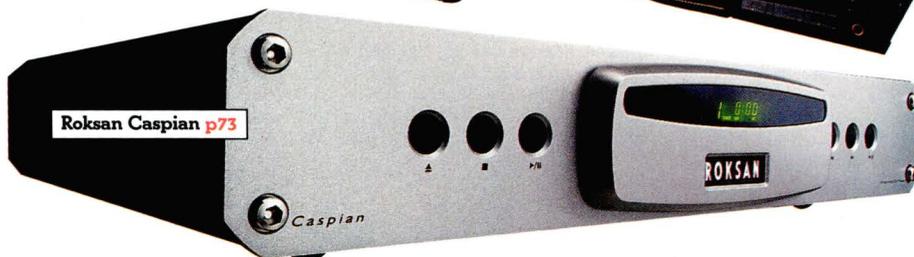
Alchemist Nexus p61



Musical Fidelity A2 CD p65



Trichord Genesis p69



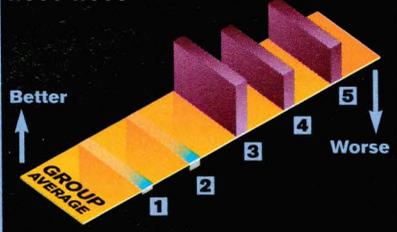
Roksan Caspian p73

UNDERSTANDING OUR BAR-GRAPHS AND GROUP AVERAGES

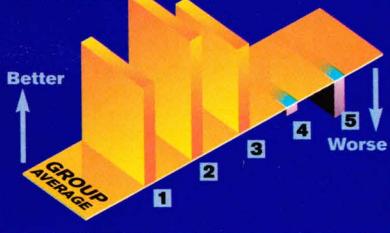
There will be significant differences between the cheapest product in our test and the most expensive. For this reason we always segregate our test candidates into two or more categories based on price. Our aim is to assess every product's performance in the context of its closest rivals.

Each lab-report panel is colour-coded according to the key given below:

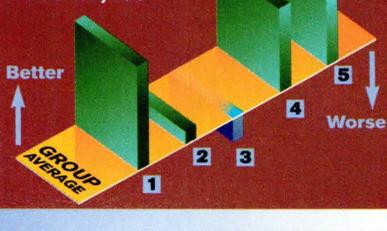
**GROUP A EXAMPLE
£500-£600**



**GROUP B EXAMPLE
£800-£900**



**GROUP C EXAMPLE
£900-£1,400**



UNDERSTANDING OUR BAR-GRAPH MEASUREMENTS

The measurements behind *Hi-Fi Choice's* unique bar-graphs 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.

- 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 barchart 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. For example, if a signal coded at -80dB emerges from the player at -80.5dB then this represents a deviation in its linearity of 0.5dB.



Meracus Tanto p80



AVI S2000MC p77



Teac VRDS-10SE p75



Micromega Stage 6 p81



The Beauty & THE BEAST

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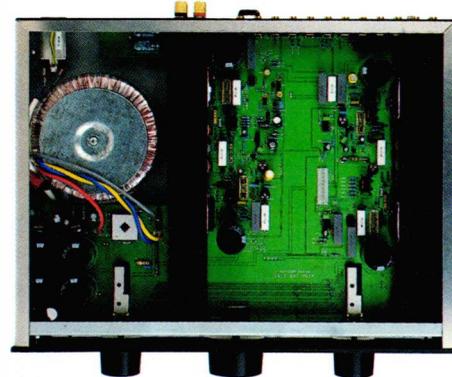
Prime Design brings you the most seductively powerful sound. Hi-Fi, as you knew it will never be the same.

A-100 Integrated Amplifier

The A-100 can be Configured for Pre-Amp, Power Amp, A/V & 2 Line Outputs.



100 WPC
into 8 ohms



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- 200 WPC into 4 Ohms from 20-20,000 Hz *
- 0.005 % Distortion at 1Khz
- 500W High Current Power Supply
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- Configurations for Pre-Amp, Power Amp, A/V, 2 Line Outputs
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- Fully Symmetrical Design
- Optional Very High Quality Phono Stage Available £70

200 WPC
into 4 ohms

* integrated programme material

R.R.P. £650

A-100 Internal View From Above - Designed for Overkill
Absolutely no expense spared, see what we mean !

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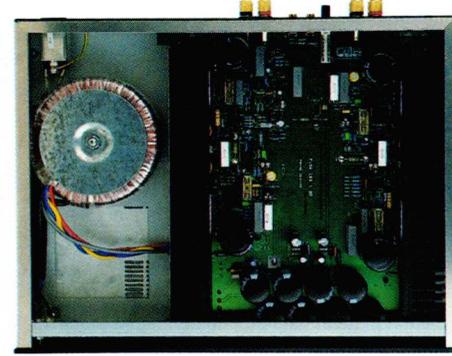
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Warning - When using two P-150's in bridged mode please ensure that your speakers can handle upto 450W.



150 WPC
into 8 ohms



Features

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- Bridging Produces 450 WPC into 8 Ohms
- 625W High Current Power Supply
- Truly Expandable Stages - Modular Approach
- Full Electrical & Electronic Protection
- Fully Symmetrical Design
- Audiophile Grade Components, Gold Plated Isolation Feet

300 WPC
into 4 ohms

R.R.P. £650

P-150 Internal View From Above - Designed for Overkill
Absolutely no expense spared - see what we mean !

The P-150 has been designed for the truly discerning audiophile. It has a 625 watt power supply (with even greater reserves than the A-100). Double the output devices, and a suitable heat sinking arrangement, allows a delivery of instantaneous power that will convince you forever. This gives rise to the next level of sonic improvement, which can be achieved by using the A-100 as a pre-amplifier (or any other very high quality pre-amp), and connecting the P-150 Stereo power amplifier. Your system will just sound better and better, as the equipment becomes transparent. Adding a second P-150 will allow Bi-amping your speakers, which will bring about a sonic presentation to be believed. Questions about control, accuracy and impact seem to vanish, as you are totally absorbed in a new found level of musical reality. For the ultimate audio experience on more elaborate systems, you can use the P-150 as a monoblock, and connect four/ six of them onto your speakers. There is simply no substitute for raw power, which when utilised correctly, will produce a sonic presentation distinguished by exceptional transparency and grace, along with extraordinary powerful deep bass and sparkling highs. Audition the P-150 today to change your views forever

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Practical Hi-Fi Blackpool Tel 01253 300 599	Practical Hi-Fi Lancaster Tel 01524 39657	Practical Hi-Fi Bolton Tel 01204 395 789	Practical Hi-Fi Carlisle Tel 01228 44792	Richards Audio Bedford Tel 01234 365 165	Rogers Hi-Fi Guildford, Surrey Tel 01483 561 049	Souage Academy Blackwich, W/Mids Tel 01922 493 499	The Sound Gallery High Wycombe Tel 01494 531 682	VAudio Bristol Tel 0117 968 6005	Worthing Audio Worthing Tel 01903 212 133

Alchemist Nexus APD32A

A chip off the old Nemesis amplifier, this is the first digital product from the Alchemist stable, and its highly individual styling makes it a natural partner for existing Alchemist owners. It is a fairly heavy player, reflecting the internal build, with a fascia featuring black, brushed aluminium and brass elements. It may or may not be in perfect taste, but it won't be confused with the next player on the dealer's shelf. In common with the Nemesis, however, some of the detailing is open to criticism, in particular the use of a number of contrasting fixing screws in visible locations, and a drawer cover which doesn't line up correctly with the other horizontal lines that dominate the fascia.

The Nexus (no relation to the classical CD label) features a Philips CDM12 mechanism and twin DACs with 92x oversampling, in what Alchemist somewhat misleadingly describes as a 19-bit configuration. Other highlights include the use of independent transformers for the digital and analogue sections feeding nine separate regulated power supplies, and a MOSFET filter section. Whatever else the Nexus may be, it is not a standard textbook implementation.

Access to most of the user features is through a remote-control handset which is



laid-out with more care than usual, and covers random track access, programming, repeat play, and, surprisingly, a digital domain output volume control, which means that at a pinch the Nexus could be used with a pair of speakers and a power amplifier. However, volume always defaults to maximum, and there is no headphone socket to take advantage of the volume facility. A digital electrical output is fitted.

Sound quality

The Nexus earned itself a solid score in the panel tests, with a powerful measure of consistency between listeners. "A strong sense of dimensionality", said one following the Ravel, "Pizzicato is on the soft side, but timing is good." "It could do with a touch more snap, but otherwise it's very good" said another. The Beethoven was described as "the most lifelike piano heard so far", though several pointed to a slight bass shyness. The Allison Krauss recording was given a "delicious texture" billing, and the Ry Cooder recording was also well-liked: "the bass drum goes deep and full, the snare is lifelike and the cymbals properly fizzy — great stuff!" Another wrote that it offered "soundstaging and imaging standard that is the best encountered yet".

I find myself most in sympathy with the listener who described the Nexus as "smooth and slightly muted" (Allison Krauss). This is, as he pointed out, a nice player to listen to, but it is no ace dynamically, and can sound rather too smooth at times. Nevertheless, its sheer exuberance and polish will find it many friends, and if it didn't produce the most sparkling rendition of the Ravel pizzicato movement in my view, there was no trace of the raw, rather screechy quality apparent with a number of the others. The Nexus is a real sweetie.

Conclusion

A thoroughly civilised player, the Nexus fails to explore the edge of the envelope of musical expression and dynamics, but has a surprisingly self-effacing and comfortable way of producing music from a wide range of discs, including some that are less than perfectly recorded. Tonality is polished and realistic, and the panel scoring was sufficient to enable me to bestow the coveted *Hi-Fi Choice Recommended* flag. **AG**

VERDICT

SOUND ★★★★★☆
VALUE ★★★★★☆
PRICE £579.90

More than a routinely capable player, with an attractive and civilised character. Exterior build a little amateurish, some loss of dynamic range.

Alchemist Products, Unit 1, Furzewood House, Cranbourne Industrial Estate, Cranbourne Road, Potters Bar, Herts EN6 3JN
 (01707) 664607

THE LAB REPORT

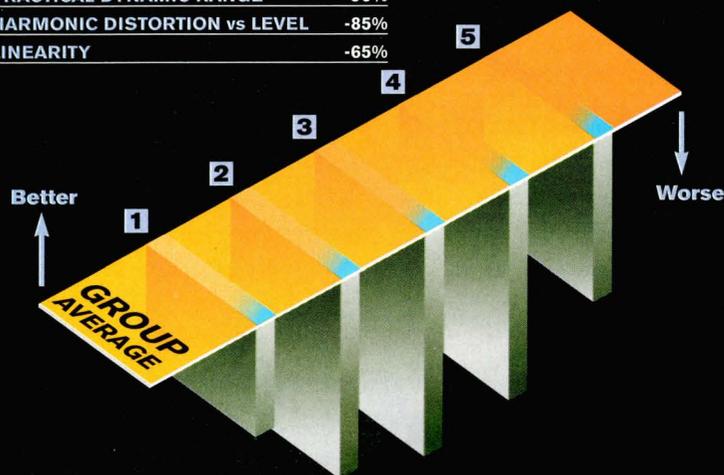
According to its literature, Alchemist's development policy is based upon "the unlikely event that we should discover something that will improve one of our products". In which case, I have a few suggestions. The player is based upon a pre-built Philips CDM12.1 transport and servo board with an in-house 'analogue' PCB that includes a pair of TDA1549 DACs. These are Philips' low-cost bitstream/continuous-calibration ICs with inferior digital filtering (just 29dB stopband rejection) to the popular TDA1305s.

Alchemist uses muting to achieve a 'false' 122.5dB S/N whereas the underlying figure is a poor 82.5dB — 14-bit performance that's way, way short of Philips' specification. Alchemist claims 100dB and also quotes THD at 0.01 per cent, whereas a very poor 0.1-0.56 per cent seems nearer the mark under optimal, peak level conditions.

This inherently high level of analogue noise is also very clear from the jitter spectrum (whose baseline is 10-15dB higher than typical), though it's not sufficiently high to smother what amounts to 1243psec of high-rate and data-induced jitter. Nevertheless, the 'dithering' effect of such noise is well documented, ensuring the APD32A could sound far smoother to some ears than might otherwise be expected. *PM*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	-44%
2	JITTER	-80%
3	PRACTICAL DYNAMIC RANGE	-90%
4	HARMONIC DISTORTION vs LEVEL	-85%
5	LINEARITY	-65%





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Not all products are available at every branch - please check before travelling.

Marantz CD-63mkII KI Sig

Marantz's CD-63mkII KI Signature — voted European CD Player of the Year '96-'97 in last year's EISA Awards — is the highest spec version of the CD63mkII, the KI Signature indicating that it is personally endorsed by Ken Ishiwata, Marantz's chief design-guru-cum-audiophile in residence.

The basic player is physically all but identical to the CD-67SE (which is the generic model) but it is fitted in a slightly narrower 420mm case. The specification includes a full set of track search, play and programming features, plus three-stage display dimming and a headphone socket. Rear panel fittings include electrical and optical digital outputs, remote control sockets for other Marantz components, plus an internal/external switch to set the operating mode for the remote control according to system configuration. The mechanism is the Philips CDM12.3, predecessor of the CDM12.4, early samples of which were known to have had problems. The player also features an improved version of the proprietary discrete HDAM (Hyper Dynamic Amplifier Module) which claims a low output impedance, a fast rise time, and an enhanced power supply.

KI Signature-specific modifications include extensive use of copper plating for



improved shielding and grounding, an improved custom-designed toroidal transformer made with higher than usual grade windings and laminations, and a transplant of improved-quality components. These changes are standard, though in combination the package is somewhat further reaching than the usual bolt-on pack applied to lesser SE-spec players. Additionally, each KI Signature undergoes a 48-hour soak test, is appropriately badged and supplied with an authentication certificate.

Sound quality

The KI Signature is imbued with the sound of Marantz, which means it is smooth, rather elegant, with a contained, even homogenised treble, a warm, lucid bass and a lively, explicit midband. Like other midrange Marantz players, dynamics and authority are sacrificed on the altar of transparency and euphony, which means the player tends to work well with compatibly-priced systems of good quality. Despite a slightly overblown bass and a treble that has plenty of presence but which sometimes seems to simplify the musical argument, the player sounds crisp and lively. It is adept at presenting music in an open, coherent way. From memory, however, it is not easy to distinguish this player from other recent examples of the marque, such as the CD67SE.

Certainly the player sounded familiar, and one panel member identified the player as a Marantz.

The panel made various bottom-line judgements about this player, though all identified its key aural features in much the same terms. Adjectives such as "subdued", "warm" and "orderly" predominated, though a couple of complaints of compression made an appearance after the Ravel track. There were also positive comments — one described the Allison Krauss track as offering "very clear vocal rendition — this player is alive!". Another wrote that the same piece sounded "quite warm and forward, presenting a strong central image (but) the treble is a little too smooth for my liking".

Conclusion

Of all the maxi-feature front panels in this group, that of the CD-63mkII KI Signature is undoubtedly the clearest and easiest to use. Musically it may be a bit of a lush, and some low-level detail certainly doesn't make it all the way through the system, but its listenability quotient is high. This player may not be one for the brain, but it speaks directly to the heart. Recommended. **▶▶**

VERDICT

SOUND ★★★★★☆
VALUE ★★★★★☆
PRICE £499.90

Open, warm yet crisp-sounding player, with class ergonomics to match. Some loss of low level detail, and bass has a lush quality.

Marantz Hi-Fi UK Ltd., Kingsbridge House, 581 Bath Road, Longford, Middlesex UB7 0EH.
(01753) 680868

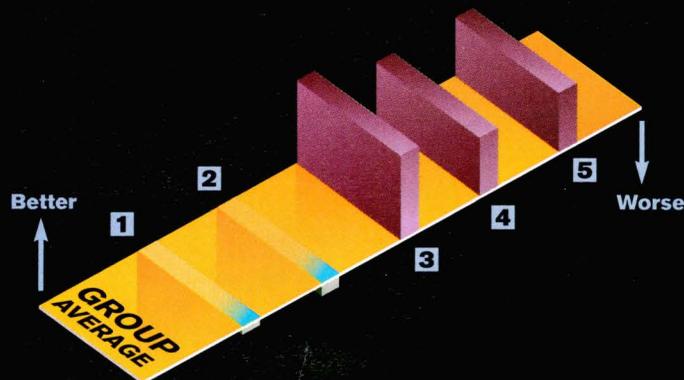
THE LAB REPORT

Marantz continues to stretch out its CD-63 theme with yet another upgraded version of what is now a very familiar chassis. A copper-plated chassis and HDAM op-amps, internal bracing and new toroidal transformer distinguish this heavyweight iteration, though the combination of Philips CDM12 transport and NPC's SM5872 digital filter/DAC remains quite unchanged. As a result, all those key *technical* features that marked out the CD-63mkII (see issue 151, February 1996), remain to render the KI Sig almost indistinguishable from its forebear.

Jitter sits at 687psec and is comprised of those same unusual sidebands that litter the entire CD-63 and CD-67 series of players. Stereo separation is held to within 130dB across the entire audioband thanks to the player's optimised layout while distortion remains steady at 0.0013 (midband) to 0.016 per cent (treble) at peak output. Stopband rejection is determined by the integral 8x oversampling filter at 54dB, though this sample did betray a 'leaky' 4x tone (176.4kHz) at -41dBV. Back in the audioband, the A-wtd S/N is within 0.4dB of the CD-63mkII at 100.5dB, as are its figures for low-level linearity. The same basic ingredients then, but with a hint of extra seasoning to give the overall meal a slightly different flavour. *PM*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	-2%
2	JITTER	-5%
3	PRACTICAL DYNAMIC RANGE	35%
4	HARMONIC DISTORTION vs LEVEL	23%
5	LINEARITY	24%



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Musical Fidelity A2

The A2, derived from the Musical Fidelity E60, is a direct counterpart of the more costly enhanced E601, but is restyled to match the A series amplifiers. The display is the familiar over-fussy component used previously — display dimming would have helped — but subtle highlighting around the controls and display panel is a bonus, and the luxurious deep black fascia, capped by smoothly-rounded end pieces, ensures that the A2 is among the classiest looking and most elegant players in its price category.

As noted above, random track access, along with programming, track-skip and cueing are all available without referring to the remote control. Digital electrical and optical outputs are fitted, but there is no headphone socket. The loading drawer is rather slow and a little rough-sounding (seemingly characteristic of the Sanyo mechanism) and although the mechanism is quick to deal with inserted discs, it did suffer indigestion with some marked CDs.

The A2's technology is similar to the E60's, with the YDC-103 'CD-on-a-chip' handling most of the digital functions, fed by a Sanyo player mechanism, but some component selection is involved, along with new jitter reduction measures and a different



Class A output stage. No measurement-related differences are claimed over the E60, but the player is said to sound better, and it does.

Sound quality

The first sample suffered a mid-test failure, undiagnosed at press time, and was replaced, but this was the only significant blot on the record of a player that achieved a uniformly solid score from the panel. "Best balance yet", wrote one of the Allison Krauss track, continuing "(good) image depth, dynamic without sounding harsh, there appear to be more instruments (than the previous player) and the effect is more musical and foot-tapping." The same listener went on to describe the Ry Cooder track as "more like Ry Cooder, and less like Joseph Spense", and praised the Beethoven for offering a real piano in a real space "at last". Other comments were in broad agreement, the following being typical: "(a) more free-flowing and open sound than before, the treble sounds more extended and natural" and "bouncy and musical" (Allison Krauss), and "good tonal character and ambience" (Beethoven). One hard-bitten and well-practised panellist who normally prefers to wield an acid pen even described the A2 as, quote, "actually quite inspirational".

Hands-on listening failed to dent the A2 significantly. The player has an infectious and euphonic charm, with more than adequate levels of detail. About the worst that can be said is that the bass seemed slightly soft and woolly (a point also noted by one panellist), but this would not be a determining factor in any probable system combination involving a £500 player, and the music was always enjoyable, especially with natural, acoustic recordings.

Conclusion

The failure of the first test sample was probably an isolated event, and there are no complaints about build quality, fit or finish, though the sensitivity to the physical condition of the disc could be a concern to those less than fastidious about how they care for their collections. Musically the player achieves an all-but clean bill of health from a highly critical panel. This is a player which sounds both technically accurate and enjoyable, erring just slightly towards the easy listening side. Best Buy. *AG*

VERDICT

SOUND ★★★★★
VALUE ★★★★★
PRICE £499.99

Open, detailed and attractive sounding player, at home in almost any half-decent system. Can mistrack less than pristine discs; slightly excessive warmth and loss of bass focus.

Musical Fidelity Ltd, 15/16 Olympic Trading Estate, Fulton Rd, Wembley Middlesex HA9 0TF
(0181) 900 2866

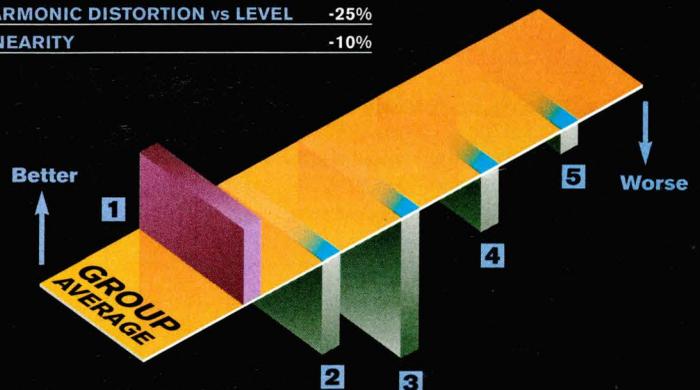
THE LAB REPORT

Take one popular E601 CD player, add a gilt trim — inside and out — and, broadly speaking, you've got the new A2. Like the E601, the A2's performance is entirely dominated by Yamaha's YDC-103 'player-on-a-chip', lying within. The response features a mild ripple, the stopband is littered with a smattering of complex digital images but jitter, in this instance, is reduced from a very high 2000psec+ to a merely 'high' 950psec. Once again, the spectrum is overshadowed by warm-sounding power-supply components that smother the effect of its data-induced jitter which amounts to 389psec in isolation.

At -30dB the spectrum is populated by a spray of harmonic distortions (0.008-0.03 per cent) with a pattern of ultrasonic noise that continues, almost without any variation, on up beyond 100kHz at the same level as noise within the 20Hz-20kHz audioband. However, the S/N possible from this sample was just 84.1dB, some 6dB short of the E601 and indicative of a 14-bit dynamic range. Nevertheless, by time-averaging the signal, it was possible to expose signals as low as -100dB with a low-level linearity of +2.9/-0.0dB. As a result, the A2 is likely to sound more detailed than either the Micromega or Alchemist players, both of which suffer a restricted dynamic range. *PMI*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	32%
2	JITTER	-40%
3	PRACTICAL DYNAMIC RANGE	-60%
4	HARMONIC DISTORTION vs LEVEL	-25%
5	LINEARITY	-10%



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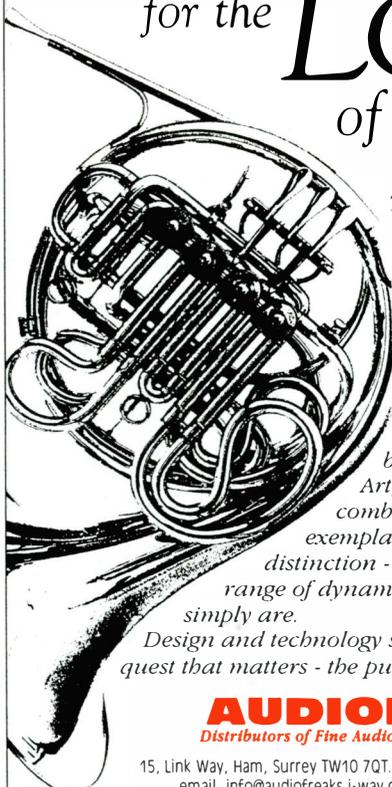
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Sony CDP-X3000ES

Trust Sony to reinvent practically everything it is involved with at some time or another. In this case it's not the champagne gold finish, or the wide (280mm) shoebox presentation, or even the top-loading mechanism, which is surely a gimmick, albeit an impressively implemented one — a veritable tour de force. No, the headline novelty here is the variable-coefficient digital filter, which has four, count 'em, settings.

There are tonal changes between settings but the principal effects are more fundamental. The standard filter, denominated (0), is a conventional, flat, in-band response filter with brick wall filtering, while (1) is a spline filter, reducing ringing on transients at the expense of high frequency output (see *Oasis of Sanity* page 15). Filter (2) is a kind of combination of (0) and (1), while (3), an 'analogue' filter, combines elements of (1) with 8x oversampling, simulating a Butterworth filter, giving an impulse response with low pre-ringing, and a characteristically mellow tonality. These descriptions are necessarily over-simplified.

The player additionally offers an extensive array of play, programme and edit modes, with peak-search, fade, index search, plus display on/off switching, two

digital outputs, and one of the best stick-type handsets ever.

Sound quality

Each digital filter setting was treated as an entirely separate player in the panel tests, which led to a mass of data, and some interesting observations. Clearly the tricky digital filters had considerable all-round appeal, each outscoring the plain vanilla brick wall filter — number (0).

A pattern emerged when comparing comments from individual listeners. Filter (0) has a "slightly dry upper treble", and "lacked some of the fluidity of the best", where filter (1) was felt to offer "more space" and was also described as "dynamic, spacious, detailed and, above all, honest". Filter (2) came across as "more controlled and energetic," but also "inconsistent". Finally, (3) gave "wider, but more diffuse" imaging, and a suggestion of "brittleness". Another listener talked in terms of "good detail, strong bass" (0), "more fluidly, and plenty of power and projection" (1), "notes are more linear and harmonise more effectively" (2) and "warm and engaging, with plenty of ambience, but some edginess" (3).

My findings, refined over a longer period, suggest that the filters have the effect of altering the proportions of the soundstage, the dynamic relationship between instruments, the mix between direct and reverberant energy, and the overall sense of focus — often quite subtly. Preferences between (1), (2) and (3) often seemed largely arbitrary at first, but there were indications that greater

exposure helps sort the wheat from the chaff. I found myself gravitating towards filter (1) which seemed to offer a more expressive quality and better focus, especially compared to (0), and with greater consistency than (2) and (3) — (2) especially.

Conclusion

The idea of choosing filters for the Sony is intellectually unsatisfying — surely there can be only one preferred way? — but pragmatically attractive. Generally filter (1) gave the most consistent, and often the most natural (or at least credible) results, but it is not obvious from an analysis of the comments as a whole that the effect of the digital filter was the dominating factor. Although there were identifiable differences between filters, this was a well-liked player in all incarnations, characterised by strong dynamics, a solid bass and credible imagery. At this price, it is hard to avoid putting intellectual scruples to one side, to award a Best Buy. *AG*



VERDICT

SOUND ★★★★★
VALUE ★★★★★
PRICE £499.99

- ☐ Switchable digital filters mean the sound of an already excellent player can be reinvented at will. Suggestions of gimmickry, though the gimmicks have not been allowed to impede sound quality.
- ✉ Sony UK Ltd, The Heights, Brooklands, Weybridge, Surrey KT13 0XW.
- ☎ (0181) 784 1144

THE LAB REPORT

Some of Sony's innovations, including a fixed pick-up mechanism (where the CD moves to-and-fro) and proprietary Current Pulse (bitstream) converter, are joined here by a very novel, user-selectable digital filter in this sleek player (see also *Oasis of Sanity*, page 15). Jitter is inherently very low indeed but varies from 200-220psec with the first three digital filter options, falling to the lowest 186psec with Sony's final 'analogue position' digital filter (filter No.3).

The following results refer to the CDP-X3000ES with its 'standard' 8x digital filter. Stopband rejection is a fabulous >105dB, the response is ruler flat and the S/N a very respectable 106.1dB, while the player's low-level linearity deviates by a maximum of just +0.2/-0.3dB over a 100dB dynamic range and across the entire 20Hz-20kHz audio range.

Distortion is also vanishingly low at 0.0007 per cent through bass and midrange frequencies though, surprisingly for a Sony player, it increases towards 0.04 per cent at very high treble frequencies thanks to some peak-level compression. The output level is also +2dB above standard at 2.5V, so beware of unmatched A/B comparisons. Otherwise, the inherently clean, transparent performance will be 'coloured' by the different filter options. *PMI*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	85%
2	JITTER	85%
3	PRACTICAL DYNAMIC RANGE	88%
4	HARMONIC DISTORTION vs LEVEL	80%
5	LINEARITY	56%





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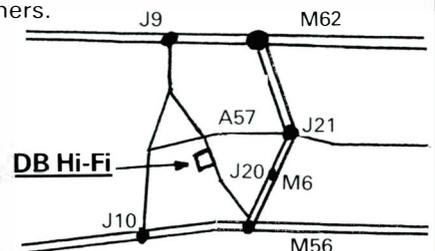
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PRIVATE PARKING



Trichord Genesis

Trichord was among the first independents to take a standard commercial CD player, in this case from Pioneer, and add proprietary improvements to improve the sound. The result is, or should be, a player to satisfy the audiophile at a price otherwise unattainable to a specialist producer. The idea proved to have a lot of life in it, and has recently been adopted by Pioneer itself with its Precision range. So far, however, it is Trichord that has been able to offer a more flexible improvement with two levels of enhancement. The senior model, known as the Revelation, was reviewed in *HFC* 166. The Genesis is the simpler, and more affordable variant.

The Genesis is based on the Pioneer PD-S505, and retains the original's stable-platter mechanism, the Legato Link digital filter and the very full set of facilities. These include random track-access from the front panel, headphone monitoring with level adjust, an electrical digital output, and a full set of facilities aimed at automating the task of editing the contents of compact discs onto cassette tape. There is even a display-off feature.

The Trichord-inspired modifications are based around the Clock 2 replacement master clock, and consist of a replacement out-



put analogue IC from Analogue Devices and a new constant current power supply, which drives the output hard into Class A, in fact full Class A into all but the most obtuse real-life loads, according to the maker.

Sound quality

Half-way through the test programme, the (much travelled) review sample failed to spin discs, a fault unrelated to any of the Trichord-inspired modifications. After some poking around internally, the fault disappeared, seemingly permanently. Further investigation points to a ribbon cable connector from the transport.

The Genesis attracted mixed scores from the panel in two separate presentations. The first, very early in that day's proceedings were predominantly critical in tone, but the second presentation was greeted more positively. There is an intrinsic problem in assessing the Genesis in group context, however; it is a rather subtle, laid-back design, which tends to be overshadowed by more aggressive-sounding players, a well-known syndrome that is exploited by many manufacturers of various hi-fi component types. In isolation, the Genesis gives a more satisfying account of itself, and the kind of sound moreover that tends to be less wearing in the long term.

One panel member described the Allison Krauss track as "smooth and fulsome... very detailed and inviting", and praised the ambience surrounding the piano in the Beethoven *Diabelli Variations* test piece, while another responded by pointing to a "ploddy" bass, and by suggesting that it made the piano sound "100 foot wide". The truth undoubtedly lies somewhere between these two sets of comments.

The player is indeed rather soft-edged, though I did feel it was refined and detailed, with good stereo imagery, though a softish bass was noted on some of the test pieces. I felt that the main limitation was a lack of electricity and drive, which made listening a rather humdrum affair. One way of describing this player is to say that it tells the truth, but in a rather lacklustre way.

Conclusion

This is a far from unsatisfactory player, and at times it makes much of the competition sound crude. Nevertheless its get up and go appears to have done just that, leaving much of its audience underwhelmed. **AG**

VERDICT

SOUND ★★★★★
VALUE ★★★★★
PRICE £549.00

☐ A smooth, mellifluous and orderly player, with excellent features thanks to its Pioneer antecedents. Lacks drive and authority, limiting its effectiveness as an advocate for the unfamiliar.

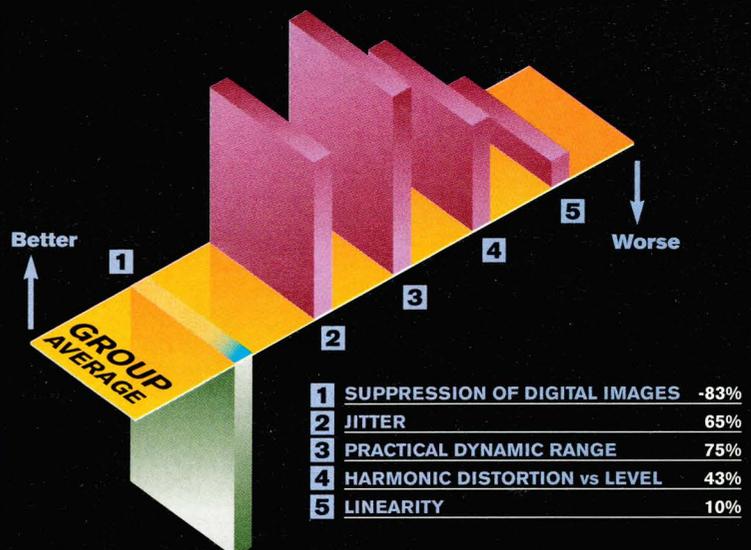
✉ Trichord Research Ltd, 73 Church Street, Malvern, Worcs WR14 2AE
☎ (01684) 573524

THE LAB REPORT

Comparing these test results with those already stored for Pioneer's PD-S504/PD-S505 and Trichord's beefier Revelation (issues 147 and 166) betrays their common heritage. As ever, the advantage of Trichord's modification is revealed in the accuracy of its clock whose fundamental error has been reduced from typically +/-30ppm to less than 1ppm. This has more impact on frequency accuracy than jitter, though the latter is reduced in level from typically 360-380psec to 310psec for the Genesis, though its nature clearly follows a pattern established by Pioneer's 'base model'.

Trichord's change of analogue op-amp has not brought about any change in peak level distortion, which remains steady at 0.004 per cent across the audioband. Low-level linearity also holds true to within +0.0/-1.2dB across its 100dB range while the output level is still higher than average at 2.45V. Otherwise, the influence of Pioneer's Legato Link digital filter, with its deliberate dove-tailing of digital 'images' into the audioband, still defines the essential character of this player. As a result, if your system never responded positively to one of Pioneer's players, the Genesis is unlikely to strike a fundamentally more positive chord. The reverse is just as true, of course. *PMI*

HOW IT COMPARES



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Cyrus ∂AD3Q

The generic version of this player, the ∂AD3, was reviewed in issue 163, but the ∂AD3Q, reviewed here, features mono 18-bit DACs for each channel, with separate 8x digital filters, housed on a small PC board which is added piggyback-fashion to the main board. The basic 18-bit twin-channel D/A converter remains in place, but is electrically disconnected from the circuit. The nature of the devices on the Q-board is not disclosed: it is enveloped in a colourful paint (except for the trim pot), which not only conceals its identity, but also applies damping to the components to reduce microphony. The mechanism is the CDM12.4, which is now past its early teething troubles, and which worked reliably and quickly on test, though the loader is not the quietest around.

Other key features of the ∂AD3Q will be familiar to Cyrus watchers, from the magnesium diecast casing (non-ferrous with all the electrical advantages this confers, and aesthetically much more pleasing than the usual vinyl-coated bent steel) to the space-saving, half-width, shoebox presentation. Features extend to full programming, absolute phase change (which can be programmed on a track-by-track basis) and a switch to disable the backlit LCD display, to the benefit of sound quality. A system con-

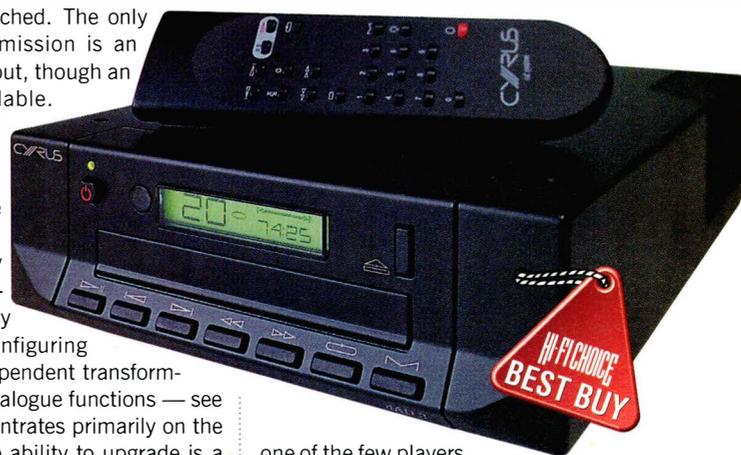
trol link can be attached. The only rather surprising omission is an electrical digital output, though an optical one is available.

Perhaps this decision was determined by the requirements of some export markets.

The similarly housed PSX-R outboard power supply can be added, reconfiguring the player with independent transformers for digital and analogue functions — see later. This test concentrates primarily on the basic player, but the ability to upgrade is a key part of the package, and an important guarantee against obsolescence.

Sound quality

The basic player (without PSX-R) was auditioned three times over two days, achieving a fairly consistent average, with just one listener on the day in two presentations marking the player down both times compared to the others. On the whole, though, it was well-liked, thanks to a smooth, easy-on-the-ear quality which makes the most of musical expression, tonal colour and timing, sometimes at the expense of musical architecture. There were odd complaints of mild coloration effects, especially with the energetic, almost orchestral sonorities of the Ravel string quartet test piece — one complained of a “creamy” string tone — but overriding everything was the way it bought articulation and vitality to the darkest recesses of the music, and the way it avoided adding its own character and smothering the differences between the various pieces. This was



one of the few players tested with the ability to reinvent itself with each piece of music.

The PSX-R, though not included formally in this test, was nevertheless presented to the panel, who clearly approved of the much bolder architecture and enhanced dynamic range and stereo soundstaging, and the palpably superior detail resolution of the complete player. In hands-on listening too, the influence of the PSX-R was not subtle, but was entirely beneficial.

Conclusion

It is the flexibility afforded by its modular, upgradeable design — you can start with the basic ∂AD3, and progress through Q-board and PSX-R upgrades — that qualifies the Cyrus as Best Buy material. This is an intelligently designed player, flexible in operation and always a pleasure to listen to. It offers moderate resolution and good stereo, but its intrinsic softness can be addressed by adding an outboard PSX-R power supply when funds allow. *AC*

VERDICT

SOUND ★★★★★☆
VALUE ★★★★★☆
PRICE £898.00

Superb build and readily upgradeable design enhances this smooth, organic sounding player. Some lack of physical presence and architecture, until the PSX-R is added.

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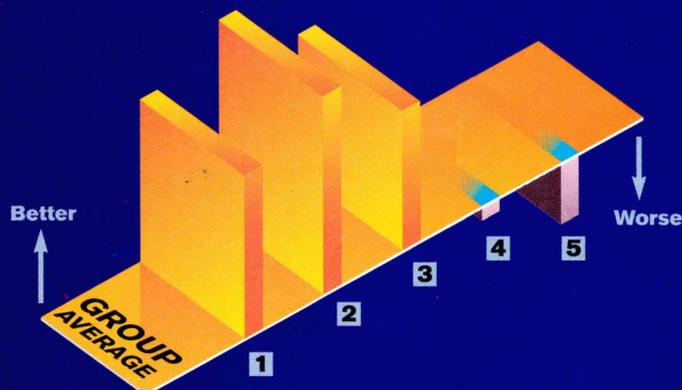
THE LAB REPORT

Superficially, the ∂AD3Q looks no different from the ∂AD3 reviewed in issue 163, though Mission's internal revisions have ushered in a marked improvement in performance. The original TDA1305 hybrid DAC has been replaced by the 18-bit AD1861, first used by Mission in its older ∂AD7 CD player (issue 145). This revision has widened the S/N ratio by 3dB to 105.3dB while also *reducing* any noise modulation by over 4dB to +6dB. So, though the player's low-level linearity is very slightly worse with errors of +2.0/-0.0dB, its practical range has been extended by at least 9dB.

Distortion is equally low at 0.0013-0.008 per cent (peak level), increasing to just 0.01-0.06 per cent at -30dB where a spray of odd-order harmonics — entirely typical of the AD1861 — dominate the spectrum. Importantly, the PSU-induced jitter that once plagued the ∂AD3 has now been almost entirely eliminated, leaving just 210psec-worth of low-level data-induced sidebands together with a couple of spurious components of 'unknown-origin'. As evidenced by the results of Alvin's listening tests, the cumulative effect of these improvements, particularly the reduction in jitter, is realised in a far smoother, cleaner and more transparent sound than that achieved by the ∂AD3. *PMi*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	70%
2	JITTER	85%
3	PRACTICAL DYNAMIC RANGE	60%
4	HARMONIC DISTORTION vs LEVEL	-5%
5	LINEARITY	-35%



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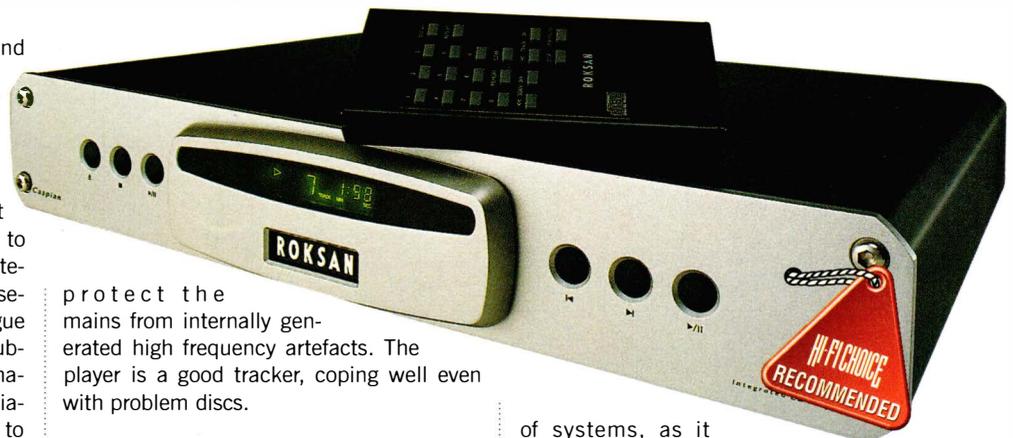
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Roksan Caspian

The Caspian CD player is the second entry in the developing Caspian range, following the integrated amplifier reviewed last month, and soon to be joined by a tuner and a power amplifier. By any standards the Caspian CD is one of a kind. Its substantial weight is surprising for a CD player, and closer to what would be expected of a powerful integrated amplifier, a legacy of the solid casework, and the use of independent analogue and digital power supplies, each fed by substantial toroidal transformers. The mechanism is from Sanyo (a long running association), and attention has been paid to mechanical decoupling (another Roksan speciality) within the constraints intrinsic to a front-loading, slim-line player.

The front panel design is unusual visually and operationally. The display is inset into the cover which flips down to allow the loading drawer to emerge. Basic operating controls, Roksan's dome-shaped buttons, flank the drawer, and include two play/pause controls, though cueing requires the use of the supplied remote control handset. A system handset is available at extra cost.

The player employs a Philips TDA1305 hybrid DAC, with Roksan's traditional concentration on power supply integrity and with a sophisticated mains input filter to reduce sensitivity to mains condition, and to



protect the mains from internally generated high frequency artefacts. The player is a good tracker, coping well even with problem discs.

Sound quality

The Caspian CD achieved an average score, reflecting a general feeling that it sounded "big and bold" (Ravel), but that it sometimes failed to extract some of the nuances, the subtle details of expression and timing, that set the best apart from the rest. "Where's the life and the detail?" asked one following the Ry Cooder track, who also complained that the player had a "harder edge" and "sounded louder" than others.

There was general praise, however, for the Caspian's dynamics and image scale. The Ravel quartet recording was described by one listener as being "convincing, with a nice sense of impetus and dynamics", and by another as sounding "bold, with good tonal colours".

I agree that there is some loss of very subtle, low-level detail and a suggestion of hardness at times from the Roksan, but my own listening also pointed to a fundamentally solid, believable player with a neutral character and with large-scale stereo imaging and robust dynamics. It was also a very enjoyable player to listen to in a wide range

of systems, as it was able to rise to the occasion, by highlighting the strengths of fine recordings, and by not holding back into good amplification and speakers. There was obviously more to give, as shown in side-by-side comparisons with even better players, but they are few and far between, and mostly more expensive.

Conclusion

The Caspian looks and feels like a quality player, and fundamentally it is an excellent model which has poise and conviction, and paints a solid impression of good recordings enveloping the speakers. Despite some reservations, its general level of accomplishment is not easily bettered at the price, and a Recommended flag seems in order. *AC*

*Postscript: Was the Caspian's underwhelming jitter performance representative? After our reviews were complete, we began to wonder. A second sample from Roksan sounded significantly better than the original, which would dilute our criticisms of unsubtlety, poor low-level detailing and weak stereo soundstaging. It was too late for a retest this month, but when space permits we'll take another look at this model. *AC**

VERDICT

SOUND ★★★★★☆
VALUE ★★★★★☆
PRICE £895.00

Impressive engineering, and well-judged, grown-up sound. Some loss of subtle, low-level information, and a trace of harshness at times.

Roksan Audio Ltd, St Peter's Road, Huntingdon PE18 7DB
(01480) 433777

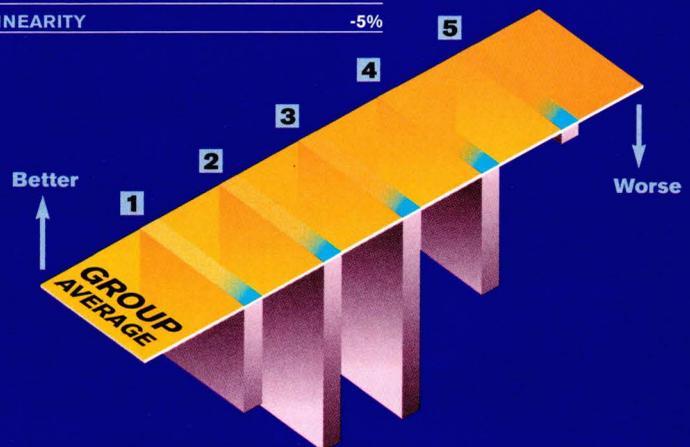
THE LAB REPORT

There's a mix of the old and new in Roksan's latest CD player which employs the tried-and-tested Sanyo transport mechanism seen in its previous players. The Crystal DAC, however, has been supplanted by Philips' hybrid TDA1305 which attempts to merge the best of bitstream and multi-bit technology at low cost. Incidentally, the TDA1305 was the original choice for Mission's dAD3 and Roksan is now part of the same group. Sadly, however, Roksan's implementation is a little awry with a fine 107dB S/N ratio offset by a huge +17dB noise modulation (+10dB is the maximum expected from a TDA1305). This phenomenon is known to disturb treble purity.

In addition, the player exhibits a highly complex jitter spectrum, amounting to 1182psec, and containing no less than 140 discrete patterns, the bulk of which are linked to fundamentals between 30-40Hz but whose harmonics extend for several kHz. This extended but essentially low-rate pattern is likely to effect the solidity of stereo images. Otherwise, the low and very consistent 0.0018 per cent distortion is above average, even if it's overshadowed by the Mission and Teac players in this mini-group. The fundamentals are right, but the Caspian is in need of refinement. *PMI*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	-45%
2	JITTER	-80%
3	PRACTICAL DYNAMIC RANGE	-85%
4	HARMONIC DISTORTION vs LEVEL	-50%
5	LINEARITY	-5%



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Teac VRDS-10SE

An upmarket player from the Teac stable, the VRDS-10SE is based on the £500 D-T1 D/A converter (which has been previously tested in these pages: *HFC* issue 144, July 1995), and equipped with one of Teac's VRDS mechanisms, the CMK3, which is distinguished, in part, by the way it clamps the entire surface of the disc, claiming to eliminate the small surface ripples that tax CD player servo mechanisms. Previously available as the VRDS-10 (not tested), the new SE version boasts improvements to the transport and to the chassis member that the transport rests on, and also a relaid PC board, changes which Teac claims result in clear sound quality improvements. It also boasts a new, distinctly unimproved price, which is disappointing given recent currency movements. The digital hardware is built around a Philips Bitstream DAC7.

This is a fabulously-built player, heavy beyond its job description (it weighs in at 11kg), with a thick, black, brushed-aluminium-slab front panel relieved by a small selection of controls, the main ones large, square-shaped, and internally lit; and a gold finished loading drawer. Small matters of detail, indicative of the care that has gone into the design, include the rear panel

switch to control the digital outputs (there is a small but significant cleaning up of the sound when the digital output is turned off), and the ability to douse the display (I could not reliably identify by sound between the two states, but this is a useful facility anyway). The player is fully equipped once the remote control is wheeled in, and includes index search, support for CD to tape dubbing, programming (including delete programming), A-B and other repeat modes, even a digital fade feature. Ergonomics are first rate, though its bulk may turn some potential buyers off.

Sound quality

On its first presentation panel scores were average but varied between listeners, which is a little disappointing for such a costly player. It picked up somewhat, though, and was felt to be more consistent the second time around. Its "powerful, authoritative" tone was widely recognised, but so was a tendency to "thickness" and "lack of articulation", and each listener pointed towards a discontinuity in its performance, with a close, explicit and (according to some) slightly distorted mid/top standing free of the lowest few octaves. A lack of precisely delineated stereo imagery also caused comment.

The treble attracted the most mixed notices, but the following, referring to the Allison Krauss, was typical: "There is a very slight distortion on the voice; a sandiness and forward quality to the voice, though it flows well". A second pointed to the "well differentiated tonal colours". The Ravel strings were described as "pinched", and the player overall as "not very inviting".

Hands-on listening reflected these disappointingly mixed results. The player worked well with many classical pieces, but was rather heavy-handed and over-etched with well-recorded, simple acoustic material (as so often it was voices that showed the problems up clearest). Some jazz and other recordings pointed to a rather over-deliberate sense of timing.

Conclusion

Although superbly packaged, and promising in many ways, this is a disappointingly mixed performer in practice which never quite managed to justify its elaborate engineering — or price tag. *AG*

VERDICT

SOUND ★★☆☆☆
VALUE ★★☆☆☆
PRICE £849.95

- Well-built, and an ergonomic gem, with excellent attention to detail. Mixed notices on audition attest to an interesting design that never quite gets into gear.
- Teac UK Ltd, 5 Marlin House, The Croxley Centre, Watford, Herts WD1 8YA
- (01923) 819630

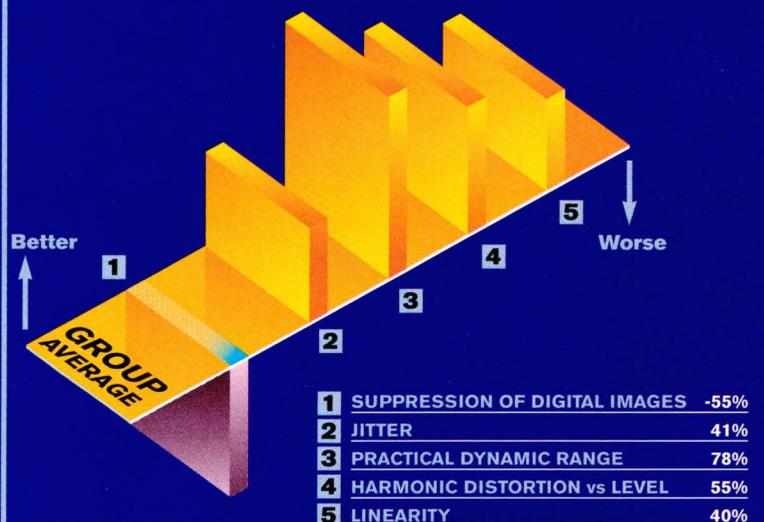
THE LAB REPORT

Yet another tour-de-force of digital engineering, this player employs NPC's popular SM5840 8x oversampling filter in a dual-mono circuit that features separate Philips' SAA7350 noise-shapers and DAC7 bit-converters in each channel. Superficially, distortion is very low at 0.0005-0.0028 per cent and low-level linearity is held to a fabulous +0.2dB/-0.4dB over a wide 100dB dynamic range. And yet this configuration is getting a little long in the tooth by today's standards.

Other low-cost TEAC VRDS players, based on the same technology, have suffered from the familiar criss-crossing of high-order sampling distortions, for example. These seem somewhat more exaggerated in the VRDS-10SE and can be clearly seen tracking into the audioband. The subjective effect of these patterns, generally speaking, is to add a degree of hardness or coarseness to the music at hand, typically adding an 'odd' quality to the treble, despite the modest 407psec of low-rate supply and data-induced jitter.

The high 1.2kOhm output impedance is also rather disappointing, suggesting, as with other VRDS players, that Teac has paid too much attention to the fabulous transport and digital processing sections rather than the final analogue output of the VRDS-10, SE or not. As a result, this player might be more cable- and amplifier-sensitive than expected. *PMI*

HOW IT COMPARES



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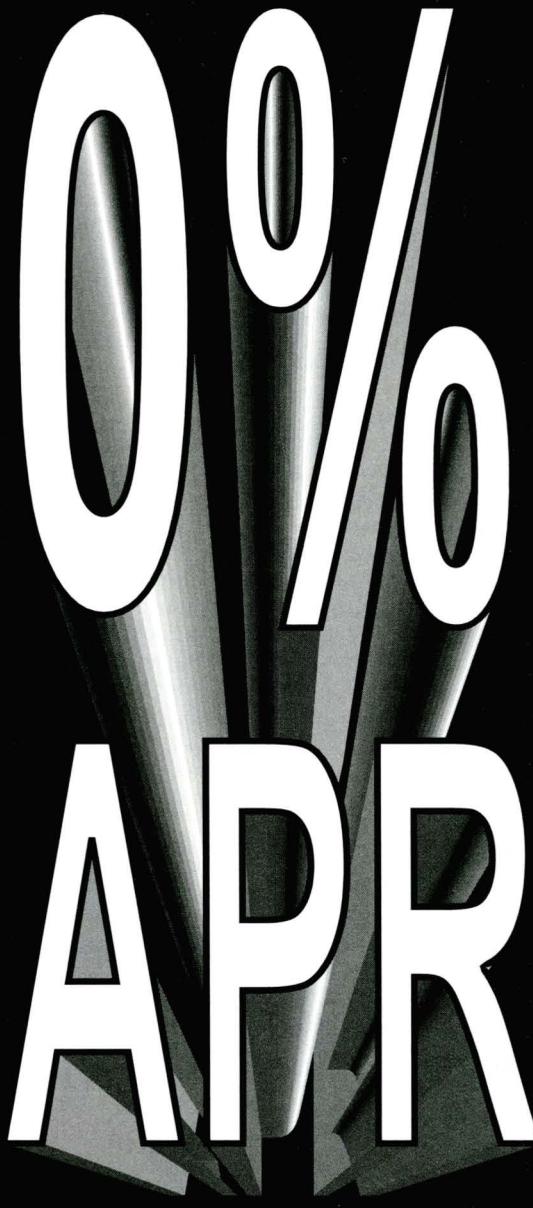
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AVI S2000MC Reference

AVI explains the raison d'être for the S2000MC as follows: that it should be midi size and domestically acceptable to look at, while having the wherewithal to ensure that the audiophile doesn't feel cheated. An ergonomics consultant was engaged to mastermind the programming of a custom control microprocessor, which has a number of differences from the one normally supplied by Philips as part of the CDM12 mechanism. Despite these claims, the control system offers few apparent advantages to the user, though AVI responds by suggesting that it is mainly reviewers, conditioned by existing players, who have the problem. Maybe so, but this argument is not altogether convincing, not least because the use of a very basic display readout necessitates an additional mode-change operation to show important information that other players display at all times; and because there are no front panel track skip, search or pause controls. The display is too bright, but it can be switched off.

Certain hidden features of the control system are more convincing, in particular the improved facilities it provides in the event of track-search problems, and the ability to reprogram the player for different loading mechanisms, which in principle could

extend the player's lifetime. The disc-load and track-search operations are rapid, and tracking performance is excellent.

Physically, the S2000MC is well-endowed. The player could be accused of looking rather austere, but it is as solid as a brick outhouse, and uses quality external electrical connectors. Inside there is a double-sided, plated-through fibreglass PCB with multiple ground planes and star earthing, a complex power supply system and twin Burr-Brown 20-bit multibit DAC with an 8x oversampling filter. The player is supplied with an attractive and ergonomically-sound system handset that accesses all normal play and programming features apart from random play.

Sound quality

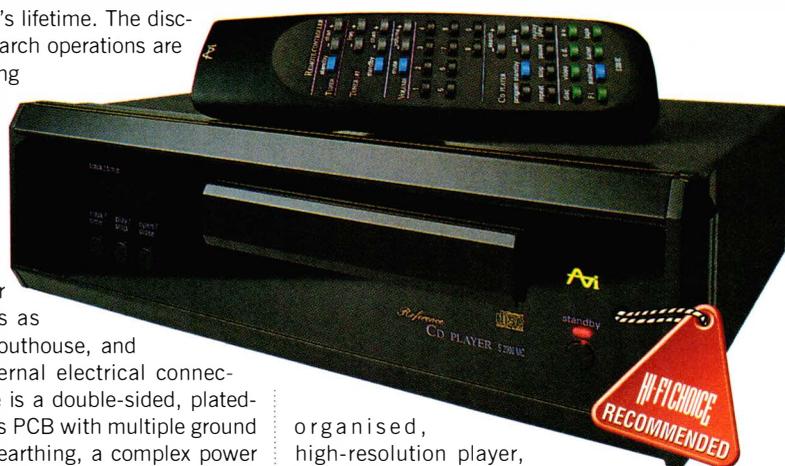
The S2000MC Reference produced a solid score, but there was some spread of opinion. There was, for example, general criticism of a "light" bass, though it escaped qualitative criticism, and the treble was sometimes felt to be "sibilant", "splashy" and "dry", though it was also praised for its informativeness and spacious qualities. On the whole, though, the latter predominated. The Ravel string quartet was praised for the strong interplay between the different instruments, though a leanness in the balance was drawn to the attention of all panel members at one time or another.

The separate sighted listening demonstrated the capabilities of the AVI as a well-

organised, high-resolution player, which was open and revealing at low and medium levels, but which began to sound a little too relentlessly forward at high volumes: a clear balance-related finding. With bright or edgy speakers and/or amplification, you would probably be better off with a different player, and certainly the AVI lacks the sweetness or stereo depth of some of the alternatives at this price or less, but its vitality, inherent resolving power and control stand it in good stead, and there is no lack of bass extension given a suitable system.

Conclusion

This is a lifelike and capable player, built for a long lifetime of service, and with enough music-making power for most situations. Its ergonomics are not as good as the maker claims, but even technophobes will soon adapt, and only its lean, dry balance will get it into trouble with some systems. The S2000MC Reference is far from cheap, but it is too good not to warrant Recommendation. **AG**



VERDICT

SOUND ★★★★★☆
VALUE ★★★★★☆
PRICE £1,399.00

☑ Built for a lifetime, this player offers excellent resolving power and authority. Needs sympathetic system matching to avoid sounding dry and thin. Suspect ergonomics.

✉ AV International Ltd, Unit F3 C3, Bath Road Trading Estate, Stroud, Glous GL5 3QF.
 ☎ (01453) 752656

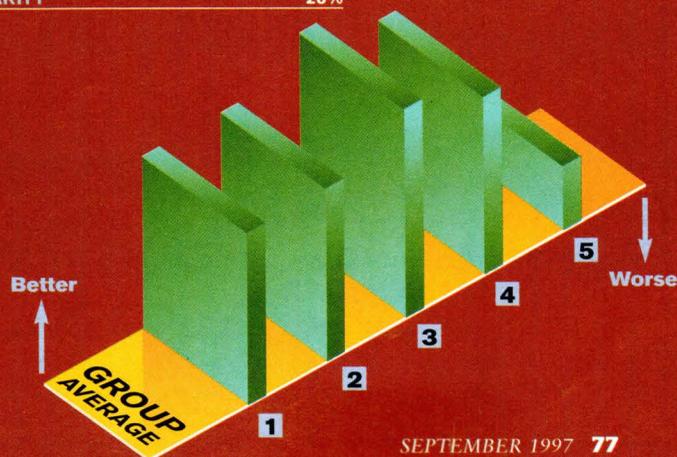
THE LAB REPORT

AVI's IR-logic is a little sluggish by modern standards and not all that flexible (it cannot scan backwards between tracks, for example) but then the same microprocessor is also engaged in monitoring the stability of the player as a whole, trading a little speed for enhanced reliability. Its implementation of Burr-Brown's 20-bit PCM-63 DACs and PCM-1700 8x oversampling filter is also first rate. Sure enough, the response shows a mild 0.75dB dip at 20kHz and will be even softer-sounding with pre-emphasised discs, thanks to an additional de-emphasis error. The jitter spectrum shows a rather unsymmetrical but low-level pattern of data-induced sidebands amounting to just 194psec, while conventional harmonic distortions and ultrasonic spuriae are held firmly in check (0.011 per cent midband).

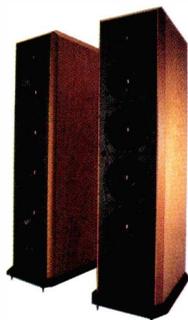
The latter, in combination with the tremendously low 9.50hm output impedance, suggests the S2000MC will offer a very consistent level of performance from system to system. Importantly, though there's a jump in distortion from peak output to the musically-important -30dB (typical of all conventional multi-bit systems), what distortion there is remains exceptionally steady at 0.013-0.018 per cent from the deepest bass to the highest treble. Once again, another indicator of the S2000MC's robust and consistent performance. *PM*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	75%
2	JITTER	75%
3	PRACTICAL DYNAMIC RANGE	90%
4	HARMONIC DISTORTION vs LEVEL	77%
5	LINEARITY	28%



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Heybrook Signature

This heavy and bulky player is designed first and foremost as the natural partner for Heybrook's Signature 11 series of amps. The technology quotient is less Cornish than the latter, however, but includes a Sanyo laser assembly, and a Burr-Brown hybrid 18 bit DAC. Heybrook's main indigenous contribution is a well-endowed power supply, the addition of ferrite beads on the display leads and a home-brewed mains filter designed to mitigate the effects of electromagnetic interference, and to make the player a good citizen in a typical home with a number of complex electronic devices hung from the same ring main. Nevertheless, there was more than a hint that the sound of the player improved significantly when other devices nearby were turned off.

Appearance is four-square and solid. The addition of wood side strips with gold-coloured cappings gives the Signature an authentic Austin Princess feel, but the clearly labelled and simple control system provides adequate recompense, and the Heybrook's ergonomics are transparency personified. The only mild criticism here is that the control buttons are a little too deeply recessed for larger fingers. The unusual proportions (echoed in some Wadia and other exotic product lines) and the bold panel

graphics invest the player with a certain stature. The remote control handset adds random track access, display mode and programming functions, but there is no headphone socket, an increasingly common omission with modern CD players, especially high-price ones.

Track access times are protracted, but the player coped well with problem discs that caused some other players to lock up. External socketry is limited to the standard analogue outputs and a digital electrical S/PDIF output.

Sound quality

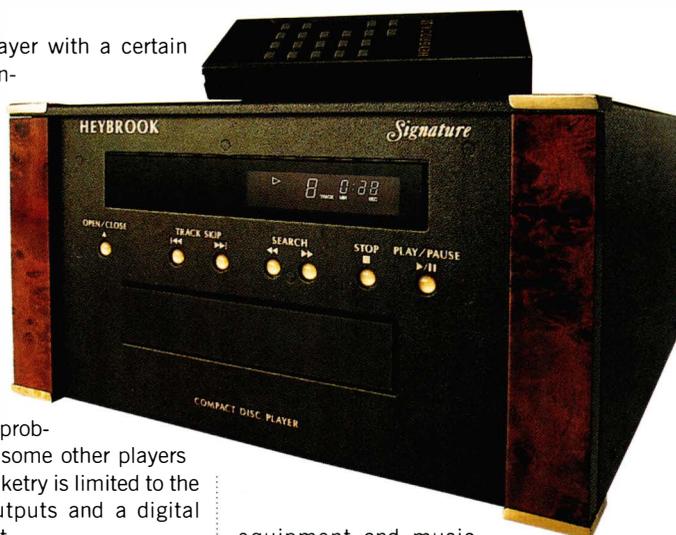
The Heybrook was scored almost identically in two separate presentations to the panel, though the raw figures concealed a degree of variation on the second occasion, with one listener describing the Beethoven as "sounding like a pub piano", while another thought the same piece offered "nicely resolved attack and decay, with a real sense of body". But a consensus did emerge that the Heybrook was rather hard and forward in balance, with "unfocused vocals" (Allison Krauss), a "muddled and splashy" quality (Ry Cooder) and an "uncompelling" presentation (Ravel). Words like "forward", "in your face" and "muddled" made appearances, and the general feeling was that the player lacked coherence and articulation.

The sighted listening, which of course involved a much wider range of partnering

equipment and music, did little to change the overall findings. This player appears to underline the leading instruments or voices at the expense of the lower level background sounds; even in casual listening its sound was fatiguing and coloured. There was also more than a suggestion of inconsistency, the player appearing to change its spots with different partnering equipment. Laid back, slightly distant-sounding systems make the most of the Signature's qualities. The solid bass, however, was a bright spot.

Conclusion

The Signature CD player was too inconsistent for a general recommendation, especially as it leaves only a few beers' change from £1,000. Its rather edgy, inarticulate sound quality is easily bettered at this price level, though owners of Heybrook amplification looking for a visually compatible player may find the Signature harder to resist. **AG**



VERDICT

SOUND ★★☆☆☆
VALUE ★★☆☆☆
PRICE £989.00

- ☐ Costly, well engineered and solid-sounding design, a natural for Heybrook amplifier owners. Inconsistent and muddled presentation with difficult material
- ✉ Heybrook Hi-fi Ltd, Clemo Road, Liskeard, Cornwall PL14 3NH.
- ☎ (01579) 342866

THE LAB REPORT

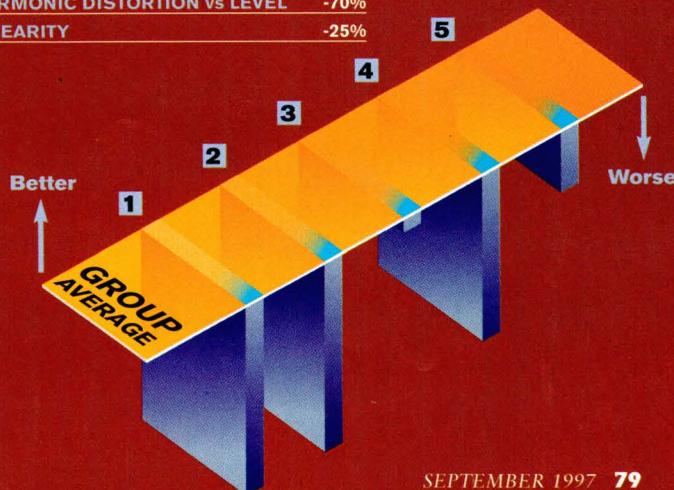
The sloping noise-floor observed when the Signature is handling middle to low-level signals is typical of very early implementations of the PCM67 DAC, specifically Arcam's Black Box 5 from 1992 (issue 113). This DAC, produced by Burr-Brown, was the first bitstream/multi-bit hybrid to appear on the market and has largely been superseded by the PCM69 along with a raft of alternatives, including the TDA1305, from Philips.

In addition, the substantial release of unwanted stopband images (<20.5dB) suggests Heybrook is using a very primitive oversampling filter (possibly direct from the signal processing chip). There's also a -1.5dB droop at 20kHz and a number of spurious tones beyond the audioband that suggest the Signature is more susceptible than usual to interference circulating via the mains supply.

Distortion, at 0.07 per cent (re. -30dB), is about three times higher than typical these days, but it's entirely in keeping with the PCM67 as is its 99.6dB S/N ratio and modest +4.8dB noise modulation. Not bad, but a result that's compromised by some 803psec of jitter, including a series of bold data-induced sidebands that indicate, once again, that Heybrook's implementation could benefit from optimisation. *PMI*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	-80%
2	JITTER	-80%
3	PRACTICAL DYNAMIC RANGE	-5%
4	HARMONIC DISTORTION vs LEVEL	-70%
5	LINEARITY	-25%



Meracus Tanto

Beautiful it ain't. The panel graphics look dodgy, the shut lines around the loading drawer are uneven, and the two sections of the display are inconsistently lit (though thankfully it can be turned off from the supplied full-system-remote control). Even the front-panel controls fail to operate smoothly if pressed off-centre, and the whole player gives the impression of having had a style bypass. It's a strictly functional machine for playing compact discs, but this recently launched German-made player, from a company better known for the more exotic Pyramid range, has apparently acquired a strong following in its home turf, and has had some success here too. Just to complete the list, the Tanto can at least boast a whisper-quiet loading mechanism. Indeed it operated with silky precision throughout the tests, aided and abetted by an ultra simple set of controls.

The drive mechanism is from Sanyo, and is resiliently suspended from the chassis. The digital hardware is Crystal 20-bit Delta-Sigma, with 8x oversampling, and the analogue output is a discrete Class A high-current design. The beast is powered by two independent transformers — one each for the digital and analogue circuits — through

multiple regulated power supplies. Attention to detail shows in the use of properly buffered digital electrical output, fitted with a BNC connector, in the use of a small heater to keep the master clock oscillator at a steady temperature, and by keeping critical circuits, including the output amplifier, powered up when in standby.

A matching integrated 50 Watts per channel amplifier, the Intrare, is available for from Meracus for £1,095.

Sound quality

The Tanto made a positive impression in the unsighted panel tests. Scoring averaged quite high, with fair consistency between panellists, but the nature of the comments was if anything more favourable than the numbers suggested. Although a bit on the dull side, the Tanto was felt to be an attractive player, with a firm sense of purpose, capable of driving the music hard, with a solid feeling of presence and real authority. The presentation was detailed and smooth, though there were occasional complaints of blandness from some panel members.

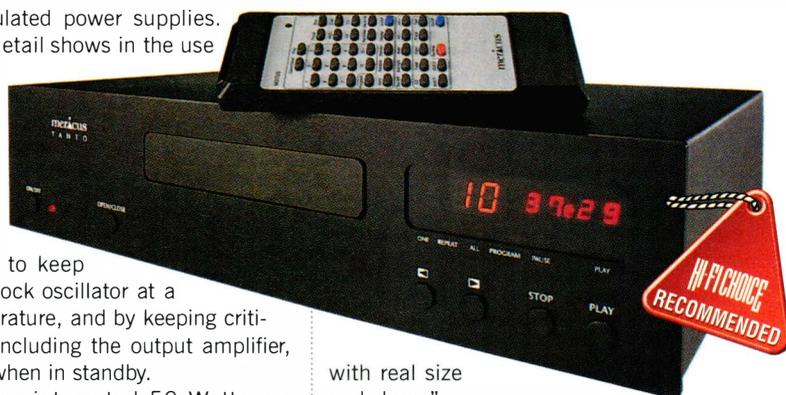
"Nice solid bass; open and detailed, this player resolves tonal and dynamic textures well", wrote one of the Ry Cooder track. The Beethoven piano recording was described as "lively and vibrant... and for once the piano sounds in tune". In another telling observation on the same piece, the piano was felt to be "less of a single, small point source than usual, more an object

with real size and shape".

This is a player that rises to the occasion. It sounded sweeter, more organic and less synthetic than most with a wide range of systems, but came alive with the best available partners, displaying a hitherto unexpected affinity for such qualities as timing and drive, the dynamical properties that so many players seem to lack. Stereo imagery was also well developed in all planes, but harmonics sometimes seemed dulled, reducing the distinctiveness of tonal colours, and sometimes the perceived separation between them.

Conclusion

This is a class act by any standards, without a trace of the classic Germanic tizz 'n' boom that has traditionally given the country's hi-fi such poor travelling properties. Of course at this price there is plenty of solid competition, and there are players that are still more vivid and dynamic. Overall, though, this is a more than routinely well-designed player, and an excellent antidote to those who suffer from digititis — a phobia about the sound of all things digital. Recommended. *AG*



VERDICT

SOUND ★★★★★

VALUE ★★★★★☆

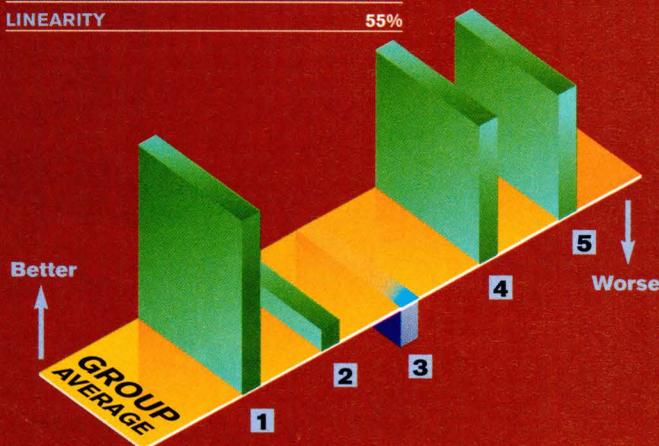
PRICE £1,395.00

☐ Refined, subtle and engaging player, a real Mercedes class product, at a Mercedes price. Slight lack of top-end sheen, and the Tanto has had a style bypass — but so what?

✉ Aanvil Audio, Woodvale, Heath Road, Woolpit, Bury-St-Edmunds, Suffolk IP30 9RU
(01359) 240687

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	75%
2	JITTER	10%
3	PRACTICAL DYNAMIC RANGE	-15%
4	HARMONIC DISTORTION vs LEVEL	60%
5	LINEARITY	55%



THE LAB REPORT

German designed and built, using a Sanyo transport and one of Crystal's costlier 20-bit resolution (bitstream) DACs, the oddly-titled Tanto looks to be a very well engineered player. Distortion holds to within 0.0007-0.009 per cent at peak output, low-level resolution never deviates by more than +0.0/-0.6dB over a full 100dB dynamic range and jitter, at a moderate 382psec, is evenly distributed between supply-induced, data-induced and an 'unknown' pattern at +/-131Hz. Treble is down by -1.3dB at 20kHz and there's around 14mV of 'leaky' sample tone at 176.4kHz (4Fs) but, otherwise, the output of ultrasonic noise is of an 'average' level for a bitstream converter. The integral oversampler is very good indeed, I'm bound to add, in view of the >105dB stopband rejection.

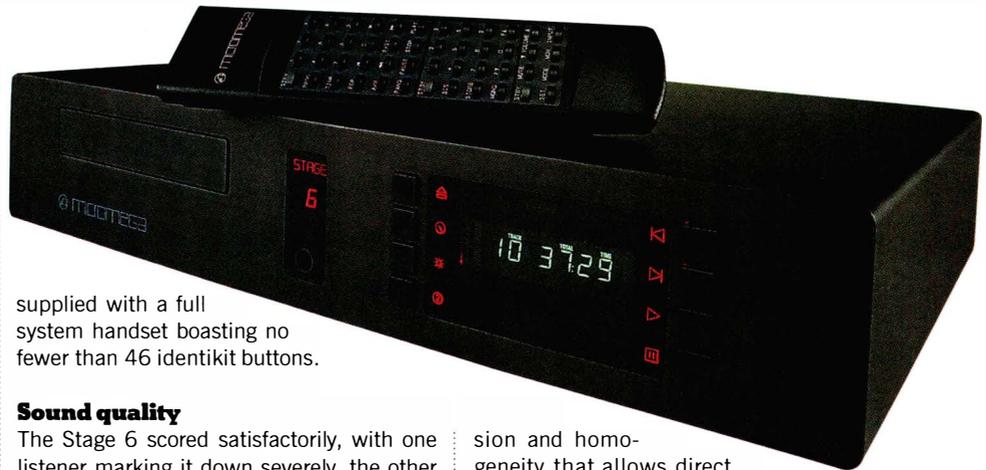
The biggest fly in the Tanto's ointment is a very simple one. Sure enough the analogue stage is blessed with a sub-10hm output impedance capable of driving very long and capacitive interconnects. And yet the output level is some -4dB below the nominal 2V standard at 1.27V. At a time when other manufacturers are keen to increase outputs closer to 2.5V, this will put the Tanto at a severe disadvantage in all but the most scrupulously level-matched A/B demonstrations. *PMI*

Micromega Stage 6

The Stage range consists of three identical-looking players with a modular internal construction. A Stage 4 can be converted to a Stage 5, and eventually a Stage 6, protecting your investment in one of the junior models. It is even possible to update earlier generation Stage 1, 2 and 3 players to the full Stage 6 spec. When switched on, the version is identified and the oscillator is warmed and stabilised, leaving a disconcerting two minute gap before the player comes alive if it was previously disconnected from the mains.

The player is elegance personified, the front panel dominated by a large central display area flanked by two columns of controls, which are identified by red illuminated mnemonics, which make an arresting visual contrast with the green display characters in the main part of the display. All normal play modes are supported, and the player includes a headphone socket and electrical digital out.

Technically the principal claim to fame is a new and sophisticated master-clock oscillator (which is the heart of a design intended to minimise jitter), and a sophisticated power supply. Both the CDM12 mechanism and the converter are sourced from Philips, and the mechanism is a version of the CDM12; both from Philips. The Stage 6 is



supplied with a full system handset boasting no fewer than 46 identikit buttons.

Sound quality

The Stage 6 scored satisfactorily, with one listener marking it down severely, the other three giving it higher scores. The objection raised by the former was to what he perceived as a "harsh and gritty" treble, and which in the Ravel, which is intrinsically sensitive to this kind of failing, he felt that "the harsh upper midband masks much of the inner detail". Others contradicted this, remarking instead on what they perceived as a "nicely balanced string quarter" (Ravel) and "very musical, with excellent resolution — ambience sounds accurate, and the effect is subtle" (Beethoven).

Your humbleness broadly sides with the majority on this occasion, a wider range of partnering equipment and music in the sighted tests underlying the subtle alchemy that allowed a proper reproduction of low level ambient cues, and the complex upper harmonic structure of difficult instruments — strings and clarinets especially. The only caveat was a perceived slight loss of dynamics. The Micromega Stage 6 times well, and somehow pulls the threads together so that what emerges from the speakers has a cohe-

sion and homogeneity that allows direct access to the subtleties of the music, without the character of the player getting in the way. But this is not quite the most forceful player in the group, and at high volume levels with certain discs (noticed especially with some Sony SBMs recorded at a lowish level) the noise and 'grunge' floor of the player could be sensed, if not quite heard definitively. On other players the same discs sounded freer and more wide-ranging, though not necessarily better otherwise.

Conclusion

This is an interesting design, which goes a long way towards the ideal in many ways, though performance seemed circumscribed in others. This could almost be a metaphor for analogue sources, and this is indeed a player that should appeal to those who feel more comfortable with records than compact discs. However, its penetrating yet musical character will ensure a much wider audience still. Pricing is not in its favour, but this is a player well worth shortlisting. *AC*

VERDICT

SOUND ★★☆☆☆
VALUE ★★☆☆☆
PRICE £949.99

Believable, organic sound quality — upgradeable from lesser Stage players. Slightly constricted sound under some conditions.

The Musical Design Company, PO Box 13, London E18 1EG
(01992) 573030

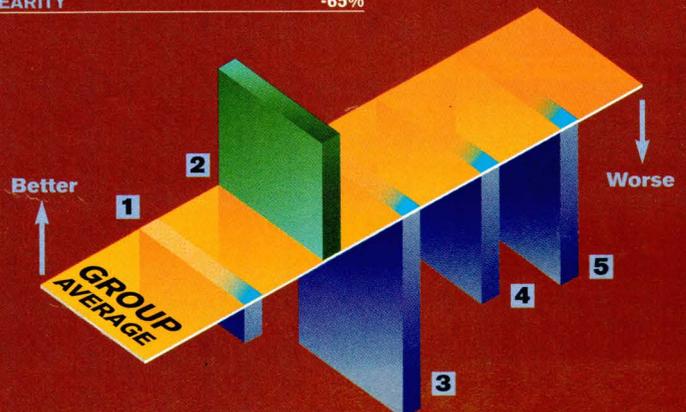
THE LAB REPORT

The best description of the Stage 6's technical performance is 'half right'. The player utilises a mix of Philips' CDM12.1 mechanism and pair of TDA1305T converters with Burr Brown OPA2604 op-amps in a dual-mono configuration that yields a spectacular 118dB stereo separation at high frequencies. Micromega is now employing a screened master clock assembly which, with other countermeasures, realises a very low 260psec of jitter. This is a vast improvement over its earlier players, particularly as the main component is an anomalous high-rate modulation set at 2412Hz. Furthermore, the analogue stage has a sub-10hm output impedance and is capable of driving any interconnect/amplifier combination you are likely to throw at it.

On the other hand, the player's S/N ratio is seriously compromised by a spurious idle pattern tone that persists anywhere between 1.6kHz and 12kHz (typically 1.6-3kHz) depending on signal conditions, bringing the range down to just 76dB (both channels). Without this anomalous tone, the Stage 6 would still be limited to a sub-16 bit 90-92dB S/N which explains why signals at and below -90dB disappear almost completely from view. This DAC combination should be capable of a 96-100dB S/N ratio. The restricted dynamic range observed here, however, explains the loss of fine detail and distinctly 'analogue-like' sound quality described by Alvin's listening panel. *PM*

HOW IT COMPARES

1	SUPPRESSION OF DIGITAL IMAGES	-15%
2	JITTER	51%
3	PRACTICAL DYNAMIC RANGE	-85%
4	HARMONIC DISTORTION vs LEVEL	-53%
5	LINEARITY	-65%



Conclusions

Given the old canard about all CD players being much of a muchness, it may come as a surprise that this group, confined to fairly costly designs, can be so varied in the way they reproduce music. It seems that many designers don't even have the same target sound or performance attributes in mind, as underlined in the case of the Sony, which has four digital filters producing four different sounds, with no claims about which one is right. If the 'standard' setting is the right one, it was also the least favoured option in our tests. It is the most accurate tonally, but has a relatively poor impulse response, and the reality is that the limitations of the digital

coding standard that applies to compact disc means that there is always a trade-off about which parameters to optimise in a particular player. To this extent, CD player design remains as much an art as a science. There is no ideal CD player, and perfection cannot even be approached.

The better players in this group are much better than most of the cheaper ones we looked at in *HFC* 166. Quite a few sound more solid, but also more organic and listenable, though there is still a trade-off between information retrieval and listenability. To an extent you have to find a player that most closely matches your expectations, and the character of your system.

A point to watch that emerged from our tests is the difference in output voltage between players. One of the group, the Meracus, was several decibels below average, and changing between this and most other players will give a sharp volume step which will make a nonsense of comparisons. In a way, though, it is the smaller differences that cause the greater problems because the change in volume may not be apparent and may go uncorrected. The only way to compare CD players is to ensure they are all generating similar sound pressure levels (SPLs) at the listening position — a cheap SPL meter like Tandy's part no will suffice for approximate measurements.

GROUP A (£500-£600)

Alchemist Nexus APD32A	£580
Marantz CD-63mkII KI Signature	£500
Musical Fidelity A2 CD	£500
Sony CDP-X3000ES	£500
Trichord Genesis	£549

There are some important, widely distributed models in this price band, none more so than the **Marantz CD-63mkII KI Signature**, which builds on an already impressive and successful range of affordable players with one that has been breathed-on by the guru-in-residence Ken Ishiwata (the KI in the product name). There are no surprises here, the player sounds much like other recent Marantz models, but in a more concentrated form, and it will neatly complement many mid-price hi-fi systems

without exposing their more common weaknesses. The smooth treble will be a particular boon in this respect, and the same applies to the **Musical Fidelity A2**, which is a little more open, has a lively midband and a warm, yet well-focused bass.

At first sight it seems surprising that a high-tech, superbly presented model like the **Sony CDP-X3000ES** can sell at the same price, but it does, and it lives up to its billing on audition too, with a less euphonious sound that extracts from discs information you may not know was there.

The **Trichord Genesis** is a breathed-on budget Pioneer player, which at one time set standards for what could be done in this way, and which has since spurred progress elsewhere. Trichord itself

has built an enhanced version of the same player called the Revelation, but unfortunately it costs considerable more. In the meantime, the Genesis now goes head to head against Pioneer's own breathed-on budget model in the shape of the Precision CD player, and may be found wanting.

Finally, **Alchemist** makes a welcome entry into digital audio with its **Nexus**, styled to match its existing products, and an attractive sounding player in its own right.



Trichord Genesis

GROUP B (£800-£900)

Cyrus dAD3Q	£898
Roksan Caspian	£895
Teac VRDS-10SE	£850

In price terms this is a tightly-knit group, but its three members are surprisingly diverse. The **Teac VRDS-10SE** comes from the school known as Japanese Heavy, whose members seem to have achieved popularity for their

superb (and the word is not used lightly) build quality, which ought to be a marker for what goes on under the skin. The reality, however, is less than overwhelming, and the real

talent in this group comes from two companies within the Verity group, namely Roksan and Cyrus. The **Roksan**

Caspian is a stand-alone player with a bold, architectural approach to music making. The

Cyrus is a modular design, to which dAD3 owners can upgrade, and which can itself be upgraded by adding the PSX-R power supply, though this makes it a two box player, and elevates the price considerably.



Teac VRDS-10SE

GROUP B (£900-£1,400)

AVI S2000MC Reference	£1,399
Heybrook Signature	£989
Meracus Tanto	£1,395
Micromega Stage 6	£950

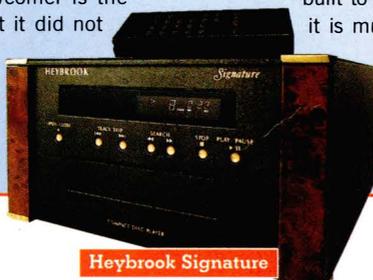
None of the models in this price category could be described as an all-rounder, but there is some talent here. The newcomer is the **Meracus Tanto**, and at first it did not look promising. A distinctly amateurish appearance and a disconcertingly high price tag are not necessarily the stuff of legends, but the

Tanto turns out to be a wolf in sheep's clothing; a refined, yet articulate and engaging player. Against it, the **AVI S2000MC Reference** is about as different as they come. Claims have been made for its ergonomic qualities which in reality are hard to justify, but there is some fine engineering under the skin, and it has been

built to last a lifetime. Musically, it is much less easy going than the Meracus, but what it does have in spades is raw energy and resolving ability. This is a hard-hitting player,

perhaps a little too aggressive for some, but effective in the right system.

The **Heybrook Signature** is a natural for those who own a matching amplifier, not least because the amp looks so distinctive that almost anything else would look out of place. There's nothing wrong with it musically, but it fails to achieve a standard commensurate with its price. Not so the **Micromega Stage 6**, which has some euphonic qualities of the Meracus in a more constrained (and affordable) form. It's also a looker, and can be built in stages (no pun intended) by adding upgrades to other, lesser Stage-series players.



Heybrook Signature

BEST BUYS

Two of the three Best Buys are priced identically, at £500, but these are very different kinds of player. The **Sony CDP-X3000ES** has real anorak appeal with its tweakable sound quality, but it is also an excellent-sounding, fairly high-octane model at an attractive price. The **Musical Fidelity A2** is a much more straightforward, user-friendly sounding model and a great improvement on the E60 from which it is derived.

Arguably, the **Cyrus dAD3Q** is an even better example of the creative use of technology than the Sony, the add-in Q board being integrated cleverly, and providing a real improvement in sound quality over the straight dAD3, and with more — much more — to come if the PSX-R outboard power supply is added.



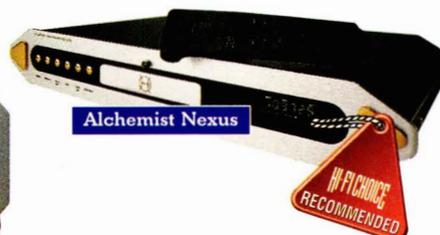
RECOMMENDED



Five models from the group reach a standard appropriate for recommendation. In ascending price order, the **Marantz CD-63 MkII KI Signature** (£500) is a classic of the familiar Marantz mould but with added polish thanks to Ken Ishiwata's special ministrations. The **Alchemist Nexus** is a fitting companion to the same brand of amplifiers, and though it is no scavenger of detail or dynamics, it is a thoroughly attractive player aurally. The **Roksan Caspian** is an excellent player, with an innovative drawer loader design incorporating the display, and some fine engineering all round. It sounds good too,

with a strong, powerful and stable delivery, though there were some low-level limitations which can make the music sound slightly defocused. The **AVI** offers a particular style of music, which to an extent must be judged in system context. Some will love its dynamism, control and power; others will find it dry and forward. The **Meracus** is the mirror image of the AVI in many ways. This is a silver-tongued player, with an organic and euphonious quality, though it is far from lacking in clarity. Of all the Recommended models, the Meracus probably has the greatest all-round musical appeal — if you can live with the price.

AVI S2000 MC Ref



BEST OF THE REST

Near the bottom of this month's price band, the £549 **Orelle CD-100SE** is a strikingly successful design, with a very physical way of reproducing music. The **Arcam Alpha 8**, £520, is also deservedly popular and a must for any shortlist in this price range. **Harman/Kardon** has various models in the range, of which the **HD7625** and the **HD7725** are known strong performers at

Quad 77 CD Players



£550 and £800 respectively, and the **Myriad MC100** at £100 is a stylish and listenable player well worth considering at the price. £900 buys the **Quad 77**, a colourful and engaging, if idiosyncratically styled player. At £1,000, the **Audiolab 8000CD** is one of the market mainstays, and has a lot to offer, though adrenalin may not be highest on the list. Also check out the similarly-priced **Denon DCD-3000**.

Five Stars

Does the best price always mean the best deal?

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

Plan B — I’m going for a deal

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

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

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

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

Buying or being sold to?

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

Take control!

Now there’s a group of long-established, independent specialist dealers who are totally committed to putting the customer back in the driving seat. They’re encouraging the buyer to take control ... with a little help and guidance provided where required. They know how difficult it can be to establish the true quality and



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

For Value

Ask the UK's top twenty specialist hi-fi dealers.



worth of hi-fi and home cinema systems. They know that without experiencing the performance of the systems they offer, you can't possibly assess the value of them. That's why their idea of "selling" is to play the systems for you and allow you to be the judge.

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

The story doesn't end there. These shops won't abandon you once you've put your hand into your pocket. They won't

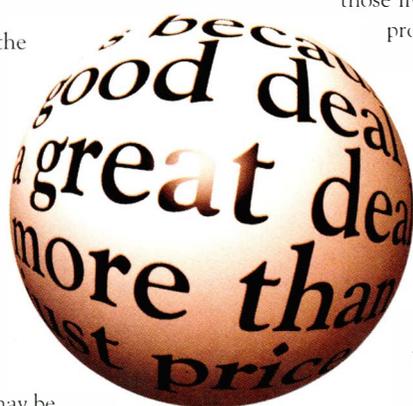
leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it sounds great, and make sure that you're entirely happy with the way it works.

Why bother?

There is, of course, one question that hasn't been answered: why should you and these dealers go to all this trouble? Well, from your point of view maybe it's because a good deal is about a great deal more than just price. Unless you've got money to burn, you'll be living with your new system for years — years during which most of those five star products will probably stop shining quite so brightly.

As far as the dealers are concerned, maybe they believe that taking care of their customers properly is a nicer way of doing business than just handing over boxes.

Listed on the right of this page are the best hi-fi shops in the country. They all have lots of stars. You'll find them on the shop floor: they're the people waiting to guide customers towards hi-fi that will give them years of musical enjoyment and total satisfaction.



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service
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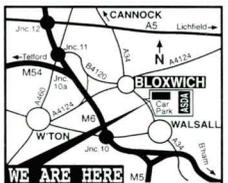
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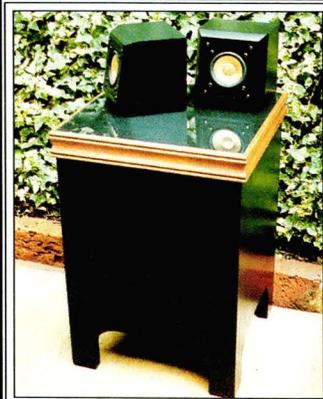
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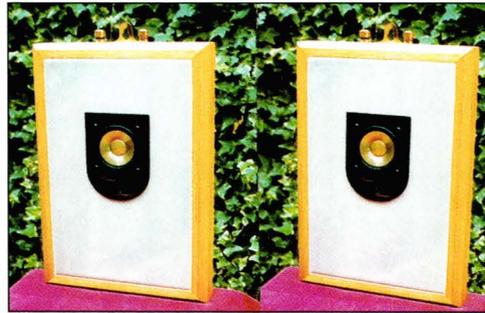
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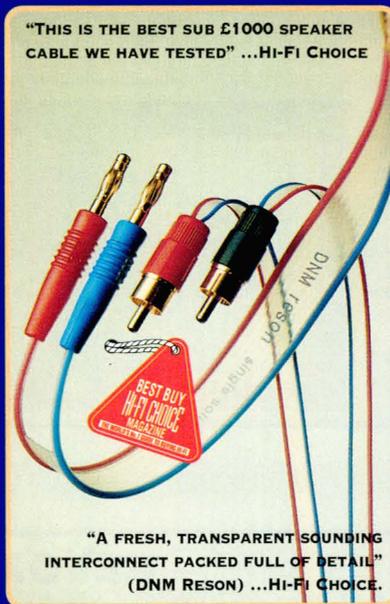
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THE DIRECTORY

Our Three Step Guide to Buying Hi-Fi

The legendary *Hi-Fi Choice* Directory is now simpler to use than ever before, but contains all the information you need to select and buy the perfect hi-fi system.

STEP 1 Discover which products fall within your budget by using our Price Guide (starts on page 94). This listing is updated bi-monthly and includes all hi-fi products currently available in the UK. It is organised by product type, then by price band, and is sorted alphabetically. Products whose names are printed in **red** are those that we have reviewed. Which leads us to...

STEP 2 Read about the hi-fi equipment that we have reviewed in the Directory (starts on page 106). Here you will learn which items have been singled out for our famous Best Buy and Recommended awards that denote 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 (starts on page 123) to book a demonstration of the products you are interested in.

Best Buys and Recommendations

If you see a Best Buy (**red**) or Recommended (**blue**) flag at the beginning of an entry in our Directory of reviewed products, the item concerned is particularly deserving of your attention.

B **Red** signifies the Best Buy swing-tag, which indicates products of the best quality and superb value for money in their price category.

R **Blue** Recommended products offer excellent quality and value, but not the same cost-effectiveness as a Best Buy.

Please note that an expensive Recommended product will nearly always perform better than an inexpensive Best Buy.

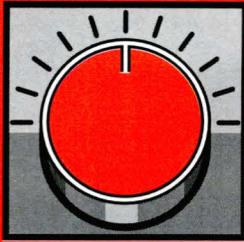
Using Best Buys and Recommendations to buy hi-fi.

Do not commit the cardinal sin of dashing into your local dealer, magazine in hand, demanding to purchase Best Buy CD player A, Best Buy amplifier B and Best Buy speakers C. This is unlikely to result in your long-term satisfaction. Our belief at *Hi-Fi Choice* is that you must consider the hi-fi system as a complete entity, not as a collection of components. While a superb system might well contain Best Buy and Recommended components, one cannot lump together Best Buys and Recommendations in the hope that they will automatically perform superbly. These ratings make a useful guideline for short-listing components worth trying, but only by hearing them for yourself can you draw meaningful conclusions about what suits your taste. Furthermore, don't panic if the dealer offers you equipment that we have not tested. At the end of the day, what matters most is that your hi-fi system fits your tastes like a glove, and it is the dealer's challenge to ensure your satisfaction by any means – and components – necessary!



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AMPLIFIERS
Integrated Amps

KEY

Ⓢ - number of line-level inputs.
'20W' - output power per channel into nominal load of 8 Ohms.

Up to £250

Aiwa XA-003		40W	140
AMC 3020	Ⓢ	20W	100
AMC 3025A	Ⓢ	25W	130
AMC 3050A	Ⓢ	45W	170
Arcam Alpha 7	Ⓢ	40W	250
Cambridge A1	Ⓢ	35W	80
Cambridge A1 Mk III	Ⓢ	40W	120
Cambridge Ai	Ⓢ	60W	200
Denon PMA-350SE	Ⓢ	50W	200
Denon PMA-425R	Ⓢ	45W	230
Denon PMA-100M	Ⓢ	80W	240
Goodmans Delta 801		30W	140
Grundig V11	Ⓢ	55W	160
H/K HK610	Ⓢ	30W	180
H/K HK620	Ⓢ	40W	250
JVC AX-V4BK		30W	200
JVC AX-R5BK	Ⓢ	45W	200
Kenwood KA-3020SE	Ⓢ	50W	200
Marantz PM-47	Ⓢ	40W	150
Marantz PM-57	Ⓢ	55W	200
Marantz PM-66SE	Ⓢ	50W	230
Marantz SR-47	Ⓢ	40W	250
NAD 310	Ⓢ		100
NAD 312	Ⓢ	25W	200
Pioneer A-105	Ⓢ	30W	130
Pioneer A-204R	Ⓢ	35W	160
Pioneer A-300R	Ⓢ	45W	200
Pioneer A-405R	Ⓢ	60W	250
Rega Brio	Ⓢ	30W	229
Rotel RA970BX	Ⓢ	60W	250
Sherwood AX-7030R	Ⓢ	95W	250
Sony TA-FE210	Ⓢ	45W	130
Sony TA-FE310	Ⓢ	45W	150
Sony TA-F246E	Ⓢ	40W	200
Sony TA-F448E	Ⓢ	55W	250
TEAC A-R300	Ⓢ	45W	200
TEAC A-R500	Ⓢ	90W	250
Technics SU-V300	Ⓢ	25W	170
Technics SU-A600 Mk3	Ⓢ	60W	200
Technics SU-V500	Ⓢ	30W	200
Technics SU-V620	Ⓢ	70W	230
Technics SU-A700 Mk3	Ⓢ	45W	250
Yamaha AX-390	Ⓢ	60W	170
Yamaha AX-492	Ⓢ	85W	220

£251 to £500

Alchemist Axiom	Ⓢ	30W	289
Alchemist Maxim	Ⓢ	30W	319
AMC CVT 3030A	Ⓢ	30W	400
Arcam Alpha 8	Ⓢ	50W	350
Arcam Alpha 9	Ⓢ	75W	500
AudiInnov Alto	Ⓢ	35W	300
Audiogram MB1	Ⓢ	35W	493
Audiolab 8000A	Ⓢ	60W	500
Aura VA-100 II	Ⓢ	70W	350
CR Dev CR324	Ⓢ	100W	499
Creek 4330	Ⓢ	35W	279
Creek 4330R	Ⓢ	35W	335
Creek 5250	Ⓢ	40W	450
Denon PMA-725R	Ⓢ	97W	350
EMF Audio Sequel	Ⓢ	50W	450
H/K HK640	Ⓢ	55W	400
JVC AX-V8BK	Ⓢ	70W	350
Kenwood KA-5050R	Ⓢ	95W	350
Kenwood KA-7090R	Ⓢ	85W	400
Magnum IA120	Ⓢ	60W	265
Magnum IA170	Ⓢ	90W	330
Monrio Asty	Ⓢ	40W	495
Moth 30 Integrated	Ⓢ	30W	320
Musical Fidelity E10	Ⓢ	40W	300
Musical Fidelity E101	Ⓢ	70W	500
Musical Fidelity A2	Ⓢ	25W	500
NAD 314	Ⓢ	35W	260
NAD 317	Ⓢ	80W	470
Onix OA32LE	Ⓢ	60W	479
Onix OA31	Ⓢ	40W	480
Onkyo A9210	Ⓢ	40W	260
Onkyo A921	Ⓢ	50W	350

Onkyo A922	Ⓢ	70W	400
Orelle SA-100	Ⓢ	75W	499
Pioneer A-400X	Ⓢ	50W	300
Pioneer A-605	Ⓢ	75W	400
Pioneer A-300R Precision	Ⓢ	35W	400
Pro-Ject Model 7	Ⓢ	40W	300
Rega Elax	Ⓢ	50W	398
Shearne Phase 2.5	Ⓢ	35W	489
Sony TA-FA3ES	Ⓢ	70W	400
Sony TA-F3000ES	Ⓢ	60W	500
Talk Electronics Storm 1	Ⓢ	50W	500
TEAC A-H500	Ⓢ	50W	280
Technics SU-A800D	Ⓢ	55W	400
Technics SU-A900 Mk2	Ⓢ	90W	450
Technics SU-A900D	Ⓢ	70W	500
Yamaha AX-592	Ⓢ	100W	280

£501 to £700

Alchemist Kraken Integrated	Ⓢ	55W	579
Alchemist Nemesis	Ⓢ	80W	650
Audio Note Kanji Line SE	Ⓢ	9W	699
Audio Note First integrated	Ⓢ	40W	699
Audiogram MB2	Ⓢ	60W	599
Audiolab 8000S	Ⓢ	60W	700
CR Dev Kalypso	Ⓢ	15W	599
CR Dev CR325	Ⓢ	175W	699
Creek 5250SE	Ⓢ	60W	540
Creek 5250R	Ⓢ	50W	575
Creek 5250SER	Ⓢ	60W	665
Densen Beat B-100	Ⓢ	60W	600
DPA Renaissance int.	Ⓢ	40W	595
Exposure XX Super	Ⓢ	55W	700
Fase Evoluzione Performance 2.0	Ⓢ	40W	570
Gamma Gemini	Ⓢ	12W	699
H/K HK660	Ⓢ	65W	700
LFD Integrated 0	Ⓢ	50W	549
Linn Majik (Line)	Ⓢ	33W	650
Lynwood Opal	Ⓢ	80W	685
Magnum IA200	Ⓢ	100W	599
Magnum Class A	Ⓢ	85W	690
Mission Cyrus IIIi	Ⓢ	50W	600
Musical Fidelity A220	Ⓢ	50W	700
Myryad M1 120	Ⓢ	60W	530
Naim Nait 3	Ⓢ	30W	575
Onix OA31LE	Ⓢ	60W	579
Orelle SA-100RX	Ⓢ	75W	649
Prime Design A-100	Ⓢ	100W	650
Quad 77 Integrated	Ⓢ	85W	700
Roksan Caspian	Ⓢ	70W	695
Rose Scion	Ⓢ	65W	615
Shearne Phase 2	Ⓢ	50W	649
Stemfoort SF60	Ⓢ	60W	549
Talk Electronics Storm 1P	Ⓢ	50W	549
Talk Electronics Storm 2	Ⓢ	65W	650
TEAC A-BX7R	Ⓢ	50W	700

£701 to £1000

Alchemist Forseti Integrated	Ⓢ	100W	949
Audio Note Oto Line PP	Ⓢ	12W	950
AVI S2000MI	Ⓢ	100W	899
Copland CSA8	Ⓢ	945	
Crede IMP702	Ⓢ	70W	938
Crede IMP703	Ⓢ	70W	1,000
Electrocompaniet ECI-2	Ⓢ	50W	995
Exposure XV Super	Ⓢ	55W	800
Fase Evoluzione Performance 1.1	Ⓢ	70W	790
Fase Evoluzione Performance 1.0	Ⓢ	60W	790
Golden Tube Audio SI-50	Ⓢ	50W	995
H/K HK680	Ⓢ	85W	1,000
LFD 0 LE Integrated	Ⓢ	60W	799
Linn Majik (Phono)	Ⓢ	33W	800
Meridian 551	Ⓢ	55W	795
Micromega Tempo 1	Ⓢ	50W	750
Micromega Tempo 2	Ⓢ	75W	950
Minstrel Ultra Linear	Ⓢ	26W	900
Monrio MC-200S	Ⓢ	60W	895
Naim Nait 3 R	Ⓢ	30W	760
Pioneer A-07	Ⓢ	80W	1,000
Rega Elicit	Ⓢ	70W	730
Shearne Phase 2 Reference	Ⓢ	50W	799
Stemfoort SF100	Ⓢ	100W	849
Talk Electronics Storm 2 P	Ⓢ	65W	730
TEAC AB-X10	Ⓢ	100W	1,000
Thule IA100	Ⓢ	100W	949
Unison Simply Two	Ⓢ	12W	995

£1001 to £2000

Art Audio Integra	Ⓢ	30W	1,499
AudiInnov Classic 25	Ⓢ	25W	1,099
AudiInnov S500	Ⓢ	25W	1,199
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
Bryston B-60	Ⓢ	75W	1,090
Bryston B-60R	Ⓢ	75W	1,249
Copland CSA14	Ⓢ	70W	1,199
Copland CSA28	Ⓢ	1,299	
Copland CTA401	Ⓢ	25W	1,699
CR Dev Romulus V3	Ⓢ	35W	1,198
CR Dev Remus V3	Ⓢ	60W	1,989
Crede LIM 702	Ⓢ	1,191	
Crede LIM 703	Ⓢ	1,249	
EAR 834	Ⓢ	40W	1,999
Graaf Venticinque	Ⓢ	1,995	

Experience unrivalled realism!



"This pre/power combo gets behind the recording and hi-fi... it simply makes music!"

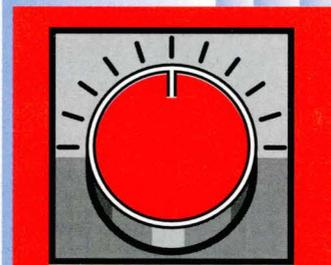
Alan Sircom, Hi-Fi Choice, November 1994

For more information or your nearest stockist, ☎ (0181) 947 5047, or e-mail 73064.1710@compuserve.com

audio research
HIGH DEFINITION

LFD Integrated 1	Ⓢ	65W	1,099
Marantz PM-16	Ⓢ	90W	1,700
Meracur Intrare	Ⓢ	60W	1,095
Minstrel Partridge	Ⓢ	26W	1,499
Monrio MC-205	Ⓢ	80W	1,545
Musical Fidelity A1000	Ⓢ	50W	1,500
Rogers E-20a	Ⓢ	17W	1,090
Rogers E-40a	Ⓢ	42W	1,900
Sonic Frontiers Anthem Integrated	Ⓢ	25W	1,295
Unison Simply Four P	Ⓢ	24W	1,555
Unison Simply Four T	Ⓢ	11W	1,595
Woodside ISA230 Line	Ⓢ	30W	1,099
Woodside ISA230 Disc	Ⓢ	30W	1,249
Over £2000			
Aldyton Opera	Ⓢ	50W	2,595
Audio Note Meishu Line	Ⓢ	9W	2,750
Audio Research CA50	Ⓢ	3,990	
Cary CAD-300SE1	Ⓢ	11W	3,495
EAR 859	Ⓢ	13W	2,499
Electrocompaniet ECI-1	Ⓢ	100W	2,195
Gamma Rhythm	Ⓢ	18W	2,499
Jadis DA30	Ⓢ	30W	3,490
Jadis DA60	Ⓢ	60W	5,750
Krell KAV300i	Ⓢ	150W	2,550
Meracur Onesta	Ⓢ	75W	2,595
Pioneer A-09	Ⓢ	45W	4,000
Tube Tech Unisis Sig. Int.	Ⓢ	30W	2,300
Tube Tech Synergy PPS	Ⓢ	150W	6,900
Unison Performance One	Ⓢ	25W	4,500
LFD Mistral Linestage	Ⓢ		449
LFD LSO Linestage	Ⓢ		499
Lumley PP70	Ⓢ		325
Lumley PP1	Ⓢ		325
Magnum MP120	Ⓢ		330
Magnum MP660	Ⓢ		500
Magnum MP330	Ⓢ		500
Michell Iso	Ⓢ		420
Moth 30 Passive	Ⓢ		149
Moth 30 RIAA	Ⓢ		249
Moth 30 Active	Ⓢ		349
Musical Fidelity E20	Ⓢ		399
Musical Fidelity F2	Ⓢ		500
NAD 114	Ⓢ		270
NAD 116	Ⓢ		430
Naim Prefix	Ⓢ		350
Naim NAC92	Ⓢ		470
Rega EDS	Ⓢ		398
Roksan Artaxerxes 10	Ⓢ		395
Rose RV-23	Ⓢ		450
Rotel RC970BX MKII	Ⓢ		175
Talk Electronics Hurricane 1	Ⓢ		500
Technics SU-C1000	Ⓢ		350
Trilogy 905	Ⓢ		375
Trilogy 904	Ⓢ		375
Trilogy 900	Ⓢ		499
Unison Simply Phono	Ⓢ		500

£501 to £2000



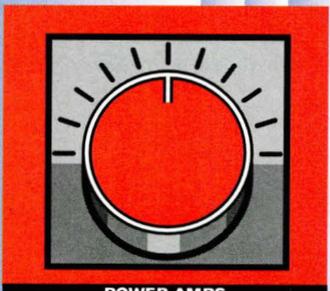
PREAMPS

KEY

Ⓢ - (etc) number of line-level inputs.
Ph - phono input fitted as standard (may be an option on some other models).

AMC CVT 1030A	Ⓢ	Ph	400
Art Audio Minuet	Ⓢ	Ph	499
Audio Alchemy Vac-in-the-box	Ⓢ	Ph	250
AudiInnov P1	Ⓢ	Ph	369
AudiInnov L1	Ⓢ	Ph	369
Audio Note The M	Ⓢ	Ph	350
Beam-Echo PP-21	Ⓢ	Ph	499
CR Dev Themis	Ⓢ	Ph	349
Creek P43	Ⓢ	Ph	399
Creek P52	Ⓢ	Ph	499
Crimson CSC10C	Ⓢ	Ph	450
DPA DSP200S	Ⓢ	Ph	495
EAR 834P	Ⓢ	Ph	349
EAR 834L	Ⓢ	Ph	449
Electrocompaniet ECP-1	Ⓢ	Ph	495
Fase Evoluzione Phondrive 1.0	Ⓢ	Ph	445
Henley HMC50	Ⓢ	Ph	200
Henley HMC100	Ⓢ	Ph	450
Aldyton Chorus	Ⓢ		1,995
Alchemist Kraken Pre	Ⓢ		519
Alchemist Forseti Pre	Ⓢ		919
Art Audio Headline	Ⓢ		700
Art Audio VPL	Ⓢ		741
Art Audio Conductor Phono	Ⓢ		750
Art Audio VP1	Ⓢ		952
Art Audio Conductor	Ⓢ		1,250
Art Audio Conductor Export	Ⓢ		2,000
Audio Note M1 Line	Ⓢ		550
Audio Note M1 RIAA	Ⓢ	Ph	550
Audio Note M2 Line	Ⓢ		999
Audio Note Discovery	Ⓢ		999
Audio Note M2RIAA	Ⓢ	Ph	1,099
Audio Research LS7	Ⓢ		1,750
Audio Research LS3	Ⓢ		1,997
Audio Synthesis Pro Passion	Ⓢ		595
Audio Synthesis Passion	Ⓢ		695
Audio Synthesis Passion 6	Ⓢ		1,195
Audio Synthesis Passion 8S	Ⓢ		1,295
Audio Synthesis Passion 8M	Ⓢ		1,695
Audiolab 8000C	Ⓢ	Ph	550
Audiolab 8000PPA	Ⓢ	Ph	900
Audiolab 8000Q	Ⓢ		1,100
Aura CA-200	Ⓢ	Ph	700
AVI S2000MP	Ⓢ		849
Beam-Echo SP-21	Ⓢ	Ph	1,116
Bryston .4	Ⓢ		546
Bryston BP1	Ⓢ	Ph	673

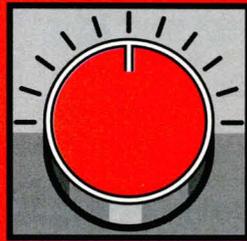
Copland CTA301 MkII	Ph	1,399	Tube Tech Seer Line	935	LFD Mistral Power	60W	449	Musical Fidelity FX2	100W	800
CR Dev Carmenta	Ph	659	Tube Tech Mac	1,150	LFD PA0 Powerstage	50W	499	NAD 218THX	200W	850
CR Dev Argento	Ph	699	Tube Tech Prophet	1,970	Magnum MF120	85W	365	NAD 208THX	250W	1,100
Credo CMP004	Ph	1,246	Unison Mystery One	1,750	Marantz MA-500	125W	250	Naim NAP140	45W	750
Credo CMP005	Ph	1,876	Unison Phono One	1,995	Moth 30 Series Power	30W	249	Naim NAP180	60W	1,060
Dawn Audio Prelude +50	Ph	951	Wilson Benesch Stage One	995	Moth 30 Mono/40	40W	469	Naim NAP135	75W	1,655
Densen DM-20	Ph	1,200	Woodside SC27 Line	949	Musical Fidelity E30	100W	500	Naim NAP250	70W	1,655
DNM 3 Start	Ph	950	Woodside SC26 Line	1,557	Myrrad MA 120	60W	450	Onix OA601	70W	699
DNM 3A Start	Ph	1,500	XTC PRE-1	1,250	NAD 912	30W	200	Onix OA801	190W	849
DPA Enlightenment pre	Ph	695	Yamaha CX-2	650	NAD 214	80 W	370	Onix OA701	80W	899
DPA DSP500S	Ph	2,000	Over £2000		NAD 216THX	125W	470	Papworth TVA50	50W	1,425
Dynavector L200	Ph	1,195	Adyton Temper	2,495	Naim NAP90/3	30W	450	Prime Design P-150	150W	650
Dynavector P100	Ph	1,495	Adyton Modus	2,695	Rotel RB970BX MkII	60W	225	Quad 77 Power	85W	600
Dynavector L100	Ph	1,395	Alchemist The Alchemist pre	4,995	Rotel RB980BX	120W	450	Quad 707	140W	800
Earmax Earmax Pre	Ph	1,895	ATC SCA2	2,499	Talk Electronics Tornado 1		450	Rega EXS	70W	598
ECA Vista S	Ph	760	Audio Note M3Line	2,650	Technics SE-A1000	70W	400	Rega Exon	125W	1,196
ECA Vista HD	Ph	880	Audio Research LS15	3,399	£501 to £2000			Roksan ROK-S1.5	70W	1,495
ECA Prisma	Ph	880	Audio Research LS22	4,391	Alchemist Kraken pwr	55W	529	Rose RP-190 (Dual Mode)	75W	550
Electrocompaniet EC-4.5	Ph	1,200	Audio Research LS5 MkIII	6,435	Alchemist Forseti Pwr	150W	1,309	Rotel RB990BX	200W	625
Electrocompaniet EC-4R	Ph	1,495	Audio Research REF 1	9,900	AMC CVT 2100A	80W	600	Shearpe Phase 3	50W	619
Exposure XIX	Ph	800	Boulder L3AE	2,100	Art Audio Quintet	15W	1,393	Shearpe Phase 3 Reference	50W	729
Exposure XVII	Ph	850	Boulder L5AE	3,400	Art Audio Quintet SE MB	-W	1,500	Shearpe Phase 5 Mono	100W	1,500
Fase Evoluzione Controlsorce 2.0	Ph	625	Boulder L5M	3,800	Art Audio Concerto	50W	1,669	Sonic Frontiers Anthem Amp 1	40W	1,195
Fase Evoluzione Controlsorce 1.0	Ph	1,395	Cary SLP-94L	2,095	Audiolnnoy Series 800	25W	999	Sonographe SA250	125W	995
Golden Tube Audio SEP-1	Ph	890	Chord CPA 2200	2,298	Audiolnnoy First Audio	7.5W	1,749	Sonographe SA400	220W	1,395
Graaf WFB Two	Ph	1,195	Chord CPA 2800	3,090	Audiolnnoy Series 1000	50W	1,799	Sumo Ulysses III	60W	629
Graaf WFB One	Ph	1,895	Chord CPA 3200	3,352	Audio Note The P	40W	550	Sumo Polaris III	120W	950
Henley HMC200	Ph	750	Chord CPA 4000	6,025	Audio Note P0	9W	599	Sumo Model Five	60W	1,975
Heybrook Signature II	Ph	1,600	Conrad-Johnson PF-R	2,490	Audio Note P1	12W	750	Sumo Andromeda III	240W	1,975
Jadis DPL2	Ph	1,790	Conrad-Johnson PV-12A	2,590	Audio Note P1SE	12W	999	Talk Electronics Tornado 2	65W	600
LFD MC1 Phonostage	Ph	949	Conrad-Johnson Premier 15	3,995	Audio Note P2	20W	1,000	Talk Electronics Tornado 3	100W	750
LFD LS1 Linestage	Ph	999	Conrad-Johnson Premier 14	3,995	Audio Note P2SE	18W	1,499	Talk Electronics Tornado 4	110W	1,100
LFD MC2 Phonostage	Ph	1,499	CAT SL1 Sig	6,500	Audio Note Conqueror	8W	1,599	Technics SE-A2000	100W	1,100
LFD LS2 Linestage	Ph	1,599	CR Dev Kastor	2,995	Audio Synthesis Desire		1,695	Technics TTA-2000	30W	599
LFD LSB Linestage	Ph	1,999	Credo LPR 001	2,815	Audiolab 8000P	100W	750	Thule PA200	200W	1,798
Linn Wakonda	Ph	750	DNM 3B Twin E	3,050	Audiolab 8000M	125W	800	Trilogy 948	50W	1,895
Linn Kairn	Ph	1,400	DNM 3B Primus E	3,630	Aura PA-100	100W	700	Tube Tech Unisis Sig. Pwr	30W	1,900
Lumley PS1	Ph	795	DNM 3B Six E	4,780	Aura PA-200	110W	1,200	Woodside SA240	40W	1,199
Lumley WAP1.5	Ph	895	EAR 802MC	2,599	Aura PA-200 C		1,250	Woodside MA100	100W	1,733
Lumley LV1.5	Ph	895	EAR G88	9,999	AVI S2000MM	150W	1,249	Woodside STA50	50W	1,880
Lumley LV1	Ph	1,000	Gamma Era Phono	2,499	Bryston 2B-LP	75W	639	XTC POW-1	200W	2,000
Lumley WAP1	Ph	1,150	Gamma Era Ref	2,499	Bryston 3B-ST PRO	150W	987	Yamaha MX-2	150W	750
Lumley PV1.5	Ph	1,500	Graaf GM13.5B	3,950	Bryston THX3B	150W	1,074	Over £2000		
Lumley PV1	Ph	1,700	Jadis DP60L	2,800	Bryston 3B-ST	150W	1,159	Adyton Cordis 1.6	120W	3,495
Marantz AC-500	Ph	700	Jadis DPL	3,190	Bryston 7B-ST PRO	150W	1,545	Alchemist The Alchemist pwr	220W	3,995
Marantz EC-500	Ph	900	Jadis DPMC	3,190	Bryston THX7B	500W	1,605	Alchemist The Alchemist mono	55W	8,995
Marantz SC-23	Ph	1,000	Jadis JPL	4,720	Bryston 4B-ST	300W	1,756	Art Audio Tempo	30W	2,499
Matisse Atom	Ph	1,000	Jadis JPP200	4,998	Bryston 7B-ST	500W	1,815	Art Audio Quintet SE	-W	2,500
Meracur Ingredi	Ph	925	Jadis JPP30MC	5,978	Bryston THX4B	300W	1,858	Art Audio Maestro	100W	3,524
Meridian 501	Ph	695	Jadis JPS2	7,900	Cary SLA-70 II	30W	1,495	ATC SPA2-150	200W	2,500
Meridian 562	Ph	765	Krell KRC3	3,250	Chord SPM 400	100W	1,325	Audiolnnoy Ser 1000SE	50W	2,499
Meridian 562V	Ph	995	Krell KRC-HR	6,949	Chord SPM 600	130W	1,720	Audiolnnoy Second Audio	15W	3,299
Meridian 502	Ph	1,295	LFD Disc Preamp	4,499	Conrad-Johnson MF-2100	100W	1,690	Audio Note P3	9W	2,150
Michell Argo	Ph	730	Lumley M100	2,250	Conrad-Johnson MV-55	50W	1,995	Audio Note Quest	9W	2,750
Michell Iso HR	Ph	895	Lumley LS2	3,250	Copland CTA501	30W	1,750	Audio Note Yubi	18W	3,850
Michell Argo HR	Ph	1,339	Lumley PS2	3,550	CR Dev Amphion	12W	1,949	Audio Note Conquest	18W	4,450
Michi RHC-10	Ph	795	Lumley M140	4,250	Credo PMP 804		1,876	Audio Note Tomei	30W	8,500
Michi RHQ-10	Ph	1,150	Lumley ST150	4,350	Creek AS25E	80W	599	Audio Research D130	130W	2,299
Michi RHA-10	Ph	1,150	Marantz Model 7	3,500	Crimson CS630C	90W	800	Audio Research VT60	60W	2,395
Micromega Tempo P	Ph	1,250	Mark Levinson 25S	2,950	Dawn Audio CMD 2 by 200	200W	890	Audio Research D300	300W	4,678
Monrio ADN	Ph	625	Mark Levinson 38	3,995	Densen DM-30	100W	1,200	Audio Research VT100	100W	4,995
Monrio PLUR1-L	Ph	960	Matisse Fantasy	2,500	DNM PA1	45W	1,750	Audio Research D400 MkII	400W	6,850
Muse Model 3	Ph	1,990	Matisse Reference	3,500	DPA Enlightenment pwr		995	Audio Research VT130 SE	130W	8,500
Musical Fidelity F25	Ph	1,500	Matisse Reference	2,195	Earmax Earmax Power	25W	1,895	Beam-Echo DL7-35	30W	3,525
NAD 118	Ph	1,000	Meracur Pretare	2,160	ECA Lectern S	50W	880	Boulder 102AE	100W	2,800
Naim NAC32R	Ph	630	Naim NAC52	3,350	ECA Lectern HD	50W	1,480	Boulder 500AE	150W	5,000
Naim NAC72	Ph	725	Roksan ROK-L1.5	2,250	Electrocompaniet AW60FTT	60W	1,095	Bryston THX8B	150W	2,030
Naim NAC102	Ph	1,050	Sonic Frontiers Line 2	2,995	Exposure XVIII Super	70W	850	Cary CAD-300SE	12W	3,795
Onix OA36L	Ph	999	Tesserac TAP-A	5,300	Fase Evoluzione Powersource 2.0	65W	860	Cary CAD-800	50W	8,495
Onix OA36	Ph	1,100	Trilogy 918	2,775	Fase Evoluzione Powersource 1.0	100W	1,670	Chord SPM 805	160W	2,265
Quad 77 Pre	Ph	850	Woodside SC26 Line & Phono	2,233	Golden Tube Audio SE-40	40W	1,000	Chord SPM 1000B	200W	2,785
Rega Hal	Ph	998	POWER AMPS		Golden Tube Audio SE-300B MkII	8W	1,490	Chord SPM 1200C		3,840
Roksan ROK-L2.5	Ph	1,250	KEY		Golden Tube Audio SE-100	100W	1,995	Chord SPM 1600	200W	4,700
Rose RV-23S	Ph	525	'20W' - output power per channel		Jadis DA5	40W	1,997	Chord SPM 1800		4,700
Shearpe Phase 6 Pre	Ph	899	into nominal load of 8 Ohms.		Laxicon 212	120W	1,850	Chord SPM 3000B	280W	7,960
Shearpe Phase 1 Pre Ref	Ph	1,399	Up to £500		LFD PA1 Powerstage	60W	999	Conrad-Johnson MF-2200	200W	2,290
Sonic Frontiers SFP-1	Ph	1,095	AMC CVT 2030A	30W	LFD PA2 Powerstage	75W	1,599	Conrad-Johnson MF-2300A	250W	2,990
Sonic Frontiers SFP-1 Sig	Ph	1,495	Arcam Alpha 8P	50W	LFD PA2M Powerstage	90W	1,999	Conrad-Johnson Premier 11A	70W	3,500
Sonic Frontiers Anthem Pre 1	Ph	1,495	Arcam Alpha 9P	70W	Linn LK100	50W	650	Conrad-Johnson Premier 12	140W	6,900
Sonic Frontiers Line 1	Ph	1,995	Arcam Delta 290P	75W	Linn LK240	120W	750	Copland CTA505	67W	2,099
Sonographe SC26	Ph	995	Creek A43	50W	Linn AV5105	100W	1,200	CR Dev Artemis	35W	4,995
Sumo Athena II Line	Ph	767	Creek AS2	50W	Lumley ST40	40W	1,250	Credo LPO 804		2,456
Sumo Athena IIB/II LS	Ph	987	Crimson CS620C	70W	Lumley ST70	70W	1,950	Credo PMP 155		2,676
Sumo Athena III	Ph	987	Denon PMA-250SE	30W	Lynwood Ruby	120W	985	Credo LPO 455		4,975
Sumo Artemis uP	Ph	1,595	Earmax Earmax Headphone	0.1W	Magnum MF330	150W	685	Credo LPO 155		6,983
Talk Electronics Hurricane 1P	Ph	550			Magnum MF660	125W	825	DNM PA2BE	90W	4,250
Talk Electronics Hurricane 2L	Ph	650			Magnum A500SE	200W	1,485	DNM PA2BS	90W	5,250
Talk Electronics Hurricane 2P	Ph	730			Magnum A50SE	200W	1,595	DNM PA2BS-1	90W	5,650
Talk Electronics Hurricane 3	Ph	900			Marantz MA-23	50W	1,800	DPA DAP500S		3,000
Talk Electronics Hurricane 3P	Ph	1,000			Meracur Ciere	60W	1,095	Dynavector HX75	75W	2,195
Technics SU-C2000	Ph	700			Meridian 555	60W	750	Dynavector HX1.2	130W	3,995
Tesserac TAADA	Ph	1,500			Meridian 557	200W	1,400	EAR 861	32W	3,299
Tesserac TALA	Ph	1,500			Michell Alecto Stereo	50W	1,150	EAR 509 Mk II	100W	3,699
Tesserac TAHA	Ph	1,800			Michell Alecto Mono	100W	1,989	EAR 519	100W	4,699
Thorens TTP-2000F	Ph	699			Michi RHB-05	100W	1,100	EAR 549	200W	6,499
Thule PR200	Ph	699			Michi RHB-10	200W	2,000	Electrocompaniet AW1000MB	100W	2,095
Trilogy 901	Ph	750			Micromega Amp	100W	1,250	Electrocompaniet AW2500MB	250W	3,995
Trilogy 906	Ph	995			Monrio Cento	135W	1,495	Electrocompaniet AW180MB	180W	4,595
Trilogy 902	Ph	1,595			Monrio HP1	135W	1,995	Exposure IV	80W	2,199
Tron Retro	Ph	1,000			Moth 60 Stereo	60W	599	Exposure XVI	125W	4,000
Tron Nucleus Phono	Ph	2,000			Moth 30 Mono/100	100W	879	Gamma Rhythm Ref	35W	3,999
Tron Nucleus	Ph	2,000			Muse Model 100	100W	1,490	Gamma Aeon	20W	4,999



KEY
 '20W' - output power per channel
 into nominal load of 8 Ohms.

Gamma Space Ref	18W	7,999
Graaf 5050	50W	2,150
Graaf GM100	100W	4,490
Graaf GM200	200W	8,000
Jadis DA8	80W	3,333
Jadis DA7	100W	5,290
Jadis JA30	30W	5,980
Jadis JA300B	10W	9,000
Jadis JA80	60W	9,912
Krell KAV500/2	100W	3,485
Krell FPB200	200W	6,490
Krell FPB300	300W	9,500
Lexicon 225	250W	2,500
Lexicon 501	500W	5,000
Linn Klout	80W	2,400
Lumley M120	120W	3,200
Magnum A200SE	275W	2,995
Marantz Model 8	35W	3,500
Marantz Model 9	70W	4,000
Mark Levinson 331	100W	4,495
Mark Levinson 332	200W	6,495
Mark Levinson 333	300W	8,495
Matisse Ref Monoblocks	180W	8,000
Meracus Tentare	75W	2,245
Meracus 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 F18	220W	4,000
Papworth M100	100W	2,645
Papworth M200	200W	3,825
Roksan ROK-M1.5	160W	2,250
Shearpe Phase 1 Pwr Ref	100W	2,199
Sonic Frontiers Power 1	55W	2,495
Sonic Frontiers Power 2	110W	4,995
Sonic Frontiers Power 3	220W	9,995
Sumo Model Ten/M	240W	4,200
Sunfire Sunfire	300W	2,500
Tesseract TAMP-60	60W	7,350
Trilogy 958	100W	3,395
Tube Tech Genesis Sig.	100W	4,700
Unison Smart 845	24W	3,250

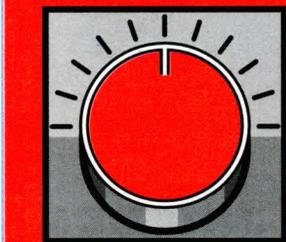
Sony TA-VE700	90W	350
Sony TA VE 800G	100W	400
Sony TA VA BES	120W	700
Sunfire Cinema Grand	200W	2,600
TEAC AV-H500	80W	380
Yamaha DSP-A492	65W	250
Yamaha DSP-A592	70W	330
Yamaha DSP-A970	60W	799
Yamaha DSP-A1092	100W	850
Yamaha DSP-A990	60W	900
Yamaha DSP-A2070	80W	1,100
Yamaha DSP-A3090	80W	1,500



SURROUND SOUND PROCESSORS

KEY
 ⊕ - number of inputs.
AC-3 - includes AC-3 decoding for compatibility with Dolby's digital home cinema format.

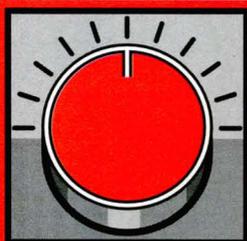
AMC Pro7	⊕	200
Arcam Xeta 2	⊕	650
Audio Research SDPI		3,293
H/K Citation 7.0	⊕	3,500
Lexicon DC-1 Pro-Logic		2,000
Lexicon DC-1 THX		3,000
Lexicon DC-1 AC-3	⊕ AC-3	4,000
Marantz AV-1030		330
Marantz AV-1040	⊕	400
Marantz DP-870	⊕ AC-3	600
Meridian 565 AC-3	⊕ AC-3	2,700
NAD 117		470
Naim AV1	⊕	1,680
Onkyo SR 211PRO	⊕	340
Onkyo ED 901	⊕ AC-3	700
Parasound 1000		995
Pioneer SP-D07	⊕ AC-3	800
Sanyo HT D47		200
Sony SDP E300	⊕	230
Sony SDP-EP9ES	⊕ AC-3	600
Technics S-H AV500	⊕	280
Yamaha DSP-E492	⊕	250
Yamaha DSP-E580	⊕	450
Yamaha DSP-E1000	⊕	700



SURROUND SOUND AMPLIFIERS/RECEIVERS

KEY
 '20W' - output power per front channel into nominal load of 8 Ohms.

AMC 2445	45W	200
Arcam Xeta One	60W	1,000
Audio Research SDA1		4,391
Bryston 5B-ST PRO	150W	1,610
Bryston 8B-ST PRO	150W	1,868
Bryston 8B-ST	150W	2,195
Chord SPM 2000	200W	4,890
Denon AVC-1800	70W	550
Denon AVC-2800	85W	800
Denon AVC-3800	90W	1,700
Grundig V1000DPL	18W	360
H/K AV1100	30W	250
H/K AV1150	55W	350
H/K AV1200 II	65W	400
H/K AV1250	100W	1,250
H/K Citation 7.1	130W	2,500
JVC AX-V6BK	50W	230
JVC AX-V8BK	75W	350
Krell KAV500/3	100W	3,985
Krell KAV500/4	100W	4,485
Krell KAV500/5	100W	4,985
Lexicon 312	120W	2,750
Lexicon 412	120W	3,250
Magnum MF500		1,445
Marantz MM-500	55W	400
Marantz PM-711AV	65W	450
Mission AV-Master		650
NAD 316	50W	450
NAD 916	30W	500
Onkyo ASV 620	120W	700
Parasound 806		1,495
Pioneer VSA 805S	80W	450
Rotel RB956AX	30W	350
Rotel RSP960AX	30W	400
Sansui AV-7100	75W	250



SURROUND SOUND RECEIVERS

KEY
 '20W' - output power per front channel into nominal load of 8 Ohms.

Denon AVR-600RD	50W	300
Denon AVR-900	60W	350
Goodmans Delta 801	30W	200
Grundig R14DPL	40W	280
Grundig R1000DPL	40W	400
H/K AVR10	30W	300
H/K AVR25	65W	600
H/K AVR70	75W	1,000
H/K AVR80	95W	1,500
JVC RX320VBK	30W	250
JVC RX-416VBK	50W	270
JVC RX-616RBK	60W	350
Kenwood KR-V5080	40W	280
Kenwood KR-V6080	70W	330
Kenwood KR-V7080	100W	380
Kenwood KR-V990D	110W	1,300
Marantz SR-66	50W	300
Marantz SR-770	80W	700
Marantz SR-96	110W	1,300

NAD 713	60W	400
NAD 917		550
NAD 716	80W	600
Onkyo TXSV 434	55W	400
Onkyo TXSV 424	50W	450
Onkyo TXSV 525R	60W	600
Onkyo TXSV 535R	80W	600
Onkyo TXSV 636	85W	800
Onkyo TXSV 727R	80W	800
Onkyo TXDS 838	100W	1,300
Onkyo TXSV 828THX	100W	1,300
Onkyo TXSV 919THX	110W	2,000
Onkyo TXSV 939THX	120W	3,000
Philips FR731	35W	250
Philips FR751	50W	300
Pioneer VSX-405RDS	50W	250
Pioneer VSX-505RDS	50W	300
Sansui RZ-5110AV	50W	190
Sherwood RV-4050R	35W	140
Sony STRD E405	50W	280
TEAC AG-V6200	90W	400
Technics SA-EX300	40W	250
Technics SA-EX500	60W	350
Technics SA-EX700	60W	450
Technics SA-TX50	120W	1,000
Yamaha RX-V392RDS	50W	250
Yamaha RX-V592RDS	70W	400

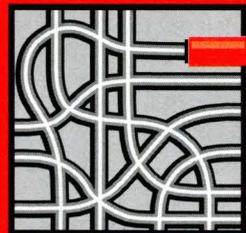


CABLES ANALOGUE INTERCONNECTS

KEY
 ⊕ - stranded construction.
 ⊙ - solid-core construction.
 Prices for interconnects are for a one-metre terminated pair.

Art Yam Church 5000	⊕	515.00
Audio Note AN-A	⊕	18.00
Audio Note AN-C	⊕	35.00
Audio Note AN-S	⊕	99.00
Audio Note AN-V	⊕	179.00
Audio Note AN-Vx	⊕	450.00
Audioquest Jade	⊕	30.00
Audioquest Turquoise 2	⊕	40.00
Audioquest Topaz 2	⊕	60.00
Audioquest Ruby 2	⊕	80.00
Audioquest Quartz	⊕	120.00
Audioquest Opal	⊕	189.00
Audioquest Emerald	⊕	249.00
Audioquest Lapis	⊕	399.00
Audioquest Diamond	⊕	549.00
Cable Talk Improved 2/CD	⊕	26.00
Cable Talk Advanced 2	⊕	35.00
Cable Talk Improved 2/T	⊕	50.00
Cable Talk Studio 2	⊕	65.00
Cable Talk Professional 2	⊕	85.00
Cable Talk Broadcast 2	⊕	130.00
Cable Talk Reference 2	⊕	180.00
Cable Talk Signature Gold	⊕	300.00
Cambridge Atlantic	⊕	10.00
Cambridge Arctic	⊕	20.00
Cambridge Pacific	⊕	30.00
Cambridge Studio Reference	⊕	40.00
ChordCo Chrysalis	⊕	30.00
ChordCo Cobra	⊕	49.00
ChordCo Siren	⊕	65.00
ChordCo Chameleon	⊕	68.00
ChordCo Solid	⊕	99.00
Cardas Audio 300B-Microtwin	⊕	115.00
Cardas Audio Quadlink-Five	⊕	200.00
Cardas Audio Cardas Cross	⊕	360.00
Cardas Audio Hexlink-Five C	⊕	530.00
Cardas Audio Hexlink Golden-5 C	⊕	600.00
Cardas Audio Golden Cross	⊕	700.00
DNM TCC75	⊕	34.00
DPA Slink	⊕	41.00
DPA White Slink	⊕	75.00
DPA Black Slink	⊕	220.00
Expressive Tech IC-1	⊕	700.00
Gamma Wow Balance	⊕	799.00
Goertz Interconnect	⊕	135.00
GT Audio Intercon	⊕	130.00
Henley HSP10	⊕	20.00
Henley HSP50	⊕	35.00
Henley HSP100	⊕	65.00

Henley HSP200	⊕	95.00
Heybrook Inter/BS Blue STRK	⊕	49.95
Ixos 104	⊕	20.00
Ixos 103	⊕	45.00
Ixos 102	⊕	60.00
Ixos 101	⊕	100.00
Ixos 100.X03	⊕	150.00
Kimber PB1	⊕	68.00
Kimber KC1	⊕	96.00
Kimber Silver Streak	⊕	180.00
Kimber KCAG	⊕	390.00
Kimber KCTG	⊕	720.00
Kronos Konnekt 3	⊕	49.00
Kronos Konnekt 2	⊕	99.00
Kronos Konnekt 1	⊕	199.00
LAT international IC-50	⊕	37.00
LAT international IC-80	⊕	60.00
LAT international IC-100-D	⊕	89.00
LAT international IC-200 MK II	⊕	151.00
Moth Leyline Black	⊕	100.00
Moth Leyline Grey	⊕	200.00
Nordost Magic	⊕	30.00
Nordost Black Knight	⊕	55.00
Nordost Blue Angel	⊕	90.00
Nordost Blue Heaven	⊕	135.00
Nordost Red Dawn	⊕	260.00
Ortofon 7N interconnect	⊕	250.00
QED P2 Gold	⊕	20.00
QED Incon P2 Screened	⊕	23.00
QED Incon P1 Screened	⊕	26.00
Roksan ROK-Intercon	⊕	75.00
Siltech MC2-12	⊕	308.00
Siltech MC4-24S	⊕	400.00
Siltech FIM-3S	⊕	730.00
Silver Sounds SS2	⊕	99.00
Silver Sounds SS1	⊕	199.00
SME S2LB-4	⊕	44.00
SME S3LB-4	⊕	50.00
SME 4900A	⊕	73.00
SME 5900A	⊕	98.00
Sonic Link Bonus	⊕	15.00
Sonic Link Silver pink	⊕	35.00
Sonic Link Black	⊕	49.00
Sonic Link White	⊕	65.00
Sonic Link Brown	⊕	70.00
Sonic Link Violet	⊕	85.00
Sonic Link Blue Nickel	⊕	140.00
Sonic Link Vermillion	⊕	195.00
Sonic Link Red earth	⊕	300.00
Sonic Link Black earth	⊕	450.00
Sonic Link Blue earth	⊕	695.00
Transparent Cable Musichord Int	⊕	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 AL/2	⊕	259.00
Vampire Wire SL	⊕	412.00
XLO Type 150	⊕	50.00
XLO Type 0.1	⊕	180.00



DIGITAL INTERCONNECTS

KEY
 Prices for interconnects are for a one-metre terminated pair.

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	⊕	149.00
Audioquest Optlink Z	⊕	179.00
Cable Talk Digital 2	⊕	75.00
Cardas Audio Lightning	⊕	190.00
ChordCo Codac	⊕	33.00
ChordCo Prodac	⊕	50.00
DPA Opti-link	⊕	20.00
DPA Digi-link	⊕	28.00
Ixos 105	⊕	25.00
Kimber Opti-link	⊕	40.00
Kimber Illuminati DV-30	⊕	55.00
Kimber Illuminati D-60	⊕	215.00

Kimber Illuminati DX-50	350.00
Kimber Illuminati Orchid	750.00
LAT International DI-20-D	79.00
Moth Leyline Datalink	140.00
Nordost Moonglo	145.00
Nordost Moonglo-XLR	190.00
QED Dngiflex	20.00
QED Optiflex	25.00
Roksan ROK-Intercon	45.00
Siltech HF-6	145.00
Sonic Link Blue/black	10.00
Sonic Link Green	60.00
Sonic Link Green Earth	150.00
Transparent Cable PDL	199.00
Trichord Pulsewire 75D	75.00
Trichord Pulsewire 110D	145.00
Vampire Wire D/1	150.00

Naim NACA 5	5.50
Nordost Octava	2.95
Nordost 4-Flat	10.00
Ortofon SPK100	3.00
Ortofon SPK200	5.00
Ortofon SPK300	8.00
Puresonic 7845	2.00
Puresonic 7891	3.00
QED Qudos Micro	1.25
QED Qudos Bi-Wire	4.50
QED Profile 8	6.50
QED Profile 4x4	9.00
QED Profile Silver 12	15.00
Rega REGA	2.00
Roksan ROK-Speaker	6.00
Siltech LS2-45	109.00
Siltech FT-12 MkI	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
Sonic Link AST50	1.95
Sonic Link AST75	3.00
Sonic Link AST200x2	10.00
Sonic Link S300	18.00
Sonic Link S300x2	35.00
Sonic Link S900	50.00
Sonic Link S600x2	70.00
Sonic Link RE3.1	90.00
Sonic Link RE3.4	330.00
ChordCo Myth	5.95
ChordCo Legend	15.00
Transparent Cable Musicchord Sprk	11.00
Transparent Cable The Wave	23.00
Transparent Cable Music Wave Sprk	25.00
Vampire Wire SC-384	11.00
Vampire Wire SC-554	15.00
Vampire Wire ST-I	30.00
Vampire Wire SC-1108	48.00
Vampire Wire ST-II	73.00
Vampire Wire ST-III	4.00
XLO Pro 625	16.60
XLO Pro 600	16.60

SPEAKER CABLES

KEY
Price per mono metre unterminated.

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-16	3.60
Audioquest Type 6	7.50
Audioquest Indigo 2	12.00
Audioquest Crystal	18.00
Audioquest Forest	65.00
Audioquest Argent	95.00
Audioquest Clear 3	150.00
Bandridge LC7409	4.00
Bandridge LC4110	28.00
Bandridge LC3410	40.00
Bandridge LC3210	75.00
Bandridge LC3219	75.00
Bandridge LC3220	90.00
Bandridge LC3310	95.00
Bandridge LC3240	125.00
Cable Talk Flat One	2.00
Cable Talk Theatre 2	2.00
Cable Talk Talk 3.1	2.25
Cable Talk Overture 2.1	4.00
Cable Talk Talk 3.1 Biwire	5.00
Cable Talk Talk 4.1	5.00
Cable Talk Concert 2.1	7.00
Cable Talk Talk 4.1 Biwire	9.00
Cable Talk Concert 2.1 Biwire	14.00
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	239.00
DNM LSC350	6.95
DPA Black Sixteen	100.00
Electrocompaniet EC-K2	30.00
Gale XL189	1.00
Gale XL315	2.00
Gale XL160-2	2.50
Gamma Wonder Line	60.00
Goertz M1	10.00
Goertz M2	20.00
GT Audio Speaker	50.00
bxos 607	2.00
bxos 605	3.00
bxos 606	8.00
Kimber 4PR	8.00
Kimber 4VS	12.00
Kimber 4TC	19.68
Kimber 8TC	40.00
Kimber 4AG	394.00
Kimber 8AG	656.00
LAT International SS 800	21.00
LAT International BIWIRE	27.00
LAT International SS 1000	42.50
Linn K20	4.00
Linn K400	10.00
Linn K600	15.00
Lumley Silver	35.00

Audio Note IO2	139
Audio Note Soara	795
Audio Note IO1V	1,095
Audio Note IO2V	1,695
Audio Note IO1LTD	4,500
Audio Technica AT-OC9	245
Audio Technica ART-1	944
Benz-Micro The Glider	650
Benz-Micro M090	700
Benz-Micro L040	700
Benz-Micro H200	700
Benz-Micro Reference	1,100
Benz-Micro Reference Ruby	1,500
Benz-Micro Ruby Open Air	1,600
Clearaudio Aurum-Alpha	135
Clearaudio Aurum-Beta	195
Clearaudio Aurum-Beta/S	265
Clearaudio Gamma-S	745
Clearaudio Signature	1,595
Clearaudio Accurate	2,950
Clearaudio Insider	5,500
Denon DL304	200
Dynavector 50X	159
Dynavector 10X	189
Dynavector 23RS	375
Dynavector 1702	450
Dynavector XX-1L	998
Dynavector XX-1	998
Dynavector Te-Kaitora	1,698
Goldring Erica LX	110
Goldring Erica	110
Goldring 1042	120
Goldring Elite	220
Goldring Excel VX	495
Grado Prestige Silver	119
Grado Prestige Gold	149
Grado Signature Junior	150
Grado Signature 8M2	250
Grado Signature MCZ	375
Grado Signature TLZ	650
Grado Signature XTZ	975
Koetsu Red T	1,550
Koetsu Red K Sig	1,998
Koetsu Urushi	2,297
Koetsu Signature	3,218
Koetsu Gold PR	5,498
Linn K9	125
Linn Klyde	500
Linn Arkiv	1,000
London Decca Maroon	259
London Decca Gold	299
London Decca Maroon Dp	339
London Decca Gold Dp	379
London Decca S Gold	399
London Decca S Gold Dp	479
London Decca Jubilee	999
Lyra Lydian	649
Lyra Clavis Da Capo	995
N'ham Tracer II	310
N'ham Tracer III	410
N'ham Tracer IV	660
Ortofon MC3 Turbo	130
Ortofon MC15 Super II	130
Ortofon 540	130
Ortofon MC25E	180
Ortofon MC25FL	250
Ortofon MC10 Supreme	300
Ortofon SPU mono	350
Ortofon MC20 Supreme	425
Ortofon SPU Classic	450
Ortofon MC30 Supreme	525
Ortofon MC2000H	750
Ortofon MC Rohmann	1,000

CARTRIDGES

KEY
MM - moving-magnet type.
MC - moving-coil type.
Up to £100

Audio Note IO1	99
Audio Technica AT-91	13
Audio Technica AT-95E	19
Audio Technica AT-110E	24
Benz-Micro MC20EII	70
Denon DL110	70
Denon DL160	90
Denon DL103	100
Goldring Elan	19
Goldring Elektra	29
Goldring 1006	59
Goldring 1012GX	79
Goldring 1022GX	99
Grado ZTE+1	27
Grado ZCE+1	37
Grado Z3E+1	48
Grado Prestige Black	49
Grado Prestige Green	59
Grado Prestige Blue	69
Grado ZF1+	83
Grado Prestige Red	99
N'ham Tracer I	98
Ortofon VMS2	14
Ortofon OM 5E	20
Ortofon OM 10	30
Ortofon 510	38
Ortofon OM DJ	50
Ortofon 520	65
Ortofon OM 20	70
Ortofon MC1 Turbo	70
Ortofon Concorde DJ	80
Ortofon OM 30	90
Ortofon MC10 Super	100
Ortofon 530	100
Pickering TE-15	20
Pickering VE-15	25
Pickering T-E	25

Pickering V15-DJ	28
Pickering TL-E	35
Pickering TL-2E	45
Pickering XV15-625E	50
Pickering XV15-150-DJ	50
Pickering TL-2-S	55
Pickering XV15-757S	60
Pickering XV15-625DJ	60
Pickering XV15-1800S	70
Pickering TL3S	80
Pickering XEV-3001E	95
Pickering XLZ-3500	100
Pickering TL-4-S	100
Rega Bias	39
Rega RB78	39
Rega Super Bias	59
Rega Elys	85
Shure SC35C	29
Shure ME95ED	38
Shure M70BX	38
Stanton 500AL II	34
Stanton 500EL	37
Stanton 680AL/X	56
Stanton 680EL/X	70
Sumiko Oyster	30
Sumiko Black Pearl	50
Sumiko Pearl	70
Sumiko Blue Point	100

Over £100	
Audio Note IO2	139
Audio Note Soara	795
Audio Note IO1V	1,095
Audio Note IO2V	1,695
Audio Note IO1LTD	4,500
Audio Technica AT-OC9	245
Audio Technica ART-1	944
Benz-Micro The Glider	650
Benz-Micro M090	700
Benz-Micro L040	700
Benz-Micro H200	700
Benz-Micro Reference	1,100
Benz-Micro Reference Ruby	1,500
Benz-Micro Ruby Open Air	1,600
Clearaudio Aurum-Alpha	135
Clearaudio Aurum-Beta	195
Clearaudio Aurum-Beta/S	265
Clearaudio Gamma-S	745
Clearaudio Signature	1,595
Clearaudio Accurate	2,950
Clearaudio Insider	5,500
Denon DL304	200
Dynavector 50X	159
Dynavector 10X	189
Dynavector 23RS	375
Dynavector 1702	450
Dynavector XX-1L	998
Dynavector XX-1	998
Dynavector Te-Kaitora	1,698
Goldring Erica LX	110
Goldring Erica	110
Goldring 1042	120
Goldring Elite	220
Goldring Excel VX	495
Grado Prestige Silver	119
Grado Prestige Gold	149
Grado Signature Junior	150
Grado Signature 8M2	250
Grado Signature MCZ	375
Grado Signature TLZ	650
Grado Signature XTZ	975
Koetsu Red T	1,550
Koetsu Red K Sig	1,998
Koetsu Urushi	2,297
Koetsu Signature	3,218
Koetsu Gold PR	5,498
Linn K9	125
Linn Klyde	500
Linn Arkiv	1,000
London Decca Maroon	259
London Decca Gold	299
London Decca Maroon Dp	339
London Decca Gold Dp	379
London Decca S Gold	399
London Decca S Gold Dp	479
London Decca Jubilee	999
Lyra Lydian	649
Lyra Clavis Da Capo	995
N'ham Tracer II	310
N'ham Tracer III	410
N'ham Tracer IV	660
Ortofon MC3 Turbo	130
Ortofon MC15 Super II	130
Ortofon 540	130
Ortofon MC25E	180
Ortofon MC25FL	250
Ortofon MC10 Supreme	300
Ortofon SPU mono	350
Ortofon MC20 Supreme	425
Ortofon SPU Classic	450
Ortofon MC30 Supreme	525
Ortofon MC2000H	750
Ortofon MC Rohmann	1,000

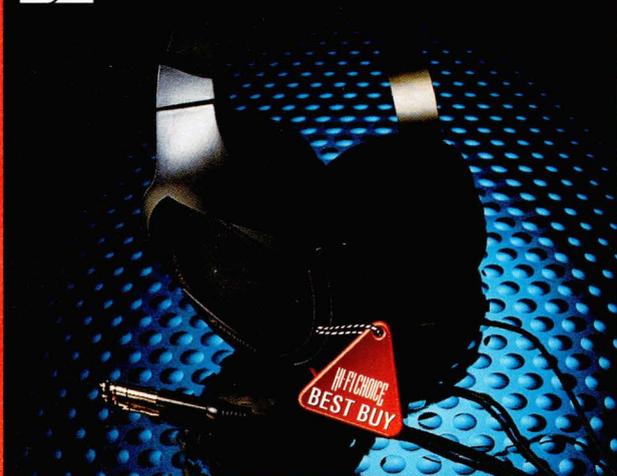
Ortofon MC3000 II	1,100
Ortofon MC5000	1,500
Ortofon MC7500	2,000
Pickering TL-3003	145
Pickering XLZ-4500	150
Pickering TL-4004	175
Pickering XSV-5000U	200
Pickering XLZ-7500	200
Pickering TLZ-7500-S	200
Reson Mica	150
Reson Aciore	199
Reson Reca	225
Reson Etile	299
Reson Lexa	899
Roksan Corus Black	130
Roksan Shiraz	970
Stanton 890AL/X	118
Sumiko BPS	250
Transfiguration Spirit	1,000
Transfiguration Temper	1,950
Van Den Hul MM-1	250
Van Den Hul MM-2	299
Van Den Hul DDT-II	699
Van Den Hul MC-10	70
Van Den Hul MC-One	999
Van Den Hul MC-ONE Super	1,150
Van Den Hul MC-Two	1,349
Van Den Hul The Frog	1,700
Van Den Hul Grasshopper IIISLA	2,200
Van Den Hul Grasshopper IIIGLN	2,999
Van Den Hul Grasshopper IIIGLA	2,999
Van Den Hul Grasshopper IIICMN	3,000
Van Den Hul Grasshopper IIICHN	3,400
Van Den Hul Grasshopper IVGLA	3,450
Wilson Benesch Matrix	786
Wilson Benesch Hybrid	1,068
Wilson Benesch Carbon	1,586
Wilson Benesch Analog	1,850

CASSETTE DECKS

KEY
↔ - Autoreverse - no need to remove and turn round the tape.
3-H - 3 heads, i.e. separate record and replay heads.
Up to £200

Aiwa AD-F450	120
Aiwa AD-WX727	170
Denon DRM-550	160
Denon DRW-580	200
Denon DRS-640	200
Goodmans Delta 801	130
Grundig CCF3	200
JVC TD-W218BK	170
JVC TD-X372BK	170
JVC TD-R472BK	200
JVC TD-W318BK	200
Kenwood KX-W4080	160
Kenwood KX-3080	160
Kenwood KX-W6080	200
Kenwood KX-5080S	200
Marantz SD-53	200
Marantz SD-555	200
Onkyo K 185	200
Pioneer CT-S250	150
Pioneer CT-W205R	160
Pioneer CT-W505R	180
Pioneer CT-S450S	200
Sony TC-KE200	120
Sony TC-WE405	150
Sony TC-KE400S	180
Sony TC-WE505	180
TEAC W-416	100
TEAC V-610	100
TEAC W-780R	170
TEAC R-560	180
TEAC R-550	200
Technics RS-TR373	200
Technics RS-BX501	200
Yamaha KX-390	150
Yamaha KX-W392	180
Yamaha KX-490	200
Over £200	
Aiwa AD-F850	3-H 230

SENNHEISER



THE ESSENTIAL ACCESSORY – SENNHEISER'S HD565

"Sound quality is exceptionally good... easily the best all-round model tested".

Alvin Gold, Hi-Fi Choice, September 1996.

Call (01494) 551551 for more information or your nearest stockist.

PS Audio SL3	1,449
PS Audio UltraLink 2 HDCD	2,590
PS Audio Ref Link	4,550
Resolution D20	6,500
Roksan Attezza-DA2	595
Sonic Frontiers Transdac	699
Sonic Frontiers SFD-1 Mk 2	2,495
Sonic Frontiers SFD-2 Mk 2	5,295
Sumo Theorem II	945
Sumo Theorem IIB	1,155
TEAC D-11	500
TEAC D-700	600
TEAC VRDS-25	1,300
Theta Digital Chroma Std	849
Theta Digital Pro Geny	1,145
Theta Digital Pro Prime II	1,800
Theta Digital Pro Basic III	2,990
Theta Digital Gen V SE	4,300
Theta Digital Casablanca LS	5,910
Thorens TDA-2000	700
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
Woodside DVAC-18	1,499

Sharp MD-MS100H	MD	350
Sony MZ-E40	MD	180
Sony MZ-E30	MD	280
Sony MDS-S38	MD	300
Sony MZ-R30	MD	300
Sony MDS-JE500	MD	300
Sony MDS-MX1	MD	500
Sony MDS-S1	MD	550
Sony MDS-S03	MD	550
Sony DTC-ZE700	DAT	699
Sony MDA-JAES	MD	700
TEAC MD-H500	MD	650
TEAC MD-10	MD	950



HEADPHONES

KEY
 'D' - dynamic type, compatible with virtually all normal headphone sockets.
 'E' - electrostatic type; generally includes a separate power supply.
 ☞ - open-back construction.
 ☞ - closed-back construction.

Up to £40

DIGITAL RECORDERS	
KEY	
MD - minidisc	
DAT - digital audio tape	
☞ - Portable	
DIGITAL RECORDERS	
Meridian CDR	4,500
Onkyo MD 122	700
Pioneer D-05	900
Pioneer PDR-05	1,300
Pioneer D-C88	2,000
Sharp MD-R1E	330

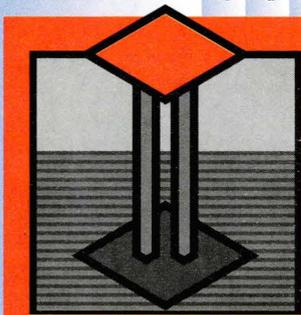
Aiwa HP-X301	D	20
Aiwa HP-VX303	D	25
Aiwa HP-X705	D	40
AKG Rox	D	30
Audio Technica ATH-P1	D	10
Audio Technica ATH-P3	D	15
Audio Technica ATH-P5	D	20
Beyer DT111 Beta	D	20
Beyer DT111 Gamma	D	25
Beyer DT211	D	34
JVC HA-CD88	D	18
JVC HA-D525	D	20
JVC HA-F65	D	20
JVC HA-D626	D	25
Kenwood KH-1000	D	25
Kenwood KH-2020	D	40
Maxell HP-1000	D	20
Maxell HP-2000	D	25

Maxell HP-3000	D	30
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 HD435 Vegas	D	30
Sennheiser HD435 Manhattan	D	30
Sennheiser HD60TV	D	40
Sony MDR-W20G	D	18
Sony MDR-E837	D	18
Sony MDR-009TV	D	20
Sony MDR-A34L	D	20
Sony MDR-E848	D	20
Sony MDR-CD170	D	20
Sony MDR-ED238	D	25
Sony MDR-P1TV	D	25
Sony MDR-CD270	D	30
Sony MDR-E868	D	35
Sony MDR-IF120	D	35
Sony MDR-CD370	D	40
Technics RP-HT280	D	30
Technics RP-HT300	D	40
Vivanco SR250	D	19
Vivanco SR150	D	20
Vivanco SR200	D	25
Vivanco SR300	D	30

Over £41

AKG K301	D	80
AKG K222IR	D	100
AKG K401	D	120
AKG K501	D	150
AKG K333R	D	150
AKG K444R	D	180
AKG K290S	D	250
AKG K1000	D	700
Audio Technica ATH910PRO	D	90
Beyer DT311	D	57
Beyer DT411	D	69
Beyer DT331	D	82
Beyer DT431	D	98
Beyer IRH890	D	117
Beyer DT511	D	117
Beyer DT531	D	135
Beyer DT770 Pro	D	152
Beyer DT100	D	152
Beyer DT801	D	172
Beyer DT990 Pro	D	187
Beyer DT811	D	200
Beyer IRS890	D	222
Beyer DT901	D	222
Beyer DT911	D	235
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 SR80	D	100
Grado SR225	D	200
Jecklin Float Model 1	D	79
Jecklin Float Model 2	D	99
Jecklin Float ELS	E	399
JVC HA-D727	D	43
JVC HA-D910	D	65
JVC HA-D1000	D	250
JVC HA-F25	D	699
Kenwood KH-5000	D	70
Precide Ergo Model 1	D	120
Precide Ergo Model 2	D	140
Sennheiser HD445	D	45
Sennheiser HD455	D	55
Sennheiser HD465	D	65
Sennheiser IS360/UK	D	70
Sennheiser HD475	D	80
Sennheiser HD25 SP	D	90
Sennheiser HD535	D	105
Sennheiser IS450	D	120
Sennheiser HD545 Ref	D	125
Sennheiser HD250H	D	150
Sennheiser HD565 Ovat'n	D	150
Sennheiser HD265 Linear	D	150
Sennheiser HD25-13	D	160
Sennheiser HD25	D	160
Sennheiser HDC 451-1	D	166
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-IF50K	D	50
Sony MDR-IF120K	D	50
Sony MDR-CD470	D	50
Sony MDR-E888	D	55
Sony MDR-CD570	D	70
Sony MDR-IF320RK-MK2	D	80
Sony MDR-CD770	D	100
Sony MDR-NC5	D	100
Sony MDR-D77	D	130
Sony MDR-NC20	D	150
Sony MDR-NC10	D	150

Sony MDR-CD1700	D	200
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	1,695
Stax SR-Omega Ref	E	1,700
Technics RP-HT400	D	50
Technics RP-HT600	D	60
Technics RP-HT700	D	70
Vivanco IR5700	D	50
Vivanco IR5000	D	50
Vivanco SR850	D	50
Vivanco SR650	D	50
Vivanco SR750	D	60
Vivanco IR6000	D	70
Vivanco SR909	D	70
Vivanco IR6500	D	90
Vivanco SR10001FL	D	110
Vivanco IR7100	D	120
Vivanco IR7600	D	140
Vivanco SR200IFL	D	140



EQUIPMENT SUPPORTS SPEAKER STANDS

Arcici Q-1	299
Arcici Q-2	299
Atacama BD21	55
Atacama BD17	55
Atacama BD25	60
Atacama SE16	65
Atacama SE12	65
Atacama SX500	67
Atacama F2	70
Atacama F1	70
Atacama SX600	70
Atacama SL200	70
Atacama SE24	70
Atacama SE20	70
Atacama SX700	73
Atacama SL300	73
Atacama TP600	75
Atacama TP500	75
Atacama SE615	75
Atacama SE515	75
Atacama SE415	75
Atacama SL400	76
Atacama SE1000S	80
Chord CEL 01	387
Credo STD 001	284
Deadrock 903	60
Deadrock 902	60
Deadrock 901	60
Harbeth HL-Stands	249
Heybrook Stand-HY	45
Heybrook Stand-SX	55
Heybrook Stand -S6	59
Heybrook Stand-S4	59
JPW HS1	120
JPW HS2	120
Kudos Audio Arrow	50
Kudos Audio S-50	100
Kudos Audio S-100	270
Pioneer CP-7	50
Pioneer CP-8	80
QLN Signature	75
QLN Signature	75
Revolver RS1	70
Royd Royd	99
SD Acoustics SD Alexander	335
Silverado Silverado 1 Stand	350
Sonus Faber Ironwood	475
Sonus Faber Stonewood	497
Sound Org Z037	55
Sound Org Z027	55
Sound Org Z026	55
Sound Org Z128	108
Soundstyle X6118	100
Soundstyle X6124	100
Soundstyle X020	105
Stands Unique Speaker support	159
Stands Unique Tuned Steel	220
Stands Unique Tuned Carbon Fibre	315
UKD-Opera S2	345
UKD-Opera S1	345

Equipment Supports

Audiophile Base 01	79
Audiophile S4T120	280
Audiophile Furniture Base	480
Audiophile S4T120P	560
Deadrock 701	60
Deadrock 802	90
Deadrock 703	130
Deadrock 704	190
Deadrock 705	230
DNM DOMOWS	125
DNM DOMOPS	125
Fi-Rax R4	399
Impulse Iso-plate	190
JPW MS2	45
JPW MS3	55
JPW MS1	80
JPW 3 Tier	80
JPW 5 Tier	100
Kudos Audio Corinthian Linn K3000	600
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 Base	175
Mana Sound Stage	200
Mana Sound Table	235
Mana Ref Shelf	325
Mana Reference Table	350
Mana 2 Tier Amp stand	375
Mana 3 Tier Amp Stand	450
Mana 4 Tier Amp Stand	500
Mana 5 Tier Amp Stand	600
Mana 6 Tier Amp Stand	700
Optimum G2	55
Optimum G2P	85
Optimum G4P	130
Optimum OPT 3406	149
Optimum G5P	150
Optimum OPT 4906	199
Optimum OPT 6606	199
Optimum OPT 10206	299
Optimum AV 300	299
Optimum OPT 340	299
Optimum OPT 490	349
Optimum OPT 440	349
Optimum OPT 700	399
Optimum OPT 660	399
Optimum OPT 1020	449
Optimum OPT 1190	499
QLN A3	125
QLN Modulus	125
QLN A4	165
QLN A5	205
QLN A6	245
Quadraspire Q4 mini shelf	60
Quadraspire Q4 shelf	60
Quadraspire Cabinet shelf	80
Quadraspire AV shelf	120
Quadraspire Q4 mini table	200
Quadraspire Q4 table	200
Quadraspire AV table	300
Quadraspire Cabinet	400
Sound Org 2022	65
Sound Org 2021	78
Sound Org 2030	100
Sound Org 2060	120
Sound Org Z038	135
Sound Org Z560	160
Sound Org Z530	170
Soundstyle X300	180
Soundstyle X305	210
Soundstyle X053	210
Soundstyle X050	210
Soundstyle X6300	215
Soundstyle X100	220
Soundstyle X058	240
Soundstyle X310	250
Soundstyle X120	250
Soundstyle X105	250
Soundstyle X6053	255
Soundstyle X6100	265
Soundstyle X6310	275
Soundstyle X6058	290
Soundstyle X6105	300
Stands Unique Sound Support	239
Stands Unique Midi Tower	249
Stands Unique 10mm Compact	299
Stands Unique 10mm Sound Support	299
Stands Unique High AV	349
Stands Unique Ultimate Tower	649
Stands Unique RMS Reference	799
System Tripod Z053	135
System Tripod Z050	135
System Tripod Z058	155
Target B5	175
Townshend Seismic Sink 1CD	99
Townshend Seismic Sink 1.3D	399
Townshend Seismic Sink 2.3D	449
Townshend S/Sink Stand 1SH	999

Townshend S/Sink Stand 2SH	1,199
Wilson Benesch Asside	720
Wilson Benesch Triptych	990



KEY

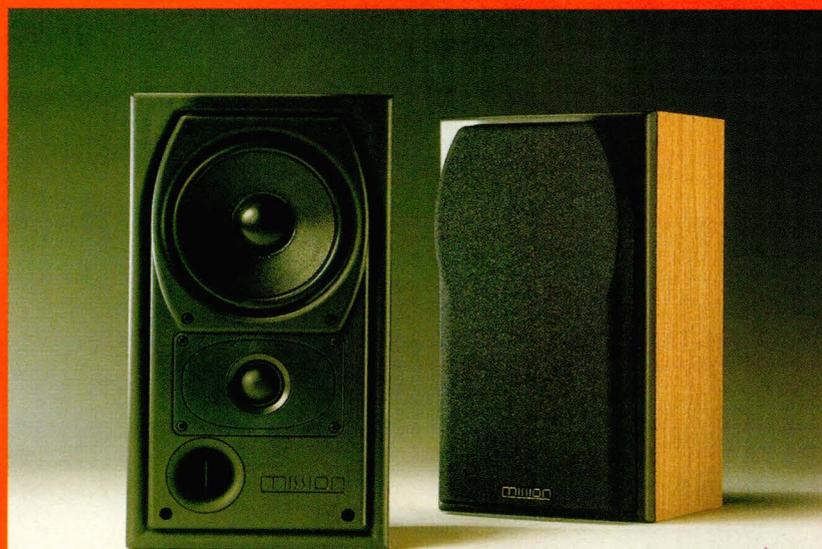
- ⬇ - floorstander; larger models requiring no separate stand.
- ⊞ - stand mount; smaller models designed to be raised above the floor.
- ⊞ - wall mount; designed to be hung on the wall or mounted in-wall.
- ⊞ - box type, including infinite baffle, reflex and transmission line types.
- ⊞ - horn type; mostly large and very efficient.
- ⊞ - panel type, including electrostatic and planar magnetic types.

Up to £130

Allison Micro Monitors	⊞	⊞	⊞	95
Allison Mini References	⊞	⊞	⊞	120
Bose XL1000	⊞	⊞	⊞	130
Celestion 12i	⊞	⊞	⊞	119
Denon SC-M2	⊞	⊞	⊞	80
Gale Mini Monitors	⊞	⊞	⊞	70
Genexxa GX300	⊞	⊞	⊞	80
Genexxa GX330	⊞	⊞	⊞	80
GLL Arena HF	⊞	⊞	⊞	99
Goodmans Active 75	⊞	⊞	⊞	65
Interaudio XL1000	⊞	⊞	⊞	100
Jamo Studio-80	⊞	⊞	⊞	70
Jamo D-100	⊞	⊞	⊞	80
Jamo SAT-90	⊞	⊞	⊞	90
Jamo Cornet 25	⊞	⊞	⊞	100
Jamo Studio-110	⊞	⊞	⊞	100
Jamo D-110	⊞	⊞	⊞	100
Jamo SAT-170	⊞	⊞	⊞	110

Jamo Cornet 35	⊞	⊞	⊞	120
Jamo Artina	⊞	⊞	⊞	120
Jamo D-115	⊞	⊞	⊞	120
Jamo 28	⊞	⊞	⊞	125
JBL TLX111	⊞	⊞	⊞	120
JPW Mini Monitor	⊞	⊞	⊞	60
JPW Gold Monitor	⊞	⊞	⊞	80
JPW IW51	⊞	⊞	⊞	80
JPW ML210	⊞	⊞	⊞	80
JPW ML310	⊞	⊞	⊞	90
JPW ML410	⊞	⊞	⊞	100
JPW IW61	⊞	⊞	⊞	100
JPW IW81	⊞	⊞	⊞	130
JPW ML510	⊞	⊞	⊞	130
JVC SX-SC1VBK	⊞	⊞	⊞	60
JVC SP-V50	⊞	⊞	⊞	80
JVC SP-X220TBK	⊞	⊞	⊞	100
JVC SP-X550BK	⊞	⊞	⊞	130
KEF Coda 7	⊞	⊞	⊞	129
Mission 731i	⊞	⊞	⊞	130
Mordaunt-Short VS-100	⊞	⊞	⊞	100
Mordaunt-Short MS05i	⊞	⊞	⊞	100
NAD 801	⊞	⊞	⊞	100
Pioneer CS-3030	⊞	⊞	⊞	120
Polk AB410	⊞	⊞	⊞	100
Realistic Minimus 26	⊞	⊞	⊞	56
Realistic Minimus Pro-77	⊞	⊞	⊞	100
Revolver Beretta	⊞	⊞	⊞	100
Richard Allen Minette 2	⊞	⊞	⊞	129
Solid HCM2	⊞	⊞	⊞	130
Sony SS-86E	⊞	⊞	⊞	100
Sony SS-126E	⊞	⊞	⊞	130
Tangent Monitor 3	⊞	⊞	⊞	60
Tangent Monitor 5	⊞	⊞	⊞	80
Tangent Monitor 7	⊞	⊞	⊞	100
TDL Nucleus 1	⊞	⊞	⊞	60
TDL NFM 1	⊞	⊞	⊞	120
TEAC LS-X8 Mk II	⊞	⊞	⊞	80
Technics SB-CS55	⊞	⊞	⊞	80
Technics SB-CS75	⊞	⊞	⊞	100
Visionik 5202	⊞	⊞	⊞	129
Wharfedale Valdis 100	⊞	⊞	⊞	80
Wharfedale Diamond 7.1	⊞	⊞	⊞	100
Wharfedale Diamond 6R	⊞	⊞	⊞	110
Wharfedale Valdis 200	⊞	⊞	⊞	110
Wharfedale Mordus Micro	⊞	⊞	⊞	110
£131 to £200				
Acoustic Energy AE100	⊞	⊞	⊞	200
Allison Model 4A	⊞	⊞	⊞	170
B&W DM302	⊞	⊞	⊞	150
B&W CWM5	⊞	⊞	⊞	170
B&W DM601	⊞	⊞	⊞	199
Bose 101 M'ble Monitor	⊞	⊞	⊞	190
Bose XL2000	⊞	⊞	⊞	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
Denon SC-E313	⊞	⊞	⊞	160
Gale 2iB	⊞	⊞	⊞	140
Gale 4i	⊞	⊞	⊞	140
Gale 3s	⊞	⊞	⊞	150
Genexxa GX650	⊞	⊞	⊞	140
GLL Arena SW	⊞	⊞	⊞	139
GLL Imagio IC100	⊞	⊞	⊞	170
Grundig BX1	⊞	⊞	⊞	160
Heybrook Prima	⊞	⊞	⊞	139
Heybrook Solo	⊞	⊞	⊞	199
Infinity SM65	⊞	⊞	⊞	150
Infinity Reference 1i	⊞	⊞	⊞	150
Infinity Reference 11i	⊞	⊞	⊞	200
Interaudio XL2000	⊞	⊞	⊞	140
Interaudio XL3000	⊞	⊞	⊞	160
Interaudio XL4000	⊞	⊞	⊞	200
Jamo Studio 140	⊞	⊞	⊞	140
Jamo 525	⊞	⊞	⊞	140
Jamo 560	⊞	⊞	⊞	150
Jamo 660	⊞	⊞	⊞	160
Jamo Studio 180	⊞	⊞	⊞	180
Jamo 38	⊞	⊞	⊞	180
Jamo D165	⊞	⊞	⊞	200
Jamo 892	⊞	⊞	⊞	200
Jamo Cornet 65	⊞	⊞	⊞	200
JBL TLX121	⊞	⊞	⊞	150
JPW ML610	⊞	⊞	⊞	170
JPW SS551	⊞	⊞	⊞	200
KEF Coda 8	⊞	⊞	⊞	189
KEF Q15	⊞	⊞	⊞	199
KEF Model 60S	⊞	⊞	⊞	199
Kenwood LS-200G	⊞	⊞	⊞	200
Mission 732	⊞	⊞	⊞	200
Mordaunt-Short MS10i	⊞	⊞	⊞	140
Mordaunt-Short VS-200	⊞	⊞	⊞	150
Mordaunt-Short VS-300	⊞	⊞	⊞	200
Mordaunt-Short MS20i	⊞	⊞	⊞	170
Pioneer CS-5030	⊞	⊞	⊞	200
Polk M2	⊞	⊞	⊞	180
Polk RT3	⊞	⊞	⊞	200
Polk AB610	⊞	⊞	⊞	200
QLN Projekt A3	⊞	⊞	⊞	135
QLN Projekt A4	⊞	⊞	⊞	180
QLN Quubic111	⊞	⊞	⊞	200
Rega Kyte	⊞	⊞	⊞	198
Revolver Colt	⊞	⊞	⊞	139
Revolver The 230	⊞	⊞	⊞	169
Revolver Purdy MkII	⊞	⊞	⊞	199
Richard Allen Minette 3	⊞	⊞	⊞	159
Richard Allen Dim'n 5/1 Compact	⊞	⊞	⊞	179
Richard Allen RA6	⊞	⊞	⊞	199
Rogers LS1	⊞	⊞	⊞	149



You must listen to...Mission's 731i.

"A combatant truly worthy of the budget speaker challenge".

Alan Sircom, Hi-Fi Choice, July/August 1996. Call (01480 451777) for more information or your nearest stockist.



Royd The Herald	198	Visionik SUB5	259
Sequence 200	199	Wharfedale MFM1	250
Solid Monitor	200	Wharfedale Modus Music Six	280
Sony SS-176E	200	Wharfedale Valdis 500	300
Tangent Monitor 9	150	Yamaha NS10M	300
Tangent Monitor 11	180	ZYP A1T	219
Tannoy Mercury M2	140	ZYP A2S	275
Tannoy Profile 631	149	ZYP A2ST	295
Tannoy Profile 631SE	169		
Tannoy Profile Plus 632	199	£301 to £500	
TDL RTL 1	200	Acoustic Energy AE109	330
Technics SB-CS95	150	Allison Model 2A	420
Technics SB-M20	200	AudiInnov Alto	329
Visionik 6003	143	B&O Beovox CX50	325
Visionik 5001	170	B&O Beovox CX100	425
Wharfedale Diamond 7.2	140	B&O Beovox RL6000	470
Wharfedale Modus Mini	140	B&W CWM8i	350
Wharfedale Valdis 300	150	B&W DM305	350
Wharfedale Modus Music Two	170	B&W DSG	400
Wharfedale Modus Music Four	200	B&W CDM2	400
Wharfedale Valdis 400	200	B&W DM603	500
Wharfedale Diamond 7.3	200	B&W Signature 7	500
ZYP A1	199	Bandor Pictures	352
		Blue Room Mini Pod	400
£201 to £300		Bose 301 VM	380
Audio Gem Opal	230	Bose 305	430
B&W CWM6i	280	Bose A'mass AM3 II	500
B&W DM602	300	Bose 401	500
Bose XL3000	230	Boston Micro 90 Sat	369
Bose 151 Environmental	270	Boston Micro 80 Sys	369
Bose 161 Freestyle	275	Boston VR20	380
Bose 201 Ser III	290	Castle Tay	329
Bose XL4000	295	Castle Eden	449
Boston 361	219	Celestion 25i	399
Boston CR8	239	Celestion 30i	449
Boston 381	259	Celestion 35i	499
Boston CR9	279	Corwin-Vega VS-10	350
Boston Voyager	299	Clements 300si	395
Castle Isis	229	Dali 104B	370
Celestion 23i	299	Dali Royal	500
Corwin-Vega VS-8	250	Dawn Audio Chorus BS	482
Corwin-Vega CT-330	300	Def Tech Celsius	395
Dali 102B	260	Epos ES12	499
Dali 150	300	Faraday SG	345
Faraday FS1	245	Faraday Siren	445
Gale 5B	220	GLL Imagio IC120	420
GLL Imagio IC110	300	Grundig BX3 Mk II	350
Heybrook HB1	269	Heybrook Heylios	339
Infinity SM85	250	Heybrook Trio	373
Jamo 68	230	Heybrook Heylo	389
Jamo Art	270	Heybrook Heystak	499
Jamo Deco Art	300	Infinity SM105	350
Jamo D265	300	Infinity SM115	400
Jamo Classic 4	300	Infinity SM125	500
Jamo 307A	300	Jamo Cornet 75	330
JBL LX2	250	Jamo 407A	350
JBL TLX151	300	Jamo 98	360
JPW ML710	230	Jamo Classic 6	360
JPW ML810	260	Jamo BX-100A	370
JPW ML910	300	Jamo D365	400
JVC SX-SW10	300	Jamo Cornet 95	400
KEF Coda 9	299	Jamo Graphic	400
KEF Model 70S	299	Jamo Classic 8	430
Kenwood LS-300G	300	Jamo BX-150A	460
Keswick Aria II	299	Jamo Atmosphere	480
Lumley Promenade SP1	299	Jamo 128	500
M-A Monitor 1	250	Jamo 477A	500
M-A Monitor 2	300	Jamo Silhouette	500
Mordaunt-Short MS30i	275	JBL LX6	350
Mordaunt-Short MS10i Classic	280	JBL TLX161	400
Mordaunt-Short MS25i	300	JBL PS8	500
Nus Tec Kestrel SE	299	JBL TLX171	500
NAD 802	280	Jordan Watts JHFLG	380
Pioneer CS-7030	230	JPW MLL090	400
Pioneer CS-9030	280	JPW Ruby 1	400
Pioneer S-LC1	300	JPW SS553	500
Polk AB505	220	JPW Ruby 2	500
Polk M3 II	220	KEF Q35	349
Polk RT5	250	KEF Q55	499
Polk RT7	300	KEF RDM ONE	500
Polk M5	300	Keswick Aria II	329
QLN Projekt A5	225	Keswick Centrale	359
QLN Projekt B3	240	Linn Sekrit	395
QLN Qubic 122	270	Lumley LM4	375
QLN 122	270	Lumley Promenade SP2	399
QLN A6	270	Lumley LM5	499
QLN Projekt B3i	285	Lumley Promenade SP3	499
Rega EL8	298	Mission 733	330
Revolver The 250	239	Mission 751f	348
Richard Allen Dimension Five 1	249	Mission 734	499
Richard Allen RA8	249	M-A Monitor 3	400
Richard Allen RA8M	249	Mordaunt-Short MS40i	450
Richard Allen Dimension Five 2	269	Mus Tec Harrier	400
Rogers LS33	249	NAD 804	400
Royd Minstrel	269	Neat Critique	385
Royd Merlin	298	Origin Live OL-1AS	399
Sequence 300	249	Origin Live Monarch	399
Solid HCM1	250	Pentachord A	469
Sony SS-176EB	250	Pioneer S-LC2	450
Spendor 2010	249	Polk AB705	330
Tannoy Profile Plus 633	299	Polk RT8	400
TDL RTL 2	280	Polk RT10	500
Visionik 7003	203	Polk AB805	500



Rogers dB101: the speaker that thinks it's a McLaren F1!

Prof Monitor Co TB1S	366	Dali 109	800
Prof Monitor Co TB1SM	403	Dawn Audio Chorus FS	698
Prof Monitor Co TB1	410	Def Tech BP6B	750
Prof Monitor Co TB1M	447	Epos ES14	675
Prof Monitor Co XB1	499	Faraday FS10	795
QLN Projekt B4	320	GLL Imagio IC130	530
QLN Projekt B3ii	329	Harbeth BBC LS3/5A	699
QLN Projekt C3	330	Harbeth HL-P3ES	799
QLN Projekt B MULTI	330	Heybrook Quartet	575
QLN Projekt D3	360	Infinity SM155	550
QLN Projekt C3i	370	Jamo BX-200A	550
QLN Qubic 222	400	Jamo Classic 10	700
QLN Projekt C3ii	400	Jamo 507A	800
QLN Projekt B5	400	JBL LX7	550
QLN Projekt C3iii	400	JBL TLX181	600
QLN Projekt D3i	440	JBL L20	700
QLN Projekt C4	440	JBL PS12	750
QLN Projekt C3iv	440	Jordan Watts JH200	510
QLN Projekt D3ii	470	Jordan Watts JH400	565
QLN Projekt D4	480	JPW Ruby 3	800
QLN Projekt CMULTI	500	KEF LS3/5a	649
Rega ELA	498	KEF RDM Two	699
Revolver The 260	350	KEF Q65	799
Richard Allen Dimension Five 3	349	Keswick Volante	629
Richard Allen Dimension Five 4	429	Linn Tukavan	550
Rogers db101	399	Linn Kellidh Passive	750
Rogers LS55	429	Lumley LM6	650
Rogers Studio 3	499	Lumley Promenade SP4	650
Royd The Squire	350	Mantecore Minaret	580
Royd Doublet	450	Meridian A500	750
Ruark Icon	359	M&K S-85	700
SD Acoustics SD3R	449	Mission 752f	578
Sequence 400	329	Mission 735i	650
Solid Verticale	400	Mission 735f	798
Spendor 2020	399	M-A Studio 2SE	600
Tannoy Profile Plus 635	449	M-A 700 PMC	600
TDL RTL 3	400	M-A 702PMC	700
Technics SB-M300	350	M-A 703PMC	800
Technics SB-M500	450	Mordaunt-Short MS50i	550
Totem Mite	495	Naim INTRO	660
Triangle Titus TZe	379	Neat Mystique	575
UKD-Opera Opera Duetto	395	Neat Petite II	745
Visionik TB1S	366	Origin Live Resolution	732
Wharfedale MFM3	350	Origin Live Victory	750
Wharfedale Modus Music Eight	360	Pentachord B	519
Wharfedale MFM5	450	Pentachord Pentode	729
Wharfedale Modus Music 1/6	460	Polk RT12	600
		Polk RT16	799
£501 to £800		Polk LS50	800
Acoustic Energy AE1-II	795	ProAc Tablette 50	599
Allison Model 3A	525	ProAc Studio 100	699
Audio Gem Emerald	540	QLN 313	600
Audio Note AN-K/D	620	QLN 929	700
Audio Note AN-I/B	799	QLN Classic One	800
B&W CDM1	600	Quad 10L	600
B&W P4	675	Rogers C6/20	533
Bose SE-5 Ser II System	760	Rogers LS3/5A	699
Bose A'mass AM511	800	Rogers Studio 5	699
Boston VR30	600	Rogers C6/25	763
Boston Micro 90 Sys	669	Rolsan ROKone 1	595
Castle Severn	539	Rolsan Ojan 3	795
Castle Avon	699	Royd The Sorcerer	595
Celestion 45i	599	Royd Abbot	665
Corwin-Vega VS-12	550	Ruark Templar II	599
Corwin-Vega VS-15	700	Ruark Sceptre	599
Clements 600si	595	Ruark Talisman II	749
Dali 107	600	Ruark Prologue One	799
Dali 350	600	Silverado Raider	695
Dali 450	700		

Horning Agathon	⏏	3,555
Impulse Ta'us	⏏	3,100
Infinity Sigma	⏏	5,995
Infinity Epsilon	⏏	9,995
Jamo Oriel	⏏	7,000
JBL S2600	⏏	3,500
JBL S3100	⏏	4,000
Jordan Watts JH5K	⏏	3,950
Jordan Watts JH10K	⏏	7,570
KEF Model Four	⏏	3,299
Keswick Zero 2	⏏	6,000
Linn Keltik Aktiv	⏏	6,000
Lowther Delphic	⏏	3,099
Lowther Opus One	⏏	4,999
Lumley LM 2 Signature	⏏	4,500
Lumley LM1	⏏	8,500
Magneplanar MG-3.5SE	⏏	3,800
Martin-Logan SL3	⏏	3,499
Martin-Logan CLS IIz	⏏	4,555
Martin-Logan Re-Quest	⏏	5,875
Martin-Logan Monolith S	⏏	7,440
Martin-Logan Monolith IIP	⏏	8,550
Meridian DSP5000	⏏	3,295
Meridian DSP5500	⏏	5,950
Meridian DSP6000	⏏	9,400
M&K BP2000	⏏	3,600
M-A Studio 50	⏏	4,000
M-A Studio 60	⏏	6,000
Naim DBL Active	⏏	7,414
Neolith NEO 2	⏏	3,499
Neolith NEO 3	⏏	4,999
Paragon Regent	⏏	3,490
ProAc Response 3.5	⏏	4,250
Prof Monitor Co MB1P	⏏	4,370
Prof Monitor Co BBS/P	⏏	6,270
QLN Artec 1600	⏏	4,500
Quad ESL63	⏏	3,450
Rehdeko RK145	⏏	4,250
Rehdeko RK175	⏏	7,750
Shahinian Hawk	⏏	4,995
Shahinian Diapason	⏏	8,895
Shun Mook Bella Voce	⏏	5,500
Sonus Faber Electa Amator	⏏	3,293
Sonus Faber Extrema	⏏	6,500
Sound-Lab Dynastat	⏏	3,790
Sound-Lab Aura	⏏	6,490
Sound-Lab Pristine III + Spondor SP9/1	⏏	7,990
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
TDL Ref Standard-m	⏏	4,999
Thiel CS-2.2	⏏	3,449
Thiel CS-3.6	⏏	4,899
Triangle Nemo Altair	⏏	4,250
Wilson Audio Cub	⏏	5,495
Wilson Audio WATT 5	⏏	8,750
Wilson Audio WITT	⏏	8,888
Wilson Benesch Actor	⏏	3,800
Wilson Benesch ACT1 spkr	⏏	6,400

Castle Keep	⏏	249
Celestion CC1	⏏	89
Celestion CSC	⏏	129
Celestion Centre 2	⏏	149
Celestion C1i	⏏	150
Cerwin-Vega CC-240	⏏	80
Cerwin-Vega CC-250	⏏	100
Dali SC5	⏏	220
Def Tech C1jr	⏏	275
Def Tech C1B	⏏	395
Def Tech CLR1000B	⏏	595
Def Tech CLR2002	⏏	695
Def Tech CLR2000	⏏	845
Gale Centre 1	⏏	80
Gale Centre 2	⏏	120
GLL Arena AV Centre	⏏	100
Infinity SM Video	⏏	175
Infinity Centre	⏏	650
Jamo Centre 50.II	⏏	80
Jamo Centre 40	⏏	100
Jamo Centre 100 II	⏏	130
Jamo Centre 18	⏏	150
Jamo Centre 160	⏏	180
Jamo Centre 200	⏏	200
Jamo Concert Centre	⏏	500
JBL MR Centre	⏏	100
JBL TLX103	⏏	100
JBL SC305	⏏	150
JBL LX Centre	⏏	150
JBL L Centre	⏏	350
JPW Mini Monitor	⏏	40
JPW Gold Monitor	⏏	50
JPW CC40	⏏	80
JPW CC50	⏏	90
JPW CC60	⏏	100
JPW CC70	⏏	130
KEF Model 80C	⏏	129
KEF 80C	⏏	129
KEF Q95C	⏏	199
KEF Model 90	⏏	259
KEF Model 90	⏏	259
KEF Model 100	⏏	359
KEF Model 100	⏏	359
KEF Model 200C	⏏	699
KEF 200C	⏏	699
Kenwood CS-6	⏏	699
Keswick Centrali	⏏	359
Linn AV5120	⏏	650
Martin-Logan Logos	⏏	1,998
Meridian M60C	⏏	1,125
Meridian M60C	⏏	1,125
Meridian DSP5000C	⏏	1,750
Meridian DSP5500C	⏏	3,095
Meridian DSP6000C	⏏	4,900
M&K S-85	⏏	400
M&K S-150C (THX)	⏏	800
Mission 73C	⏏	150
Mission 75C	⏏	248
M-A CC300	⏏	300
M-A CC900	⏏	500
M-A CC70	⏏	600
Mordaunt-Short VS-100C	⏏	100
Mordaunt-Short MSCI	⏏	180
NAD 808CC	⏏	170
Polk M3 C	⏏	120
Polk CS101	⏏	120
Polk CS200	⏏	170
Polk AB705C	⏏	180
Polk RM2500C	⏏	249
Polk CS250	⏏	250
Polk CS350	⏏	450
ProAc Response CC One	⏏	599
Revolver The Ricochet Ctr	⏏	50
Richard Allen Centre	⏏	49
Richard Allen Centre plus	⏏	99
Richard Allen Dimension Ctr Pod	⏏	149
Richard Allen Magnum Ctr Pod	⏏	249
Royd AV77	⏏	250
Solid C100	⏏	130
Sony SS-CN15	⏏	40
Sony SS-CN35	⏏	70
Sony SS-CN65ES	⏏	130
Tannoy Profile Plus 621	⏏	99
Tannoy Profile Plus 622	⏏	179
Tannoy Definition D750	⏏	999
TDL Nucleus CCS	⏏	150
TEAC LS-CT8	⏏	80
Triangle Sat 1	⏏	399
Wharfedale Modus Centre Cube	⏏	50
Wharfedale Valdus Centre	⏏	100
Wharfedale Modus Centre	⏏	120

Wharfedale Modus Music Centre	⏏	150
Yamaha NS-C60	⏏	60
Yamaha NS-C105	⏏	80
Yamaha NS-C150	⏏	110
ZYP A1TAV	⏏	109



DEDICATED SURROUND SPEAKERS

KEY

⏏ - magnetically shielded; allows positioning close to TV sets.

THX - THX approved by Lucasfilm for use in Home THX installations.

B&W SCM8	THX	1,190
Boston VRS Micro		170
Boston CRX		200
Boston VRS		299
Boston VRS Pro	THX	370
Celestion Little 1		99
Celestion MP1		199
Cerwin-Vega SA-140		100
Cerwin-Vega SA-150		140
Dali SS5		220
Def Tech BP1		395
Def Tech BP2		595
Def Tech BPX		1,095
H/K Citation 7.3	THX	1,750
Infinity Quadrapole		500
Jamo Surround 40		60
Jamo Surround 50 II		70
Jamo Surround 100 II		90
Jamo Cornet 35		120
Jamo Surround 160		130
Jamo Surround 200		180
Jamo Surround 300		280
Jamo Surround One	THX	550
JBL LX Surround		180
JPW Satellites		80
KEF Ci250SW		399
KEF Model AV2		539
KEF Model AV3		589
Kenwood RS-05		80
Kenwood CM-5ES		80
Kenwood CM7ES		100
Kenwood Omni 7		170
Martin-Logan Stylos		2,872
M&K SS-150 (THX)	THX	750
M&K S-150	THX	2,400
Mission 73DP		300
Mission 75DP		348
Mordaunt-Short VS-100R		90
Mus Tec Merlin		200
Mus Tec Hobby		250
Mus Tec Osprey		250
NAD 805RC		150
Polk RM2000 II		350
Polk RT f/x		350
Polk LS t/x Surround		449
Revolver The Ricochet Rear		49
Richard Allen Satellites		99
Richard Allen Dimension Cubes		139
Sony SS-SR15		40
Sony SS-SR35		100
Sony SS-SR65ES		170
Tannoy Profile Plus 628		149
Triangle SAT II		250
Wharfedale Modus Cube		60

SUBWOOFERS

KEY

⏏ - active; includes a dedicated power amplifier.

THX - THX approved by Lucasfilm for use in Home THX installations.

Aiwa TS-W9	⏏	170
Allison Mini Ref Sub	⏏	210
Alon Poseidon	⏏	15,000
AMC B1-20	⏏	350
Audio Physic Terra	⏏	3,499
B&W AS6	⏏	500
B&W Matrix 800ASW	THX	1,500
Boston CR400	⏏	300
Boston VR500	⏏	450
Boston VR2000	THX	800
Celestion CS135	⏏	139
Celestion CSW MkII	⏏	329
Celestion S1i	⏏	349
Cerwin-Vega HT-10D	⏏	200
Cerwin-Vega HT-12D	⏏	250
Crede SDC 001	⏏	3,054
GLL LE Bass	⏏	350
Hales Concept Zero	⏏	2,950
H/K Citation 7.4		875
Infinity SSW-10	THX	500
Jamo 860SW		110
Jamo 860		110
Jamo SW400E	⏏	330
Jamo SW505E	⏏	400
Jamo Sub One	⏏	400
Jamo SW600e	⏏	530
JBL CM6	⏏	200
JBL PSW800	⏏	275
JBL Sub 10	⏏	300
JBL PSW1000	⏏	325
JBL PSW1200	⏏	375
JPW Subwoofer	⏏	130
JPW SW60	⏏	350
JPW SW120	⏏	500
KEF Model 20B	⏏	349
KEF Model 30B	⏏	499
KEF Model AV1	THX	2,499
Kenwood SW500	⏏	250
Keswick Alto	⏏	1,299
Linn AV5150	⏏	2,850
L Voice RW24	⏏	9,500
Meridian Sub 1	⏏	1,500
Meridian M2500	⏏	1,595
M&K VX-7B	⏏	450
M&K VX-7MKII	⏏	450
M&K V-75 MKII	⏏	650
M&K V-125 (THX)	THX	800
M&K MX-70	⏏	900
M&K MX-100	⏏	1,500
M&K MX-150	THX	1,500
M&K MX-200	⏏	1,800
M&K MX-300	THX	2,500
M&K MX-5000	THX	2,900
Mission 73P1	⏏	100
Mission 73PS	⏏	180
Mission 73AS	⏏	450
Mission 75AS	⏏	548
M-A ASW 7	⏏	700
Mordaunt-Short T2000	⏏	500
Muse Model 22	⏏	1,890
Muse Model 18	⏏	3,790
Neat Gravitas	⏏	1,095
Polk PSW50	⏏	350
Polk PSW150	⏏	500
Polk PSW300	⏏	750
REL Q50	⏏	375
REL Q-100	⏏	475
REL Strata II	⏏	575
REL Storm	⏏	695
REL Stadium II	⏏	995
REL Stentor II	⏏	1,795
REL Studio II	⏏	3,995
Revolver The Recoil	⏏	100
Richard Allen Gold Sub	⏏	149
Richard Allen Dim'n Active	⏏	499
Richard Allen Magnum Active	⏏	699
Rogers AB33	⏏	379
Rogers AB1	⏏	549
Roksan Ojan 3S	⏏	795
Sequence FW120	⏏	249
Solid Powerbass	⏏	300
Solid PB100	⏏	350
Sony SA-W101	⏏	230
Sunfire True Sub	⏏	1,600
Tannoy 625ALFie	⏏	599
TDL Nucleus SBR	⏏	200
Triangle SATIII	⏏	650
Wharfedale Modus Sub Bass	⏏	180
Wharfedale Modus Powered Sub	⏏	350
Wilson Audio Puppy 5.1	⏏	8,450
Wilson Audio Whow III	⏏	12,500



DEDICATED CENTRE SPEAKERS

KEY

⏏ - magnetically shielded; allows positioning close to TV sets.

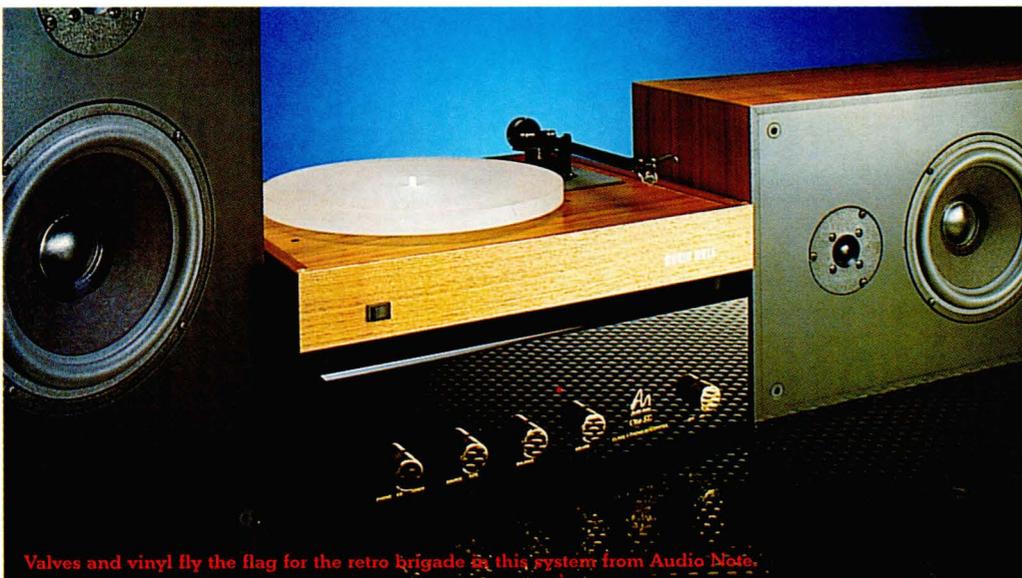
THX - THX approved by Lucasfilm for use in Home THX installations.

Acoustic Energy AE107C	⏏	150
Allison Black Gold Centre	⏏	99
B&W CC3	⏏	150
B&W CC6	⏏	230
B&W Matrix	⏏	500
Bandor Voice	⏏	317
Boston CR1	⏏	100
Boston Centre 6	⏏	130
Boston Micro 90 Cntr	⏏	180
Boston Centre 7	⏏	200
Boston CR2	⏏	200
Boston VR10	⏏	250
Boston VR12	⏏	300
Boston VR14	THX	400



Heybrook Heylios

This £339 Best Buy boasts beautiful bass!



Valves and vinyl fly the flag for the retro brigade in this system from Audio Note.

Yamaha YST-SW40	140
Yamaha YST-SW80	180
Yamaha YST-SW150	280
Yamaha YST-SW300	350

Wilson Benesch ACT1 Std	950
Wilson Benesch ACT2	1,350
Zeta AS	469
Zeta VDH	549

Onkyo T 4210RDS	180
Onkyo T 409	230
Onkyo T 411RDS	260
Pioneer F-204RDS	140
Pioneer F-304RDS	190
Pioneer F-504RDS	250
Quad 77FM	700
Rega Radio	229
Roksan Caspian	495
Rotel RT-990BX	500
Sony ST-SE200	100
Sony ST-SE300	120
Sony ST-SE500	140
Sony ST-SE700	180
Sony ST-SA3ES	250
TEAC T-R400	120
TEAC T-H500	170
TEAC TB-X10	400
Technics ST-GT350L	150
Technics ST-GT550L	200
Technics ST-GT650L	250
Thorens TRT-2000	499
Yamaha TX-480L	100
Yamaha TX-492RDS	130
Yamaha TX-590RDS	180

Rega Planar 2	214
Rega Planar 3	274
Roksan Radius	470
Sherwood PM8550	130
Sony PS-LX150H	90
Sony PS-LX300H	150
Systemdek I/920	136
Systemdek IIX/900	230
Systemdek I/920/Moth	235
Systemdek IIXE/900Ap	388
Systemdek 960	500
Technics SL-BD20	160
Technics SL-BD22	180
Technics SL-1210MkII	500
Technics SL-1200MkII	500
Thorens TD-180 AT91	190
Thorens TD-280 IV/UK	210
Thorens TD-166 VI/UK/RB	400
Thorens TD-318 III TP50	500

Over £500	
Audio Note AN-TT 2	995
Audio Note AN-TT 3	1,850
Audiomeca Romance	1,895
Audiomeca J1	3,500
Basis 2001	2,750
Basis Ovation II	4,800
Basis Debut Gold Std III	7,200
Basis Debut Gold Vacuum	9,250
Clearaudio The Analogue	2,490
Clearaudio Reference	4,500
DNM Rota 1	3,500
DNM Rota 2	4,800
Impulse Moskito	695
Kuzma Stabi	1,950
Kuzma Stabi Reference	3,750
Linn LP12 Basik	1,100
Linn LP12 Lingo	1,750
Lumley Strotosphere ST1	6,250
Manticore Mantra 96	525
Manticore Mantra	790
Manticore Magister	3,990
Marantz TT-1000	6,000
Michell Gyrodek	825
Michell Orbe	1,950
N'ham Spacedeck	750
N'ham Graphic	1,200
N'ham HyperSpacedeck	1,500
N'ham Mentor	2,600
N'ham Anna Log	5,500
Pink Triangle Tarantella	579
Pink Triangle Anniversary	2,500
Pro-Ject 6/Sumiko	850
Rega Planar 9	1,598
Roksan Xerxes 10	1,295
Roksan TMS	2,750
SME Model 20/2	3,240
SME Model 20/2A	4,361
Thorens TD-146 VI TP50	550
Thorens TD-2001 TP90	700
Thorens TD-520 SME	1,050
Townshend MkIII Rock	1,499
Well Tempered Record Player	1,850
Well Tempered Classic	2,980
Well Tempered Super	3,900
Well Tempered Reference	5,300
Wilson Benesch WB Turntable	1,775

KEY
 ⊙ - pivoted.
 # - parallel tracking.

KEY
 'P20' - (etc.) number of presets.
 RDS - Radio Data System; receives text information on station, programme type etc.

KEY
 ⊙ arm included.
 ▽ cartridge included.
 Up to £500

Air Tangent IC	#	3,333
Air Tangent 10B	#	7,777
Air Tangent Ref. Sig.	#	11,000
Audio Note AN-ARM 1	⊙	169
Audio Note AN-0s	⊙	795
Audio Note AN-1s	⊙	995
Audiomeca SL5	#	2,500
Decca LI Arm	⊙	49
Dynavector 507	⊙	1,995
Graham 1.5TC	⊙	2,650
Helius Orion 4 Copper	⊙	549
Helius Cyalene 2	⊙	1,495
Kuzma Stogi	⊙	750
Kuzma Stogi Reference	⊙	1,250
Linn Akito	⊙	500
Linn Ekos	⊙	1,500
Manticore Musician	⊙	425
Manticore Magician	⊙	750
Manticore Magician 12	⊙	850
Moth Arm	⊙	109
Moth MKIII Stainless	⊙	146
Moth Moth 900	⊙	598
Naim ARO	⊙	1,040
N'ham Space	⊙	450
N'ham Paragon 3	#	550
N'ham Paragon 2	#	800
N'ham Mentor	⊙	800
N'ham Paragon 1	#	1,600
Rega RB250	⊙	109
Rega RB300	⊙	174
Rega RB900	⊙	598
Roksan Tabriz	⊙	320
Roksan Tabriz Zi	⊙	420
Roksan Artemiz	⊙	895
SME 3009 Ser II Imp	⊙	294
SME 3009 S2 Ser II Imp	⊙	321
SME Series II 3009-R	⊙	489
SME Series II 3010-R	⊙	501
SME Series II 3012-R	⊙	538
SME 3009	⊙	656
SME 310	⊙	671
SME 312	⊙	763
SME Series IV	⊙	935
SME Series V	⊙	1,391
Townshend Excalibur	⊙	1,499
Wheaton Music Tri-Planar 4i	⊙	3,000
Wheaton Music Tri-Planar 5i	⊙	3,250

AMC T7	P30	130
Arcam Alpha 7	P24	230
Arcam Alpha 8	P24	280
Arcam Delta 280	P20	399
AudioLab 8000T	P39	800
Aura TU80	P30	350
AVI S2000MT Ref	P60	699
Creek T43	P68	399
Day Sequerra FM Ref		5,937
Day Sequerra S B'dcast Mon		14,640
Denon TU-260L	P20	120
Denon TU-215RD	P40	150
Denon TU-425RD	P40	200
Grundig T12	P59	170
H/K TU930	P30	150
H/K TU950	P30	200
Kenwood KT-2080	P20	130
Kenwood KT-3080	P30	180
Linn Kudos	P50	775
Linn Kremin	P80	2,600
Magnum Dynalab FT11		550
Magnum Dynalab FT-101A		825
Magnum Dynalab Etude		1,250
Magnum Dynalab 108		4,500
Marantz ST-57	P59	150
Marantz ST-65	P59	200
Meridian 504	P30	695
Meridian 604	P30	1,350
Michi RHT-10	P16	895
Micromega Minium FM Mk2	P39	329
Micromega Tuner	P39	750
Mission Cyrus FM7	P29	400
Musical Fidelity E50	P20	300
Musical Fidelity E500	P20	499
NAD 412	P24	190
NAD 414RDS	P30	250
NAD 710	P24	270
NAD 712	P24	330
NAD 712	P24	595
Naim NAT03		1,080
Naim NAT02		1,730
Naim NAT01		1,730
Onix TU39		800

Audio Note AN-TT 1	⊙	349
Dual CS435-1	⊙	150
Dual CS455	⊙	190
Dual 505-4 UK	⊙	250
Dual CS Golden II	⊙	500
Eclipse TT430	⊙	70
Genexa Lab-710	⊙	60
Genexa Lab-810	⊙	70
Grundig TT1	⊙	180
Kenwood KD-492F	⊙	100
Michell Syncro	⊙	405
Michell Mycro	⊙	435
Moth Turntable	⊙	199
Moth Atamo	⊙	199
Moth Kanoot MkII Arm	⊙	279
Moth Kanoot	⊙	329
NAD 533	⊙	220
N'ham Interspace	⊙	500
Pioneer PL-J2500-C	⊙	80
Pioneer PL-990	⊙	130
Pro-Ject 0.5 /OM10	⊙	160
Pro-Ject 1/510	⊙	200
Pro-Ject Project 2/520	⊙	300
Pro-Ject Project 6/MC15	⊙	450
Rega Planar 78	⊙	214

Remember that all entries printed in RED refer to hi-fi products that we have reviewed. Turn to page 106 for a full summary of test results!

New Issue

£2.50 June/July 1997

WHAT'S HOT AND WHERE TO GET IT

Stuff

FOR MEN



ON TEST Pocket PCs
Electric guitars Ice cream
Binoculars
Monster 4x4s
Televideos
Tennis rackets



GADGETS

YOU CAN'T LIVE WITHOUT!

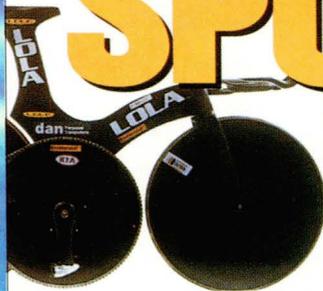
FILTHY RICH FANTASIES

The world's best gear



EXCLUSIVE!

FUTURE SPORT!



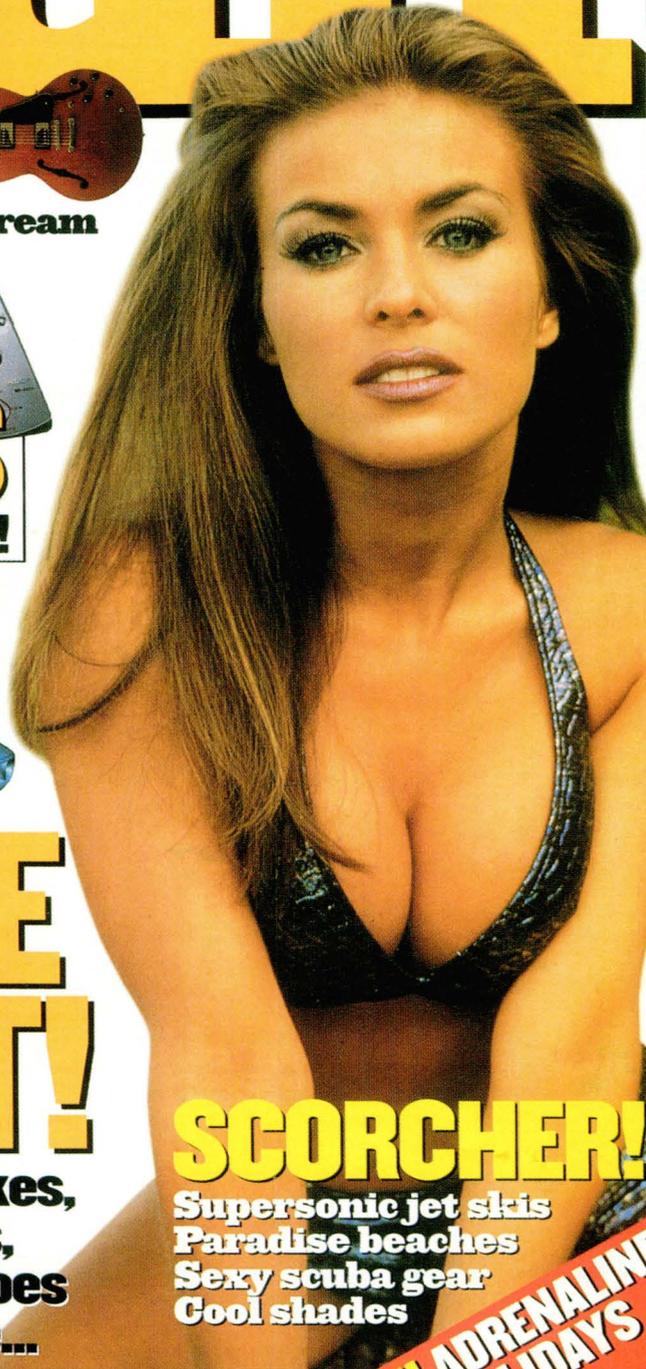
Brainy bikes,
Robo refs,
Liquid shoes
and more...

SCORCHER!

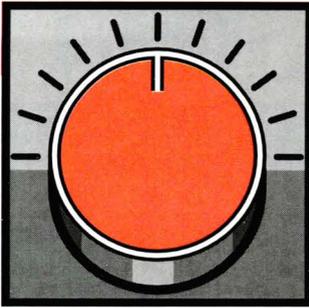
Supersonic jet skis
Paradise beaches
Sexy scuba gear
Cool shades

► CARS THAT CAN'T CRASH ► HI-TECH HI-FI

WIN! ADRENALINE HOLIDAYS



On Sale NOW



Amplifiers

Brought to you in association with **audio research**
HIGH DEFINITION

The amplifier sits at the heart of the system, processing the outputs from the various music sources as necessary and then driving the loudspeakers. These two (quite separate) functions are integrated into a single box at the low-to-middle price points, but become separated into preamps and power amplifiers. Even separate power supplies become increasingly common as one moves upmarket. Bear in mind that output power and sound quality are not necessarily

related. Some of the finest amplifiers available have outputs as low as 12 Watts, but team them with high-efficiency loudspeakers and you can achieve loudness aplenty. Power output is equally no indication of sound quality.

B
Best buy

R
Recommended

KEY	MC PHONO INPUT:	POWER OUTPUT (W):	RECEIVER:
LINE INPUTS: Amount of input sockets for non-vinyl sources such as CD players, tuners and cassette decks.	If an amp has a vinyl phono input for moving coil (low output) cartridges.	Lab tested power output in Watts per channel.	If an amp has a built in radio tuner.
MM PHONO INPUT: If an amp has a vinyl phono input for moving magnet (normal output) cartridges.	If an amp is couch potato ready.	FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page to find the Factsback information page.	ISSUE NUMBER: The issue of Hi-Fi Choice in which the original review appeared.
	HEADPHONE SOCKET: If an amp is can friendly.		

INTEGRATED AMPLIFIERS

Product	Price (£)	Comments	LINE INPUTS	MM PHONO INPUT	MC PHONO INPUT	HEADPHONE SOCKET	REMOTE CONTROL	POWER OUTPUT (W)	FACTSBACK NUMBER	ISSUE NUMBER	RECEIVER
Alchemist Maxim	319	Vivid and colourful sounding amp that's just too bold and brassy	5	●				30	1737	154	
Alchemist Nemesis	700	Good if ultimately undistinguished amplifier whose strengths include warmth, authority and distinctive aesthetics.	6					80		168	
A AMC 3050a	170	Tremendous value for money, and a full, big, if rather uninformative sound.	4	●	●	●	●	45		167	
AMC CVT3030a	400	Beer budget valve amp, with quintessentially valve-like virtues (euphony with dynamics) and vices (system dependency, noise)	6	●				30		168	
Arcam Alpha 7	250	Decent, if slightly system-fussy amplifier that generally pulls all the right strings	5	●				40		167	
Arcam Alpha 8	350	Enjoyably soft-centred amp, won't frighten the animals. Upgradeable via preamp output, and R/C (not supplied)..	5	●				50	1853	162	
A Arcam Alpha 9	500	Not quite as much a star as the Alpha 9/9P combo, the solo integrated is nevertheless colourful and explicitly detailed.	7		●	●		70		168	
A Audio Innovations Alto	300	Probably because of a lack of deep bass, this stylish amp sounds open, natural and relaxed	6					35	1540	138	
Audio Note Ongaku	56,000	A single-ended, zero negative feedback triode, line-level amplifier and a half. Probably the best amplifier in the world	3					26		C91	
A Audio Note Oto SE	1,200	Transparent, dynamic, clear and subtle, but limited power	4					24		126	
A Audiolab 8000A	550	The 8000A remains a highly disciplined and mature sounding amp	5	●	●			60	1581	140	
A Audiolab 8000S	750	Informative in every sense, only a slight lack of bite detracts. Perhaps Audiolab's best yet!	6		●	●		60	1740	154	
Aura VA100 II	350	Big, smooth yet slightly disjointed sound was equally familiar	5	●				70	1541	138	
A Cambridge Audio A3i	200	Maximum information design, with plenty of usable and reasonably refined power. A snip	4	●				60		167	
A Copland CSA8	945	Sophisticated yet transparent, this is one of those amplifiers that sounds good even when the gloss has worn off	5					60		168	
A Copland CSA-14	1,199	Great sound and looks, but watch out for high capacitance cables	4	●				60	1416	148	
A Denon PMA-350SE	200	Reinvented in the minimalist tradition, the new SE model is a control freak, but can sound wonderful	5				●	50	1856	162	
Denon PMA-425R	230	Well equipped and generally enjoyable but slightly ragged performer. You can do better	3	●			●	45		167	
Denon PMA-725R:	350	Warm, bold, up-front presentation, but musically unexciting	5	●	●	●		97	1802	157	
A Densen Beat B-100	600	Low feedback amp with passive internal preamp gives a bold, pacy and thoroughly involving sound. Phono option listed	5					60	1855	162	
DeVa 125	249	Subjectively loud, this throws an unlikely quantity of music at the audience. Bouncy sense of rhythm	6					20	1464	149	
DPA Renaissance	595	DPA's first integrated amp is typically innovative, but a little too 'crisp 'n dry' for our tastes	5	●				40	1582	140	
EMF Audio Sequel	450	Relaxed and restrained design from Mike Creek	5	●				50		109	
Exposure XX Super	700	Rather transistorised, unexciting sound. Good coherence and rhythm. Best played loud	6					55	1743	154	
Gamma Acoustics Gemini	699	Genuine single-ended triode design, but low power, mundane sound and poor build	3					12	1416	148	
Grundig Fine Arts V-11	160	Rhythmically dull. Never gets out of first gear	5	●		●	●	55	1803	157	
A Harman/Kardon HK610	180	Lively and friendly sound, but could prove too exciting for the faint hearted	6	●				30	1465	149	
A Harman/Kardon HK620	250	Capable and musical amplifier which is among the nicest available at the price. Optional add-in MM/MC board available	6		●	●		40	1858	162	
A Harman/Kardon HK1400	400	Relaxed, confident sound is only troubled by the most dense of recordings	5	●	●			40	1011	129	
Harman/Kardon HK640	400	Breezy, nimble sounding amp, lacks grip and fortitude – it can sound artificial and insubstantial	6					55	1542	138	
JoLida 202	695	Well built and technically accomplished, affordable valve integrated with subtle and refined, if not quite gripping sonic performance.	4					40		168	
JVC AX-V4	200	Respectable performance for a Pro-Logic AV amplifier. Lacks resolution and sparkle, though	5	●			●	63	1805	157	
JVC AX-R5	200	Versatile, and lots of even-handed, articulate detail, but let down by superficiality	5	●			●	45	1466	149	
A Kenwood KA-3020SE	200	Not a brilliant phono stage, but this is a lively, exuberant sounding amp via CD	5	●			●	50	1130	134	
Krell Digital KAV-300i	2,490	EISA Award winner with balanced inputs and AV friendly outlook, sound is confident and three dimensional (Statements)	5					150	1825	160	
LFD Integrated Zero	549	Lively and brisk, but at the same time cold and unsympathetic	6					50	1584	140	
Linn Majik (Phono)	800	The cornerstone of Linn's modular hi-fi system is innovative, but sounds vague and confused	5	●	●		●	33	1013	129	
A Magnum IA170	330	Gives a realistic sense of instruments playing within a very believable acoustic, preserves colour and dynamics well	6					96	1260	142	
A Magnum IA-200	495	Sweet, valve -flavoured solid state amplifier flatters where it doesn't cast light. Note: power output listed is peak	7					100	1860	162	
A Magnum Class A	690	Lashings of rich and compelling music, but the Class A trades lushness for accuracy	4	●	●			60		116	
A Marantz PM-66SE	230	A bit lush, and power output is limited, but it communicates well and gives airy, large-scale music. An excellent budget buy	5	●		●	●	50		167	
A Marantz PM66 KI-Signature	400	An amplifier that knows how to rock and roll with holographic detail and stereo, but prefers small/medium scale acoustic material.	5	●		●	●	50		168	
Micromega Minium Amp	350	Excellent musical performance but doesn't like high levels or low impedance speakers	6	●			●	40	1806	157	
Mission Cyrus III	500	Beautifully presented, but mid-dominated balance and other anomalies were not liked. Upgradeable using PSX unit PSU	6	●			●	50	1854	162	
A Mission Cyrus SL	398	Sharp, articulate amplifier, and superb, outgoing midband with lean though well extended bass – and build quality to die for	6					50		168	
Musical Fidelity E10	300	Smooth and high-endish sound that is marred by a lack of dynamics and a touch of grain	5	●			●	40	1746	154	
A Musical Fidelity A2	499	Lucid, transparent midband and a full upper bass are provided by this highly proficient A1 replacement	5	●				25	1862	162	
A Musical Fidelity A220	700	Powerful, authoritative and well turned out amplifier that is easy to match with comparably priced speakers and source components.	5	●				50		168	
Myryad MI 120	530	Despite an ultra-modern appearance, the old-fashioned cold, dry transistor sound	5				●	60	1747	154	
A 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	
A NAD 314	260	Lively if coloured presentation that is musically engaging and easy on the ear	6	●				53	1807	157	
NAD 317	470	Powerful, expandable and affordable, the 317 is short on refinement and resolving power	6				●	80		168	
A Naim Nait 3	575	Distinctive and highly musical sounding integrated amp. Perhaps too distinctive for some tastes	5					30	1748	154	
A Orelle SA-100	449	A musically rewarding amplifier that grows on you. Trace of coarseness in treble	5					50	1749	154	
A Pioneer A-300R	200	Its bright and breezy sound is a natural tonic to those of use worn down by the ongoing stress of life	5	●			●	50	1469	149	

INTEGRATED AMPLIFIERS

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

Product	Price(£)	Comments	6	5	4	3	2	1	150	1624	151
Pioneer A-400X	300	On second audition, this amp was tonally unchanged but less compelling	6	●	●	●	●	●	50	1545	138
Pioneer A-300R Precision	400	Sophisticated, breathed-on variant of the A-300R. Not an obvious winner, but will slowly win you over with its subtle charms	5	●	●	●	●	●	35	1863	162
Pioneer A-605R	400	Intriguing technology, but execution is certainly impeded by excessive gadget count.	5	●	●	●	●	●	80		168
Prime Design A-100	650	Dynamic but somewhat aggressive powerhouse with limited stereo interest (either MM or MC phono).	4	●	●	●	●	●	100		168
Pro-ject Model 7	300	A minimalist amplifier brimming with good intent, but too quirky for its own good. Either MM or MC	5	●	●	●	●	●	40	1264	142
Quad 77 Integrated	700	Compact and sophisticated Quad system amp, limited range of inputs when used with 'foreign' components (optional system remote)	3	●	●	●	●	●	84		168
Rega Elex	398	Minimalist amplifier derived from Elicit, is a little uninspiring, though at least it is not badly behaved.	4	●	●	●	●	●	50	1865	162
Roksan Caspian	695	Well built, open and articulate amplifier, which is also consistent from system to system, and well built	6	●	●	●	●	●	70		168
Rose Scion	615	Unique two-box integrated gives real subtlety and low level resolution, but the sound lacks scale and weight	5	●	●	●	●	●	65		168
Rotel RA970BX	250	Lively, fresh and perky with plenty of power, but not so clever with complex recordings	6	●	●	●	●	●	60	1546	138
Sherwood AX-7030R	400	Versatile, and with truck loads of power on tap, this model is disappointingly coarse and uninvolved on audition	5	●	●	●	●	●	95	1866	162
Sony TA-F246E	200	Relaxed quality that seduces with its guile and subtlety, MM input is a tad laconic but CD is very tidy and composed	3	●	●	●	●	●	40	1471	149
Sony TA-F448E	250	Confused and coloured sounding, it needs a large dose of delicacy adding to its presentation	5	●	●	●	●	●		1809	157
Talk Electronics Storm 1	500	Good soundstaging and strong detail are provided by this unassuming and not especially powerful model	6	●	●	●	●	●	50	1868	162
TEAC A-BX7R	700	Characterful balance mars an otherwise meticulously designed amplifier. Includes a balanced input, optional MM/MC stage	5	●	●	●	●	●	50	1869	162
Technics SU-A700 Mk 3	250	Fully equipped, high-tech amplifier ultimately fails the 'is it Stork...?' test, and can sound messy and inarticulate	5	●	●	●	●	●	45	1870	162
Woodside ISA230 Disc	1,249	Smooth and inoffensive valve amplifier, though it lacks the sparkle and euphony required for a truly entertaining sound	3	●	●	●	●	●	30		116
Yamaha AX-490	250	Widgets aplenty, but unemotional sound evoked an uncertain response from panel	5	●	●	●	●	●	85	1473	149
Preamplifiers											
Alchemist Kraken Pre	519	Quirky Class A design with an equally warm and colourful sound	4	●	●	●	●	●			124
Acurus RL11	899	Well featured US preamp with plenty of grunt and depth when used with the A150 power amp (Sessions)	6	●	●	●	●	●		1624	151
AMC CVT2030A	400	Budget valve preamp, modest build and a tad noisy, with fair sound	6	●	●	●	●	●			165
Audio Innovations L1	369	Reviewed with S800 Anniversary — Explicitly detailed, conveys the message of the music as a whole	4	●	●	●	●	●		1300	145
Audiolab 8000C	550	Distinctive, stark neutrality that will not appeal to all. Good value engineering	5	●	●	●	●	●			97
Audiolab 8000Q	1,100	Tested with 8000M monoblocks	6	●	●	●	●	●		1301	145
Aura CA200	700	Flexible, well designed — can sound slightly aggressive, but it's fast, clean and dynamic, and makes compelling listening	10	●	●	●	●	●			165
Conrad-Johnson PV-10A	1,250	Beautiful imaging, superb detail, plenty of gain on the phono input; classy build too. Tested in Sessions	4	●	●	●	●	●		1560	139
Copland CTA-301MkII	1,399	Sweet sounding — but never gets bogged down in audio treacle	4	●	●	●	●	●		1630	151
Cyrus Pre	650	Tested with Cyrus Power. High-tech design, punchy, light-footed character with a sense of substance and natural warmth	5	●	●	●	●	●			155
Densen DM-20	1,200	Stylish Danish preamp with a pair of huge knobs and effortless resolution and a slightly dark balance (Statements)	6	●	●	●	●	●			164
DPA DSP200S	495	Dramatic but detailed and transparent sound belies modest power rating (tested with DPA-200S)	6	●	●	●	●	●			124
EAR 802MC	2,599	Tested with 509 Mk II - see comments in power amp section	4	●	●	●	●	●			63
ECA Vista	760	Wind up the volume and blow a breath of fresh music into your system (tested with Lectern)	5	●	●	●	●	●		1302	145
Exposure XVII	849	Superbly rhythmic; maybe a tad overpowering in the midband. Tested in Sessions with XVII Super	5	●	●	●	●	●			142
Jadis JP-30MC	5,978	French tubes, JP-30MC has beautiful build, nostalgic styling and delightful midrange. (tested with JA30)	5	●	●	●	●	●			60
LFD Mistral Linestage	499	Strong ergonomics, generally decent sound, but a little lacking in detail	6	●	●	●	●	●			165
Meridian 501	695	Tight, positive sound, but dispassionate; intense at high levels. Tested with 555	5	●	●	●	●	●		1303	145
Meridian 562V	995	Transparent and capable preamp, also features 6 digital inputs	9	●	●	●	●	●			140
Meridian 502	1,295	Extremely sophisticated analogue controller with tremendous flexibility and a fast and tidy presentation (Statements)	7	●	●	●	●	●			162
Moth 30 Passive	149	Modular system gives cracking results. Passive preamp and power amp warrant Best Buy (tested with 30/Stereo 60)	4	●	●	●	●	●			109
Moth 30 Active Line Stage	349	Excellent sounding ultra-simple miniature preamp	4	●	●	●	●	●			165
Muse Model Three	1,990	Natural sounding tranny preamp with useful audiophile features. Works beautifully with 160 power amp (tested in Statements)	5	●	●	●	●	●			166
Musical Fidelity F2	500	Subtle, sweet-sounding preamp with strong presence	5	●	●	●	●	●			165
NAD 114	270	Beer budget preamp, sounds focussed, detailed and consistent	6	●	●	●	●	●			165
Naim NAC92R	599	Upgradeable preamp uses proprietary socketry, etc. See NAP90 power amp for comments	5	●	●	●	●	●			165
Quad 77 Pre	850	Sophisticated design with 2-way remote control console; open colourful sound and very flexible	4	●	●	●	●	●			165
Rega Hal	998	Dedicated to Exon power amps — passive line stages	6	●	●	●	●	●			165
Rose RV-23	450	You can pay more to get a more transparent sound, but it's hard to criticise at the price	3	●	●	●	●	●			77
Rotel RC970BX MkII	175	Confident, consistent sound. reviewed (in Sessions) with RB970BXMkII power amps	5	●	●	●	●	●			144
Rotel RC980BX	375	Tames enthusiastically recorded material with a laid back and occasionally smeared sound (tested with RB980BX)	5	●	●	●	●	●			155
Sumo Athena IIB	767	Tested with Polaris III. Big, natural and tidy sounding with very natural reproduction of acoustic and electric instruments	6	●	●	●	●	●		1305	145
Talk Hurricane 2L	649	Design of integrity which gets to the heart, if not the soul, of the music	6	●	●	●	●	●			165
Thorens TTP2000F	699	Glamorous, shoebox-format, minimalist pre with fine detail and some granularity	3	●	●	●	●	●			165
Woodside SC26 Phono	2,233	Synergistic with STA35, with a cool, controlled sound, good focus and transparency (tested with STA35)	5	●	●	●	●	●			100
Power amplifiers											
Acurus A150	899	Tested with RL11 preamp. Powerful remote control US combo with a slightly forward inclination	1	●	●	●	●	●	150	1624	151
Alchemist Kraken/Pwr	399	Hardly accurate, but entertaining nevertheless	1	●	●	●	●	●	60		124
AMC CVT2100A	600	Astonishing value valve/MOSFET hybrid with KT88 output, but lacks the magic of the best valves	1	●	●	●	●	●	80		165
Arcam Alpha 9P	400	Clear, colourful and well disciplined, the Arcam is a strong all-rounder that can compete with conviction	1	●	●	●	●	●			165
Art Audio Quintet	1,393	Switchable triode, ultralinear output stage. In triode mode, these are 15 of the sweetest Watts around. Surprisingly gutsy	1	●	●	●	●	●	15		109
Aura PA100	700	Can sound slightly aggressive, but it's fast, clean and dynamic, and makes compelling listening	1	●	●	●	●	●	100		165
Audio Innovations S800 Anni	1475	Reviewed with L1 — Explicitly detailed, conveys the message of the music as a whole remarkably well	1	●	●	●	●	●	25	1300	145
Audiolab 8000M	800	Strong, controlled sound; confident bass, but colourless. Tested with 8000Q	1	●	●	●	●	●	125	1301	145
Audio Research VT60	2,395	Ranks as 'must try' American cultural item (tested in Statements). Tube design	1	●	●	●	●	●	35	1179	136
Copland CTA-505	2,099	Grown up amplifier with a refined, yet never over-civilised air	1	●	●	●	●	●	67	1630	151
Cyrus Power	450	Tested with Cyrus Pre. Punchy, light footed character with a sense of substance and natural warmth (bridgeable)	1	●	●	●	●	●	50		155
Densen DM-30	1,200	Fluid, valve-like power amp with effortless resolution and a slightly dark balance (Statements)	2	●	●	●	●	●	100		164
DPA 200S	750	Dramatic but crisp, open sound belies power rating (tested with DSP-200S)	1	●	●	●	●	●	60		124
EAR 509 Mk II	3,699	Combining sonic strengths of transistors and valves, this amp warrants attention (tested with 802)	1	●	●	●	●	●	100		63
ECA Lectern	880	Tested with Vista. Wind up the volume and blow a breath of fresh music into your system	1	●	●	●	●	●	50	1302	145
Exposure XVIII Super	849	Slight dullness and hardness, but great 'boogie factor'	1	●	●	●	●	●	70		142
Jadis JA-30	5,980	French tubes, JP-30MC has beautiful build, nostalgic styling and delightful midrange (tested with £5978 JP30)	1	●	●	●	●	●	30		60

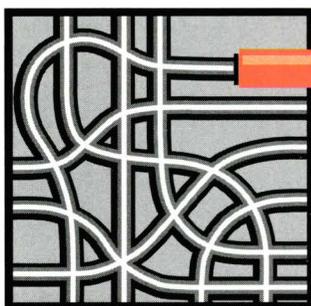
POWER AMPLIFIERS (CONTINUED)

Product	Price(£)	Comments	MM PHONO INPUT	MC PHONO INPUT	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT(W)	FACTSBACK NUMBER	ISSUE NUMBER RECEIVER
LFD Mistral Power	449	Infectious upper band vitality, but LF dynamics lacking, and lacks 'grip' and transparency	1				60		165
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
Meridian 557	1,400	Hefty British lump with balanced inputs and a transparent, nimble sound with no shortage of power (Statements)	1				200		162
Michell Alecto	1150	Open, well focussed imagery with natural, refined textures	1				50		165
Moth 30 Stereo/60	549	Tested with 30 Passive. Modular system gives cracking results	1				60		109
Moth 60 Watt Stereo	599	Miniature power amp lacks control and finesse, not comfortable with difficult speaker loads	1				60		165
Moth 30 Series Monoblocks	879	Tested with Active Preamp. While demonstrating solid, even balance it proved adept at delivering vital musical qualities	1				100		155
Muse Model 160	2,290	Transparent muscle amp with minimal character and a natural performer in both scale and tone (tested in Statements)	1				160		166
Musical Fidelity FX2	800	Quality build and imposing presentation is married to strong power yield, tonal colour and finesse	1				100		165
Musical Fidelity F18	3,999	Belongs to the rarified group of refined, high resolution amplifiers	1				220	1508	133
Myryad MA120	450	Based in M120 integrated – see for comments, but sounds significantly better when bi-amped with M120	1				60		165
NAD 214	370	A little lightweight, but detailed, consistent sound quality, and excellent value for money	1				80		165
NAD Monitor 208	1100	Truly a beefy amplifier, but no mad cow!	1				250		124
Naim NAP90	450	Power amp from a Nait integrated with some improvements	1				30		165
Quad 77 Power	600	Open, bold and colourful, with mild compression	1				85		165
Rega Exon	2194	Monoblock, priced each, dedicated for Hal preamp. Bold, outgoing, in-command kind of sound	1				125		165
Rotel RB-970BX MkII	225	Tested with RC970BX MkII in Sessions (see preamp section)	1				60		144
Rotel RB-980BX	475	Tames enthusiastically recorded material with a laid back and occasionally smeared sound (tested with RC980BX)	1				120		155
Sumo Polaris III	950	Tested with Athena IIB. Big, natural and tidy sounding with very natural reproduction of acoustic and electric instruments	1				164	1305	145
Talk Tornado 2	599	Good, but slightly retiring sound which lacks the authority to stand out in a crowd	1				65		165
Thorens TTA2000	599	Low power shoe-box format, but gutsy and surprisingly subtle and articulate	1				30		165
Woodside STA35	1,323	Synergistic with SC26, with a cool, controlled sound, good focus and transparency. More poise than grunt (tested with SC26)	1				35		100

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Cables

Cables are not just accessories, but an integral part of a system. Inevitably some cables are better than others. The best cable for your system will only be found through trial and error, but by combining our recommendations with those of a dealer, you will end up with something suitable. Generally speaking, budget to spend about ten per cent of the total system cost on cables.

■ Analogue interconnects are the leads that connect source components to amplifiers and pre to power amps. The cables in this section are priced for a one-metre terminated pair.

■ Digital interconnects connect CD transports to DACs, and are traditionally coaxial with a 75 Ohm impedance. 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 with brands.



KEY

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.

FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page to find the Factsback information page.

ISSUE NUMBER: The issue of *Hi-Fi Choice* in which the original review appeared.

CABLES

Product	Price(£)	Comments	SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER	DIG CABLE TYPE	ISSUE NUMBER
Analogue Interconnects									
Audio Note AN-A	29.50	Not especially impressive, warm but well rounded balance that restricts 'air' but is not unclear	●			●			108
Audio Note AN-C	59.50	Neutral but lacking in subtle texture and unable to distinguish fine detail				●	●		1687 131
Audio Note AN-S	139	Up-beat and enthusiastic sound with satisfyingly deep and grumbly bass	●				●	●	1687 131
Audio Note AN-V	219	15 individually insulated silver strands make up this very clean and dynamically unchallenged cable	●			●		●	1687 131
Audioquest Turquoise	40	A 'fit and forget' cable that sounds distinctly lazy	●			●			160
Bandridge AL421	5	Light and airy sound lacks authority, splashy treble			●	●	●		1688 131
Bandridge AL426G	10	Gold plated plug OFC version of AL421 with same ineffectual sound quality			●	●	●		1688 131
Bandridge SG AL4720	13	4N OF copper, full smooth balance but a little plodding and relentless, lacks panache			●	●	●		1688 131
Bandridge SG+ AL4820	25	4N OF copper, distinctly teutonic, thrusting detail forward but still plodding and relentless			●	●	●		1688 131
Bandridge ProfiGold PG301	65	A perfect cable for enlivening a system, but too cold for most systems			●	●	●		160
Cable Talk Studio 2	65	A first-class performer from tonal, dynamic and rhythmic standpoints	●			●	●		160
Cambridge Audio Studio Ref	40	Dynamic cable with strong soundstaging and only a slight lack of detail	●		●	●	●		160
Chord Chameleon	68	Anomalous treble with a dry but vaguely sibilant quality, sometimes sounds smooth, sometimes harsh!				●	●		108
Chord Solid	99	Thin but very stiff with excellent resolution of subtle timbral detail and fine dynamics			●	●	●		108
Connections Midas HD	39	Canary yellow cable with excellent plugs and an open sound. Slight treble glare	●		●	●	●		160
DNM TCC75	34	Price for 0.75m length. High resolution cable, but best in short runs due to higher than average series impedance				●	●	●	1690 131
DPA Slink	41	Slightly bright and zingy sound with flat soundstaging and hollow sounding bass, vocals and strings sound convincing though				●	●		1690 131
DPA White Slink	75	Highly expressive, very easy on the ear and attractively detailed though not entirely characterless at high frequencies				●	●		1691 131
DPA Black Slink	220	Initially dark and meaty but becoming lucid and transparent with running in. Quad geometry, Gore-tex dielectric	●			●	●		1691 131

CABLES (CONTINUED)

Product	Price(£)	Comments						ISSUE NUMBER	DIG CABLE TYPE		
			SYMMETRICAL	COAXIAL	STRANDED	SOLID CORE	COPPER				
▲ Ixos 104	20	Open and detailed presentation, full bass and silky if overly smooth treble			●	●	●	1692	131		
▲ Ixos 103	40	Even handed and generous sound, bass has a well rounded, bouncy quality			●	●	●	1692	131		
▲ Ixos 102	60	A tad 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 brings an earthiness to vocals and rhythm guitar alike			●	●	●	1693	131		
▲ LFD Spirolink I	35	Price for 0.7m length. Dynamic but smoothly detailed performance, but gives the impression of looking down on the music					●	●	1694	131	
▲ LFD Spirolink II	70	Price for 0.7m length. Strong and confident sound enhancing bass depth and subtlety, concentrates on the meat of the music	●				●	●	1694	131	
▲ LFD Trilink	150	Price for 0.7m length. Warm and luxurious sound but a little too fruity in balance, treble is a little subdued, bass detached	●				●	●	1695	131	
▲ Linn Phono to Phono	47	Encourages a delicate performance underpinned by a strong and authoritative bass			●	●	●	●	1695	131	
▲ Monster Interlink 200	20	Colourful in an appealing rather than contrived sense, bass is slightly over-blown, large and ingratiating sound stage	●				●	●	1696	131	
▲ Monster Interlink 300	30	Richer, smoother more civilised sound than 200 with improved articulation and reduced sibilance	●				●	●	1696	131	
▲ Monster Interlink 400	40	Compromised by a grainy top end, treble and vocal range sound particularly sharp and untidy	●				●	●	1697	131	
▲ Monster Interlink 500	50	Sounds rather good, providing a livelier and more interesting account of music than most sub £100 cables	●				●	●		108	
▲ Monster Interlink 800	80	Not as bright or aggressive as the 400 but treble is strangely lumpy, muted and manipulated - odd cable	●				●	●	1697	131	
▲ Monster Interlink Reference 2	100	Easy on the ear but rather contrived, slightly clanky treble fails to integrate with the smoother but sploppy midband					●	●	1697	131	
▲ Moth Ley Line Black	100	Offers a full and big sound, neutral yet very solid and confident in delivery. Expansive imaging retains music's energy	●				●	●		108	
▲ Moth Ley Line Grey	200	Detailed enough but there's a sense of distance between the music and the listener, vox are course rather than liquid	●				●	●		108	
▲ Nordost Black Knight	55	Flat black cable that is distinctive but slightly coloured - but not in a wholly negative manner	●				●	●		160	
▲ Panasonic RP-CA910	50	Uncongested and even handed balance if slightly flat imagewise, retains impact but has a vaguely untransparent quality			●	●	●	●		108	
▲ Silvertone Ex-Static	35	Pleasantly unfatiguing and competitively priced cable that lacks detail and insight			●	●	●	●		160	
▲ SonicLink Silver Pink	35	Dynamically sensitive and muddle-free. Unsure about the flesh-coloured finish though...	●		●		●	●		160	
▲ SonicLink Black	49	Encourages an upbeat and snappy sound that's driven by leading edges, full and rumbustious bass maintains an even tempo			●		●	●		1699	131
▲ Tara Labs Prism 11	45	Very compatible cable that wins through with a naturally balanced and realistically dynamic sound. 6N purity copper	●				●	●		1699	131
▲ Tara Labs Prism 22	56	Delivers a fresh and detailed sound with clear and bright treble giving it a free, quick and dynamic character			●	●	●	●		1700	131
▲ Tara Labs Quantum CD	75	Lacking in obvious vices, neutral and transparent, there's also a good solid bass. Vox are not always as intimate as possible	●				●	●		108	
▲ Tara Labs Prism 33	90	A pedestrian cable that sounds lively but muddled. Quite dynamic, quite rich, quite smooth but also quite indistinct			●	●	●	●		1700	131
▲ Transparent Audio Music Link	119	No aggressive nasties to tax the ears, neither does it sparkle with inspirational detail. Only suited to low output impedances			●	●	●	●		1701	131
▲ van den Hul The Storm	25	Price for 0.8m length. Rich and warm but bass is rolled off, however there's plenty of drive and high frequencies are clear			●	●	●	●		1701	131
▲ van den Hul Source HB	50	(Priced for 0.8m) Hybrid carbon-fibre/copper cable that is a paragon of naturalness. Airy and well controlled			●	●	●	●		160	
▲ van den Hul The First	210	Using 12,000 carbon fibres, a gentle and subtle sounding cable that conveys oodles of information but lacks dynamic punch			●	●	●	●		1702	131
▲ van den Hul The Second	225	Wonderfully open and relaxing but also intimately detailed, slightly softens percussive dynamics	●				●	●		1702	131
▲ XLO Type 150	50	A restrained but useful cable for taming lively CD players, dynamics lack freedom, treble lacks clarity			●	●	●	●		1703	131
▲ XLO Type 0.1	180	Unusual but highly expressive and detailed with a hint of graininess on powerful vocals					●	●		1703	131
Digital Interconnects											
▲ Audio Note AN-V	110	Ostensibly an analogue cable but gives a meaty and natural performance when used for digital duty	●				●	●	E	1704	131
▲ Audioquest Optilink Z	120	Good level of midband detail but frequency extremes lack depth and extension							O		108
▲ Audioquest Digital Pro	100	A silver cable with all the drive of Video Z but lacking its clear cut transparency			●	●			E		108
▲ Bandridge AL4900G	40	Lacks deep rounded bass and treble is coloured with a spittiness, a little rough and ready					●	●	E	1705	131
▲ Chord Codac	32	A connection with a stranded inner core and a sound that lacks integration			●	●		●	E		108
▲ Chord Prodac	50	Price for 0.6m length. Lively detailed treble, drives music along confidently with no hint of fizz			●	●	●	●	E	1706	131
▲ DPA Opti-link	20	Very similar to Bandridge AL560; sound is lacklustre							O		108
▲ DPA Digi-link	28	Can seem slightly impassive but there's no avoiding its exceptionally detailed sound			●	●	●	●	E		108
▲ Ixos 105	25	Extended but soft edged treble that's mercifully free of fatiguing colourations, plenty of weight, smooth vox			●	●	●	●	E	1707	131
▲ Kimber Kable Opti-link	50	Appears to be a bog-standard PMNA fibre, yet sounds a little brighter and livelier than most							O		108
▲ LFD DigiLink Copper	30	Slightly grainy highly compatible cable with coherent and forward dynamic quality			●	●	●	●	E	1708	131
▲ Moth Leyline Datalink	140	A thin, coaxial version of Leyline Black with a rather hard and unforgiving character. Too expensive			●	●	●	●	E		108
▲ QED DigiFlex	20	A top performance, low-loss 75ohm coax with a very open, almost liquid quality			●	●	●	●	E		108
▲ Siltech HF-6	150	Sounds detailed, very clean and very extended, but bass is less well resolved - a treat for high end systems			●	●		●	E	1709	131
▲ SonicLink Green	60	Spacious, positive and engaging if a tad over crisp at times, very compelling however			●	●	●	●	E	1709	131
▲ van den Hul MC Videolink 75	48	An AV-cum-digital cable that nearly beats QED's DigiFlex, but emphasises sibilants			●	●		●	E		108
▲ van den Hul The First	120	Exceptionally natural albeit slightly dark or cautious compared to some, plenty of subtle information and beautiful integration			●	●		●	E	1710	131
Loudspeaker Cables											
▲ Audio Note AN-D	4.50	Supplied in linear, non-polarised lengths that should be twisted into stereo pairs. Sounds rather grippy and forward					●	●			109
▲ Audio Note AN-B	16.50	Well suited to valve systems, elastic bass, methodical but unintrusive and musical			●		●			1711	133



Tel: 0181 348 5676 (2.00-7.00 pm)
 Fax: 0181 341 9368

Esoteric High Fidelity CABLES

Dealers in: Absolute, Audio Note, Audioquest, Deltec, Electrocompaniet, Harmonix, Kimber, Mandrake, MIT, Siltech, Symo, Transparent, Van den Hul, WBT and others.

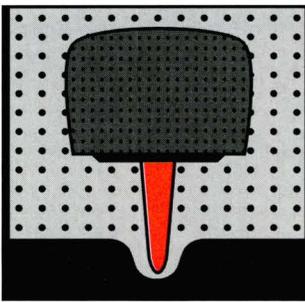
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 ... for YOUR ears
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CONNECTIONS 13 John Princes Street, London W1M 9HB (A division of Connection 90' Travel Ltd.)

CABLES (CONTINUED)

Product	Price(£)	Comments	FACTSBACK NUMBER				ISSUE NUMBER
			SYMMETRICAL	COAXIAL	SOLID CORE	COPPER SILVER	
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
Audio Note AN-SP	125	A calm and civilised presentation, very quiet in the way it reveals subtle low level detail. Great poise and clarity	●		●	●	109
Audioquest F-14	1.95	Ideal for laying under carpets, F-14 encourages a slightly warm and vibrant sound			●	●	109
Audioquest Type 4	4.95	Four 18-gauge OFHC copper conductors wound in a Litz-type fashion increases capacitance but restrains the cable's 'bite'	●	●	●	●	109
Audioquest Cobalt 2	45	A rather polite and anemic sound that bubbles gently with detail and is largely uncoloured and cautiously spacious	●	●	●	●	133
Audioquest Crystal	18	Neutral balance is spoiled by some graininess and smearing.	●	●	●	●	168
Bandridge SF LC1070	42p	Basic figure 8 bellwire, lightweight balance and a softness that dilutes even the strongest bass	●	●	●	●	1713 133
Bandridge SF LC1259	1	Fresh and open, bubbly and naturally colourful soundstage that's neither forced or unduly edgy. Treble is slightly messy	●	●	●	●	1713 133
Bandridge Highflex LC2604	3.50	Substantial 6mm2 conductor produces weighty but ploddy music that lacks transparency	●	●	●	●	1714 133
Bandridge LC7409	3.85	Detailed and up-beat cable. A bit too steely for classical strings			●	●	1800 157
Cable Talk Talk 3.1	2.25	Quite well balanced but tends to lose bass lines in complex music.	●	●	●	●	168
Cable Talk 4.1	4.25	Smooth and cultured sound that lacks fine detail and is a bit too restrained			●	●	1800 157
Chord Myth	5.95	Light and airy tonality may please, but bass is recessed and detail not outstanding.	●		●	●	168
DNM LSC350	6.95	Majors on midband and lower treble lucidity at the expense of bass and extreme treble extension.	●		●	●	168
DNM LSC8500	5.95	High impedance can influence the treble response, but this was a winner on sound per pound. Bi-wire			●	●	1716 133
DPA Black Sixteen	90	Unflappable resolution of fine musical details, there's no dampening of dynamics simply oodles of taut information	●		●	●	1717 133
Gale XL189	0.99	Slightly bright and not that subtle, but a perfectly acceptable cable for any starter system.	●	●	●	●	168
Gale XL315	2	A little lacking in detail but plenty of life and excellent value			●	●	1800 157
Gale XL160-2	2.50	Rhythmic and bouncy sounding bi-wire cable. Slightly manipulative sounding			●	●	1800 157
Goertz M2	20	Remarkably detailed, smooth, neutral and with excellent bass; check amplifier compatibility.	●		●	●	168
Heybrook Heywire	4	This well-meaning facsimile of earlier ribbon cables ends up sounding lumpy and uneven			●	●	109
Ixos 603	2	Big and expansive sounding cable, full and engaging while retaining a high degree of neutrality			●	●	1718 133
Ixos 604	5	Midrange is detailed and surprisingly smooth but treble is hard and synthetic and the bass no better			●	●	1719 133
Kimber 4TC	19.68	A well-balanced cable with good performance in all areas.	●		●	●	168
Kimber 4TC Double-wire	40	A variation on a Kimber classic which produces a rich and weighty sound, but isn't quite as transparent as single runs			●	●	133
Mission Quartet	7.90	Mixed, inoffensive sound, adds guttural resonance to vocals and could be generally more coherent. Bi-wire			●	●	1722 133
Monster Cable XP	1.50	XP offers plenty of slightly soft bass and a slightly rounded treble, a relaxed cable whose indiscretions are not bothersome	●	●	●	●	1723 133
Naim NACA 5	5.11	Described as a 'dinosaur of a cable', this stiff wire rod doesn't belong outside Naim systems. But it works a treat in them			●	●	109
Nordost Octava	2.95	Fair bass but confused treble and some coloration.	●		●	●	168
Ortofon SPK100	3	Grey sounding and strips instruments of their natural richness and resonance, a bit bass shy too			●	●	133
Ortofon SPK300	8	Tremendously open and atmospheric with robust full blooded bass, and dynamic too if slightly bright at times			●	●	133
Puresonic 7845	1.95	Big, weighty sound — but too messy and bloated for its own good			●	●	1800 157
Puresonic 7891	2.85	Chunky cable design, shame about the sound quality	●		●	●	1800 157
QED Qudos	2.50	Despite high tech design and excellent Air-Loc plugs, the music failed to gel			●	●	1800 157
QED Profile	9	Good midrange and treble balance, but bass is rather slack and detail not outstanding.			●	●	168
QED Profile 8	5	Sophisticated flat cable that lacks decent bass and get up and go			●	●	1800 157
Silver Sounds 12 gauge	12	Basic 'homemade' construction gives fairly neutral sound, though not outstandingly competitive.	●	●	●	●	168
Sonic Link S300	18	Happiest with simple music; apt to smudge detail in complex pieces.	●	●	●	●	168
SonicLink AST50	1.95	It may look like bell-wire, but AST50 sounds detailed, ordered and balanced			●	●	1800 157
Transparent Audio Musichord	11.42	Sweet, open and refined treble, a bit of breathy exuberance and can sound slightly lackadaisical			●	●	1728 133
Transparent Audio Wave	22.84	Very close to the sound of 'no cable', one of the very best. Slightly softens treble detail	●	●	●	●	1728 133
Tech + Link OFC79	1	Bargain basement cable that sounds cosy, but suffers from a wobbly bass			●	●	1800 157
van den Hul The Clearwater	6	Despite its evocative title, the Clearwater turns out to be a disappointingly murky sounding cable			●	●	109
van den Hul CS122	19	Smooth and articulate with superb focus and control, its sheer coherence makes it a winner (tested in Sessions)			●	●	153
van den Hul The Magnum	31	Touted as vdH's most prestigious twinlead cable, Magnum sounds soft and old fashioned			●	●	109
van den Hul The Wind	35	'The Wind' kicks up a storm with its lush midrange and bone-crunching bass!			●	●	109
van den Hul Revolution	64	Silver plated OFC combined with carbon fibre prompts a sombre character with an easy and relaxed treble			●	●	1726 133
XLO Pro Type 625	4	Lively but natural and relaxed sounding but a hint of congestion at frequency extremes			●	●	1726 133
XLO Pro 600	16.60	Basically neutral tonality but can become aggressive and two-dimensional.	●	●	●	●	168



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 designs need a

transformer to cope with MC cartridges.
 ■ Cartridge/amplifier interfacing can be very subtle, but even basic high output MM designs benefit in overall balance from optimised amplifier capacitance loading.

B Best buy

R Recommended

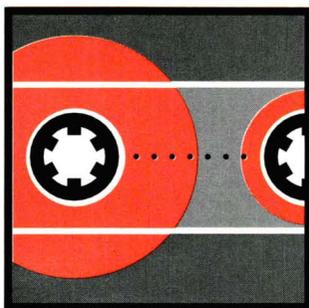
Product	Price(£)	Comment	REPLACEABLE STYLUS	OUTPUT (MV)	MASS (g)	FACTSBACK NUMBER	ISSUE NUMBER
MM: Moving magnet cartridge with a normal output suitable for all vinyl disc amplifier inputs.			●	●	●	●	
MC: Moving coil cartridge with a low output only suitable for high-sensitivity vinyl disc amplifier inputs.			●	●	●	●	

CARTRIDGES

Product	Price(£)	Comment	REPLACEABLE STYLUS		OUTPUT (MV)	MASS (g)	FACTSBACK NUMBER	ISSUE NUMBER
			MM	MC				
Audio Note Ito IIV	1,695	One of the best, giving an extraordinarily relaxing midrange clarity. Needs a transformer	●		0.1			100
Audio Technica AT-95E	19	Clear and dynamic, though richly balanced.	●	●	2.8			48

CARTRIDGES (CONTINUED)

Product	Price(£)	Comment	REPLACEABLE STYLUS MM	OUTPUT MC	FACTSBACK MASS (g)	ISSUE NUMBER
Audio Technica ART-1	944	This is a delicate and very fluid-sounding MC that tracks well	●	●	0.4	9 72
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
Denon DL304	200	Uncoloured, detailed, tracks superbly. Top notch altogether and a bargain too	●	●		103
Dynavector Karat 17D2 mk2	449	Clean and controlled sound with taut, tuneful bass. Detailed and musically cogent	●	●	0.15	5.3 158
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
Goldring Elan	19	A lightweight and frisky-sounding MM apparently based on Nagaoka MM4 body	●	●	5.0	7 67
Goldring 1012GX	79	Slightly harsh but plenty of life and detail. Some high frequency colouration apparent	●	●	6.5	7 85
Goldring 1022GX	99	As with 1012, a touch harsh; detail and transient purity improved	●	●	6.5	7 85
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 has a certain dirtiness	●	●	0.5	8 103
Grado Prestige Gold	150	Rich sounding with an unusually refined top-end for a moving magnet-type cartridge	●	●	4	6 158
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	339	Immediate and detailed, but coloured, nonlinear with a questionable effect on records	●	●	5.0	6 84
Lyra Lydian	649	Superbly capable all-round musical performer that improves markedly when its body cover is removed	●	●	0.3	7 158
Lyra Clavis Da Capo	995	A stable tracker, and one of the finest cartridges we've heard	●	●	0.1	7 143
Ortofon 510/P	38	For the price, a good blend of virtues – weight, clarity and neutrality	●	●	3.0	5 85
Ortofon 520/P	65	Sensitive to load capacitance, the 520/P has a lively, effervescent sound	●	●	3.0	5 6
Ortofon MC10 Super	100	"What a delightfully sweet-sounding cartridge this is..." we said	●	●	0.3	7 48
Ortofon MC3 Turbo	130	The 3 Turbo is bright, cheerful and bouncy, but unsubtle – take it as it comes	●	●	3.3	4 103
Ortofon MC15 Super II	130	A good all-rounder, with outstanding resolution, if slightly bright and clon up	●	●	0.35	7 103
Ortofon MC25E	180	An excellent upgrade for a mid-price turntable	●	●	0.5	11 139
Ortofon MC25FL	249	A bit too stark and honest, but faithful to what's on the LP	●	●	0.5	11 139
Ortofon MC30 Supreme	525	Highly detailed and even-sounding cartridge that has a special affinity with female vocal recordings	●	●	0.5	10.7 158
Ortofon MC3000II	1,100	A real eye-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 build, the Bias offers a gentle, refined sound	●	●	5	4 67
Rega Elys	85	Clearly superior to the Bias, the Elys is both more detailed, accurate and convincing	●	●	5.0	5 67
Roksan Corus Black	130	Recognisably related to the Corus Blue, but more civilised and smoother	●	●	6.5	5 91
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	699	Outstanding stereo imaging and neutral balance are appealing, but rhythmically the DDT-II is a bit lazy	●	●	0.35	7.6 158
van den Hul MC-10	799	A neutral, balanced performer gives, fine depth and focus and a firm, extended bass	●	●	0.4	6 60
van den Hul MC-One	999	This extended all the positive qualities of the 10, but added greater authority and scale – worth all the extra money	●	●	0.4	6 60
van den Hul MC-Two	1,349	MC-Two rewards with a highly detailed yet fluid and musically convincing portrayal	●	●	0.4	6 72
van den Hul G' hopper III GLA	2,999	Undoubtedly one of the finest cartridges available, it has tremendous bandwidth, energy and finesse	●	●	0.4	6 122
Wilson benesch Matrix	786	Extraordinarily well balanced cartridge: neutral and detailed yet lively and rhythmically assertive	●	●	0.58	6 158



Cassette Decks

The compact cassette is still the world's most versatile and ubiquitous music storage medium. Buffs may wrinkle their noses, but they all use it.

There should be no problems in connecting a cassette deck to any normal amplifier, but some care needs to be taken in choosing the best tapes for a specific machine. (Trial and error is one effective technique, but many decks have manual bias adjustment and some match up to the tape automatically.)

Twin decks offer the option to dub tapes and play two cassettes sequentially. Autoreverse is a useful feature, but usually implies some mechanical compromise. Useful facilities include tape monitor switching and Dolby S.

B Best buy **R Recommended**

KEY

DOLBY C: A rather extreme noise-reduction system not usually associated with high sound quality.
DOLBY S: A desirable derivative of the Dolby SR professional noise-reduction system.
DOLBY HX-PRO: System designed by B&O to extend headroom

for cassette recording.
3-HEAD: If you want to monitor a recording while you are making it, a third head is essential.
TWIN DECK: Contains two decks for dubbing and continuous play. In most instances only one deck will record.

AUTOREVERSE: Automatically plays both sides of the cassette.
AUTO CALIBRATION: The deck will automatically set up bias and EQ for any tape.
ADJUSTABLE BIAS: Bias can be manually set to suit the tape being used.

FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page to find the Factsback information page.
ISSUE NUMBER: The issue of *Hi-Fi Choice* in which the original review appeared.

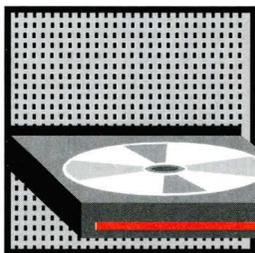
CASSETTE DECKS

Product	Price(£)	Comments	DOLBY C	DOLBY S	DOLBY HX PRO	3-HEAD	TWIN HEAD	AUTO CALIBRATION	ADJUSTABLE BIAS	FACTSBACK NUMBER	ISSUE NUMBER
Aiwa AD-F450	120	Basic but well designed budget deck, astonishing value; only the poor metering gives the game away	●	●	●	●	●	●	●	1513	136
Aiwa AD-WX727	170	High class twin for those who want bells, whistles - and music	●	●	●	●	●	●	●	1377	146
Denon DRM-550	160	There are some technical limitations, but this remains a fine sounding deck, and excellent value	●	●	●	●	●	●	●	158	
Denon DRS-640	200	Draw loading deck, with simple facilities and smooth, well adjusted sound	●	●	●	●	●	●	●	1591	140
Denon DRM-650S	230	An all-round improvement on predecessors, offers a wide ranging, disciplined sound. Dolby S is not the best feature	●	●	●	●	●	●	●	1514	136
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	
Grundig CCF3	200	Simple, sensible and well-built twin, but lack of pitch stability compromises performance	●	●	●	●	●	●	●	1379	146

CASSETTE DECKS (CONTINUED)

DOLBY BXC PRO
DOLBY S
DOLBY C
AUTO CALIBRATION
ADJUSTABLE BIAS
FACTSBACK NUMBER
ISSUE NUMBER

Product	Price (£)	Comments	DOLBY BXC PRO	DOLBY S	DOLBY C	AUTO CALIBRATION	ADJUSTABLE BIAS	FACTSBACK NUMBER	ISSUE NUMBER
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	●	●	●	●	●	164	
JVC TD-R472	200	Excellent auto-reverse deck which doesn't suffer the usual disadvantages and is very sharply priced	●	●	●	●	●	158	
JVC TD-V562BK	220	Ultra-sophisticated transport at a silly price; sound quality is stable but slightly opaque	●	●	●	●	●	123	
JVC TD-V662BK	270	Assured, clean and agile sounding recorder, if not quite the most refined in its class	●	●	●	●	●	1380	146
Kenwood KX-7060S	329	Although slightly dull sounding with prerecorded tapes, this is a well equipped and fine sounding deck	●	●	●	●	●	1381	146
NAD 613	230	Rough and ready, but enjoyable sound, though marred by mechanical motor noise	●	●	●	●	●	158	
NAD 614	270	Solid, workmanlike and ungimmicky player with a sound to match, a little pricey by the standards of its class	●	●	●	●	●	164	
NAD 616	300	Double deck whose music sounded shut in and prosaic, as though its energy content had been ironed flat	●	●	●	●	●	1648	152
Onkyo K-611	460	Cute drawer loading mini-size component with 3-heads and dual capstan transport	●	●	●	●	●	1384	146
Pioneer CT-S830S	500	High class mechanism, if lacking in battleship externals, and superb sound	●	●	●	●	●	1385	146
Sony TC-KE550S	230	Warm, enjoyable music making, but assisted tape setup routine gives inaccurate results	●	●	●	●	●	164	
Sony TC-KE600S	300	Mild setting-up problems notwithstanding, this UK-tweaked design has a smooth, open and un-cassette-like sound	●	●	●	●	●	158	
Technics RS-AZ6	230	For those who can't afford the RS-AZ7; exquisite clarity over the widest bandwidth thanks to AZ thin-film head	●	●	●	●	●	164	
Technics RS-AZ7	300	Thin-film head gives a solid, almost CD-like bass and midrange. A clear advance in the state-of-the-art	●	●	●	●	●	158	
Yamaha KX-490	199	Electrifyingly transparent and capable deck whose only flaw is a trace of audible wow and flutter	●	●	●	●	●	158	



CD Players brought to you in association with MISSION

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 below). To do this the player needs a digital output of either electrical or optical persuasion; sonically the former is preferable. A CD player can be split into two basic components: the disc drive or transport, and a device which turns the digital bitstream coming off the disc into an analogue audio signal. This is called a digital to analogue converter, or DAC. Although most players are contained in a single box, expensive players are usually two-box affairs.

B Best buy **R Recommended**

KEY	AT&T OPT DIG OUTPUT:	MULTI-DISC:	bitstream, PWM, etc:
ELECTRICAL DIGITAL OUTPUT: For electrical connection to an outboard DAC.	High-speed optical output to be used with similarly equipped DACs.	Equipped with a carousel or multi-tray system for continuous play of multiple discs.	FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page to find the Factsback information page.
AES/EBU ELEC DIG OUTPUT: Balanced digital output to be used with similarly equipped DACs.	BAL ANALOGUE OUTPUT: Balanced analogue output for amplifiers equipped with balanced inputs.	DAC TYPE: Digital to analogue converter: BS - Philips Bitstream, MB - multibit, Hyb - hybrid of multibit and bit-stream technologies, 1bit - single bit types such as MASH,	ISSUE NUMBER: The issue of <i>Hi-Fi Choice</i> in which the original review appeared.
OPTICAL DIGITAL OUTPUT: For optical connection to an outboard DAC.	HEADPHONE SOCKET: For car users.	controlled output.	
	VARIABLE OUTPUT: Remotely adjustable, volume-		

CD PLAYERS

DOLBY BXC PRO
DOLBY S
DOLBY C
AUTO CALIBRATION
ADJUSTABLE BIAS
FACTSBACK NUMBER
ISSUE NUMBER

Product	Price (£)	Comments	DOLBY BXC PRO	DOLBY S	DOLBY C	AUTO CALIBRATION	ADJUSTABLE BIAS	FACTSBACK NUMBER	ISSUE NUMBER
Alchemist Nexus APD32A	597	Refined treble, constrained yet capable bass and attractive all-round presentation distinguish this player from the crowd.	●	●	●	●	●	Hybrid	169
Acurus ACD11	899	First rate if costly player from the US, which combines a delightful transparency with an uncontrived naturalness	●	●	●	●	●	1bit	166
Arcam Alpha 7	320	Very detailed for a budget player with a slick and free sense of dynamics, needs careful ancillary matching	●	●	●	●	●	Hyb	1872 163
Arcam Alpha 8	520	Refined, intricately detailed but a little cautious, this should be broadly compatible with a variety of amps	●	●	●	●	●	BS	1873 163
Audio Innovations Alto	399	Refreshing piece of audio sculpture belies inconsistent audio behaviour	●	●	●	●	●	BS	1635 151
AudioLab 8000CD	1,000	Developed according to the Green Cross Code of digital audio with an elegant but safe musical presentation	●	●	●	●	●	BS	1874 163
Audio Research CD1	3,290	Suspends disbelief with a frighteningly real yet obviously coloured sound. A rare proposition among CD players	●	●	●	●	●	BS	1875 163
AVI S2000MC Reference	1399	Lean, dry, high resolution player, built to outlast most of us, and a fine performer in a sympathetic system	●	●	●	●	●	MB	169
Cambridge Audio CD4	150	Basic appearance and sluggish track access/track search belies its up and at 'em sound quality	●	●	●	●	●	Hyb	1268 147
Cambridge Audio CD4SE	200	Among the best players we have encountered at the price, considerably more refined and convincing than CD4	●	●	●	●	●	BS	1877 163
Cambridge Audio CD6	250	A sharp, lively and articulate player, a real thoroughbred in fact, perhaps too sharp and lively for some systems	●	●	●	●	●	BS	159
Copland CDA-288	2,199	A gentle giant of a player that errs in favour of pastel shades rather than bold daubs of colour, one for refined tastes	●	●	●	●	●	MB	1880 163
Denon DCD-625	200	DCD-615 replacement is generously equipped but lacks sophisticated sound of its forebear	●	●	●	●	●	MB	1269 147
Denon DCD-825	240	Despite extensive revisions, this latest player still sounds like a typical 18-bit Denon, which is no bad thing!	●	●	●	●	●	MB	1531 137
Denon DCD-1015	350	Excellent, middle range player - fast, fluid and lean	●	●	●	●	●	MB	1599 141
Denon DCD-3000	1,000	Sings with the temperament of a huge orchestra under the baton of a timid conductor, but very agreeable at that	●	●	●	●	●	MB	1881 163
Eclipse CD101a	80	If you want to know the sound of high order distortion, this is probably as good a place to start as any	●	●	●	●	●	MB	144
Harman/Kardon HD710	200	Player of integrity, but can sound a tad hard and rough when extended, and is somewhat amplifier fussy	●	●	●	●	●	1bit	159
Harman/Kardon HD730	300	Competitive at the price, with a coloured but dynamic and outgoing sound supported by a raft of user features	●	●	●	●	●	BS	166
Heybrook Signature	989	Coarse, edgy and sometimes inconsistent sound, which is incompatible with the ambitious specification and engineering	●	●	●	●	●	MB	169
JVC XL-V284BK	140	Featuring a new set of bitstream innards, this flexible player has a refined, if occasionally unpredictable sound	●	●	●	●	●	1bit	1270 147
JVC XL-V274	250	Strong resolving power and good midband and dynamics, but slightly raw and thin	●	●	●	●	●	1bit	159
JVC XL-V274BK	300	Even handed, but glosses over the most intimate moments	●	●	●	●	●	1bit	1637 151
Kenwood DP-3080	170	Bold, dynamic and outgoing sound, though somewhat aggressive. Poor build quality and finish	●	●	●	●	●	1bit	159
Kenwood DP-7090	400	A lively and compelling performer with an even-handed and coherent disposition	●	●	●	●	●	MB	1885 163
Krell KPS 20i	9,990	Forthright, edge-of-the-seat sound with outstanding bass performance (tested in Statements)	●	●	●	●	●	MB	1734 155
Linn Mimik	875	Useful multi-room features matched to strong bass, but poor imagery and transparency	●	●	●	●	●	Hyb	1762 155
Marantz CD63MkII KI Sig	500	It's the quintessential sound of Marantz - warm, open, and smooth almost to a fault.	●	●	●	●	●	Hyb	169
Marantz CD-67	270	Dynamic, authoritative, and wide tonal response, but also shut-in and mid-forward balance	●	●	●	●	●	1 bit	159
Marantz CD-67SE	350	Refined, enjoyable player, though ultimately a little soft-centred	●	●	●	●	●	BS	166
Marantz CD-17	800	Fabulous packaging and an excellent all round performer: smooth, detailed and consistent	●	●	●	●	●	BS	1763 155
Meridian 508 (20-bit)	1,685	Combines a delicate mid and treble with rich, opulent bass and has impressive low-level resolution	●	●	●	●	●	BS	1886 163
Micromega Minium	400	Dynamically weak and some roughness offsets the pleasing tonal balance, articulate mid and strong bass	●	●	●	●	●	1 bit	159
Micromega Stage 6	960	Lucid, open sound quality with some dynamic limitations with certain discs. Upgradeable from lesser Stage models.	●	●	●	●	●	BS	169
Mission dAD3	598	This front loader has a relaxed style of delivery that convinces with guile and subtlety rather than orchestral ordnance	●	●	●	●	●	BS	1887 163
Mission Cyrus dAD3Q	898	Lucid, transparent and uncontrived sound quality, superb build, and readily upgradeable.	●	●	●	●	●	MB	169

CD PLAYERS (CONTINUED)

Product	Price(£)	Comments	AES/EBU ELEC DIG OUT	OPTICAL DIG OUT	BAL ANALOGUE OUT	HEADPHONE OUTPUT	VARIABLE OUTPUT	FACTSBACK MULTI-DISC	ISSUE NUMBER
Monrio Privilege	995	Costly and well engineered, but ultimately rather heavy-handed and dull, if refined player	●					MB	166
Musical Fidelity A2	499	Warm (too warm), attractive and open player, a great improvement on (related) E60	●	●				BS	169
Musical Fidelity E60	299	This entry level player lacks proper stereo localisation and clarity	●	●				-	166
Musical Fidelity FCD	1,500	A forward disposition makes this perfect for Fenders but less appropriate to Guarneris	●			●		BS	163
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
NAD 512	250	Simple, well focused presentation, and articulate with it, though hard-nosed quality is not everyone's cup of tea	●					1 bit	159
NAD 514	370	Boisterous sound, but undeniably attractive	●				●	BS	1639 151
Naim Audio CD3	1,000	The idiosyncratically packaged CD3 is solid and highly articulate. Always has its feet on the ground though	●					MB	1765 155
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
Onkyo DX-7210	260	Well-bred CD player features an unusual digital filter is smooth and cultured without appearing grey or boring	●					BS	1273 147
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	166
Philips CD-721	130	Surprisingly well sorted, articulate if slightly lossy and attractively presented sound. Captive signal lead						1 bit	159
Pioneer PD-204	150	Generally easy on the ear, but can bite back, especially with complex high frequency music content. Well endowed					●	1 bit	159
Pioneer PD-S705	300	A dichotomy, this machine was loved by some for its articulation and disliked by others for sounding too impressive!	●					BS	1891 163
Pioneer PD-S904	400	Too much legato – literally – in sound, but a very smooth performer	●					1 bit	1641 151
Pioneer PD-S505 Precision	460	Assured, fluid sounding player, with great spatial coherence	●				●	1 bit	166
Quad 77	900	A true thoroughbred combining a penetrating insight into detail with poise rarely found at the price						Hyb	1893 163
Roksan DP3P	1,495	Dramatic and compelling, classical listeners should be ready to 'air conduct' when auditioning this player	●					BS	1896 163
Roksan Caspian	895	Solid, articulate, and fundamentally well engineered player, but with some subtle low level limitations.	●					Hyb	169
Rotel RCD-970BX	375	A combination of solid build, useful facilities and an attention grabbing sound make this a winner	●					BS	1897 163
Sherwood CD-4030R	180	Easy on the ear, smooth sounding player, with limits set by the slightly soft, compressed quality – and messy fascia				●		BS	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-XE900E	300	Refined and analytical disc scavenging tool, but there are some distinctive colourations making auditioning vital	●					BS	159
Sony CDP-XA2ES	350	Strong willed, heavyweight sound; not for the feint hearted	●					BS	1642 151
Sony CDP-X3000S	500	Shoebbox format player, with looks to die for, and switchable digital filters to tweak the already excellent sound.	●	●				-	169
Teac 3450SE	200	For once a budget player where the gadgets take second place to respectable, budget amplifier-friendly sonics						1 bit	166
Teac CD-5	350	Bright, breezy and up-beat – but short in the trouser department	●					BS	1643 151
Teac VRDS-7	599	Although bold and outgoing, this player can sound both intrusive yet lacking fine detail	●					BS	1769 155
Teac VRDS-10SE	850	Superbly built and presented, but rather leaden bass, with an over-prominent and not ideally refined mid/top	●					BS	169
Teac VRDS-25	1,300	A solid player in all respects combining powerful sound with state of the art technology	●					MB	1903 163
Technics SL-PG480A	140	Full driving sound, but somewhat uneven in balance with a unsubtle, slightly harsh top end						1 bit	159
Technics SL-PS770A	250	A mellow sounding player that never quite rouses from its slumber to really tackle the music at hand	●					BS	1278 147
Trichord Genesis	549	Breathed-on Pioneer is warm and mellifluous, but ultimately lacks drive and authority.	●					Hyb	169
Trichord Revelation	799	Well ordered and clean sound that may be a little too refined for some, images well	●					1 bit	166
Yamaha CDX-490	170	Big, blowsy sound, is undermined by lack of precision and focus						1 bit	159
Yamaha CD-X890	350	Clearly a quality product in every sense, the Yamaha provides a spacious, refined and tuneful account of the music	●					●	166
TRANSPORTS									
Arcam Delta 250	800	Arcam's best effort yet is a new design based on Philips CDM9 transport. Specification includes Sync Lock facility	●					-	1491 130
Audiolab 8000CDM	1,400	Super-slick transport and basically very honest sound, but lacking the last degree of fine detail	●	●				-	162
Audiomeca Kreatura SE	1,400	Superb combo for those who like the sound of valves (tested with Elixir DAC in Sessions)	●					MB	141
Audiomeca Mephisto	2,350	Tested with Trichord Pulsar, the duo provides a highly composed and tactile sound	●					-	1320 144
Linn Karik	1,850	Based on early Linn transport, the Karik is dry but very positive, detailed and engrossing	●					-	1323 144
Meridian 500	1,245	Used with the 563 DAC, the combination is thin, brash and uncomfortable	●					-	1103 133
Mission Discmaster	1,900	Powerful performance – large and beefy without sounding fierce or aggressive (price includes Dacmaster)	●					-	1104 133
PS Audio Lambda	2,250	With Ultralink Two, sound positively sparkles with colour and resonant detail	●	●				-	1106 133
Roksan Attessa ATT-DP3	1,295	Not the most detailed or refined but capable of good excitement with the right material	●					1 bit	162
Teac VRDS-T1	550	Superb quality engineering is mated to tidy and composed sound (tested with D-T1)	●					-	1325 144
Teac P-700	900	Tested with D-700, low resolution sound is warm, bubbly and entertaining	●					-	120
Theta Data Basic II	2,397	Uses a Philips CDM-9 Pro mechanism a works a treat with more lively DACs	●					-	1494 130
Thorens TCD2000	999	Lively and up-front presentation not helped by rather loose bass and splashy treble	●					-	162
Trichord Digital Turntable	699	Very detailed, precise, controlled yet involving; a first-rank performer	●					-	162
Wadia 8	3,195	Budget version of Teac's VRDS mechanism in a fancy case; just too expensive for the performance on offer	●	●	●	●		-	1495 130
DACS									
Arcam Black Box 50	480	Measured and sophisticated sound from a DAC that leaves plenty in reserve for future upgrades						Hyb	1506 133
Arcam Black Box 500	750	Sophisticated unit with sync lock and discrete DAC.						BS	1519 136
Audio Note DAC1	675	Oddball DAC with manual de-emphasis switch. Needs a high preamp input impedance or bass will suffer						MB	127
Audiolab 8000DAC	900	Basically very honest sound, but lacking the last degree of fine detail						BS	162
Audiomeca Elixir	799	DAC was tested with Kreatura SE – see above						BS	141
DPA PDM256	3,650	Highly advanced, with adjustable dither. but the different settings only lead to compromise						BS	133
Linn Numerik	1,500	A new 20 bit DAC and revised Karik transport have cleaned up; but sounds a tad dry and humourless						MB	1323 144
Meridian 563	795	Warmer but no less detailed than the earlier 200-series, the 563 flies with a top rate transport						DS	1103 127
Mission Dacmaster	1,900	Powerful performance – large and beefy without sounding fierce or aggressive (price includes Discmaster)						MB	1104 133
PS Audio UltraLink 2 HDCD	2,590	With Lambda transport, the sound positively sparkles with colour and resonant detail						MB	1106 133
PS Audio Ref Link	4,500	Consolidates reputation of PS Audio for high performance digital electronics					●	MB	1069 132
Roksan Attessa ATT-DA2/DS5	1,145	Not the most detailed or refined but capable of good excitement with the right material						1 bit	162
Teac D-T1	500	Teamed with VRDS-T1 for test, this superb quality unit is tidy and composed						BS	1325 144
Teac D-700	600	With P-700, the D-700 may lack the resolution, but is bubbly and entertaining						MB	120
Thorens TDA2000	700	Lively and up-front presentation not helped by rather loose bass and splashy treble						BS	162
Trichord Pulsar Series One	1,395	Very detailed, precise, controlled yet involving; a first-rank performer. Switchable phase, dither etc						Hyb	162

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Digital Recorders



Digital recorders come in a variety of different guises, but have yet to make much of an impact on the domestic market. At present there are three types to choose from: DAT (digital audio tape), MD (Mini Disc), and CD-R (CD Recordable). MD's claim to fame is its optical disc format, which offers instant track access and can't be worn out like a tape. DAT has been on the market for quite some time now, but has never really 'made it' as a consumer medium due to the dearth of pre-recorded material. However it has begun to carve itself a

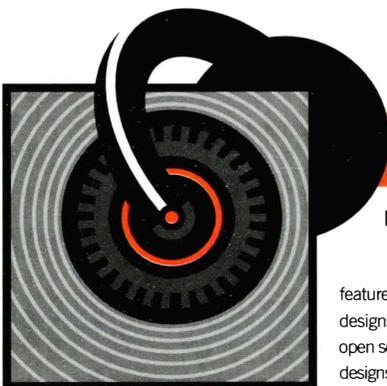
niche in the top end of the market, replacing reel-to-reel as the audiophile's tape based medium. Home CD-R is coming into its own with Pioneer's PD-R05 machine attempting to set a trend.

B Best buy **R** Recommended

KEY	ADC TYPE:	ELECTRICAL IN/OUTPUTS:	ISSUE NUMBER:
FORMAT: Type of recorder, see above for descriptions. DAC TYPE: Digital to analogue convertor: BS - Philips Bitstream, MB - multibit, Hyb - hybrid of multibit and bitstream technologies, 1bit - single bit types such as MASH, bitstream, PWM etc.	Analogue to digital convertor types as per DACs. PORTABLE: Can be run off batteries but not necessarily personal stereo size. OPTICAL IN/OUTPUTS: Digital socketry for optical cable.	Digital socketry for electrical cable. FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page to find the Factsback information page.	The issue of Hi-Fi Choice in which the original review appeared.

DIGITAL RECORDERS

Product	Price(£)	Comments	FORMAT	DAC TYPE	ADC TYPE	PORTABLE	ELECTRICAL IN/OUTPUTS	FACTSBACK NUMBER	ISSUE NUMBER
Pioneer D-05	900	Second generation 96kHz DAT recorder can offer startling realism with the right software - ie first generation	DAT	BS	BS	●	● ●	1652	152
Pioneer PDR-05	1,000	CD recorder that uses domestic blanks only (limited to 62 minutes), write once but excellent sound quality	CD-R	BS	BS	●	● ●	1652	152
Pioneer D-C88	2,000	State of the art portable 96kHz DAT recorder, the size of a lap-top computer this Nagra country on the cheap	DAT	BS	BS	● ● ●	● ● ●	1431	150
Sony MDA-JA3ES	700	Full width MD recorder that makes a decent job of recordings but is less impressive with pre-recorded material	MD	BS	BS	● ● ●	● ● ●	1216	152



Headphones

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There are a variety of different approaches to headphone design. Among the more expensive models, electrostatic drivers are used in open-backed phones. Most models feature dynamic (moving coil) drivers in circular, open or closed-back designs. The advantage of open backs seems to be a correspondingly open sound, but one can also hear external noise, of course. Closed-back designs are useful in situations where it is necessary to block out noise.

There are three styles of headphone: circumaural models enclose the ear; supra-aural designs feature a flat pad which presses on the outer ear; and intra-aurals (in-ear) rest inside the ear itself, à la personal stereos. For best results a separate headphone amplifier is recommended.

B Best Buy **R** Recommended

KEY	CLOSED BACK:	amplifier output:	ordering a fax copy of the review. Use the contents page to find the Factsback information page.
TYPE: Operating principle: D - dynamic, E - electrostatic. SUPRA-AURAL: Style where a flat pad presses on the outer ear. CIRCUM-AURAL: Style which encloses the ear. OPEN BACK: Offers an open sound but lets in noise.	Keeps out external noise. WEIGHT (G): Mass in grams IMPEDANCE (Ω): Load offered to the headphone amplifier. All else being equal, the lower the impedance the louder the sound for a given	3.5MM JACK ADAPTOR: Can be used with mini-jack-equipped components such as personal stereos. FACTSBACK NUMBER: The Factsback reference for	The issue of Hi-Fi Choice in which the original review appeared.

HEADPHONES

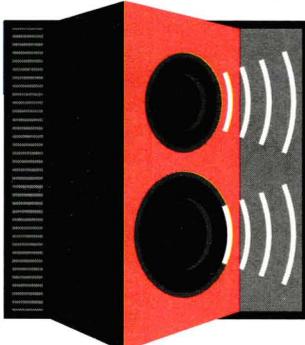
Product	Price(£)	Comments	CIRCUM-AURAL TYPE	SUPRA-AURAL	OPEN BACK	CLOSED BACK	WEIGHT(G)	3.5mm JACK ADAPTOR IMPEDANCE(Ω)	FACTSBACK NUMBER	ISSUE NUMBER
AKG K1000	700	One of the best dynamics on the market, hooks directly into speaker outputs	D	●	●	●	270	120	●	99
Audio Technica ATH910PRO	90	The closed back 910s are an improvement on the 909s, with a nice rhythmic quality rarely found with headphones	D	●	●	●	280	40	●	55
Beyer DT100	152	Rugged, modular professional design, but bass is woolly and treble lacks detail	D	●	●	●	350	600	●	157
Beyer DT311	57	Uncharacteristically tight, unrefined sound quality from this otherwise well engineered 'phone	D	●	●	●	124	40	●	1098
Beyer DT331	82	Tonally bright and deficient in bass, but exceptionally comfortable, articulate, detailed and refined	D	●	●	●	210	40	●	1801
Beyer DT411	69	A reasonable but not very thrilling headphone that doesn't really offer enough at the price	D	●	●	●	120	250	●	111
Beyer DT531	135	A good buy for serious, heavy-duty music making	D	●	●	●	245	250	●	144
Beyer DT911	235	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
Grado SR-80	100	Clear, open and dynamic with pedantically open mid-band. Crude physical design, rough frequency extremes	D	●	●	●	60	8	●	1801
Grado SR225	200	Warn, dark tonal coloured and ultimately lacking in clarity, but it true to the spirit of the music if not the letter	D	●	●	●	200	32	●	1883
Jecklin Float Model 1	79	While very unusual in appearance, the Floats give remarkable sound quality and openness at a reasonable price	D	●	●	●	400	200	●	55
Jecklin Float Model 2	99	Helmet shaped, but open sounding and comfortable in long term, despite lack of adjustment	D	●	●	●	400	200	●	63
JVC HA-D910	65	Broadly acceptable if unexciting design with low level losses and some colourations	D	●	●	●	220	32	●	121
Kenwood KH-1000	20	First step up from a true mini: a near miniature which is cheap, comfortable and inoffensive	D	●	●	●	30	32	●	121
Maxell HP-3000	30	Solid, smooth sounding supra-aural headphone, but congested and undynamic. Includes in-lead controls	D	●	●	●	120	32	●	1099
Precide Ergo Model 2	140	Still has much of the spaciousness and detachment of the Float from which it is derived, but has a coarse mid/top	D	●	●	●	380	100	●	1892
Ross RDH-300CD	17	In-lead controls are the highlights of this shoddy, sometimes aggressive sounding design	D	●	●	●	155	8	●	133
Sennheiser HD455	55	Inoffensive, if nondescript sound, modular, but can become dislodged from head	D	●	●	●	185	60	●	1801
Sennheiser HD565 Ovation	150	Wide bandwidth design which is refined, expressive and extremely comfortable	D	●	●	●	255	150	●	1801
Sennheiser HE-60/HEV70/UK	998	Very nearly a superb electrostatic, with an aching pure midband, but top end is sibilant and edgy	E	●	●	●	260	n/a	●	1898
Sony MDR-CD770	100	Neutrality and comfort make the Sony easy to live with. Technically correct sounding too, yet musically unrewarding.	D	●	●	●	-	-	●	1801

3.5mm JACK ADAPTOR
FACTSBACK NUMBER
ISSUE NUMBER
CLOSED BACK
OPEN BACK
CIRCUMAURAL
SUPRA-AURAL
TYPE

HEADPHONES (CONTINUED)

Product	Price (£)	Comments													
Sony MDR-CD1700	199	Astonishingly detailed, uncoloured and free of the usual artefacts from a sealed back headphone. Tremendous value	D	●	●	●	325	32	●	1901	163				
Stax Lambda Nova Basic	449	Refined, articulate, yet with real presence – and a notable bargain by electrostatic standards	E	●	●	●	347	n/a	●	1902	163				
Technics RP-HT700	70	Well-finished but physically crass and grubby sounding	D	●	●	●	255	-	●	1801	157				
Vivanco SR650	50	Unusually comfortable 'phone with excellent detail resolution but aggressive, thanks to tweeter resonance	D	●	●	●	175	-	●	1801	157				
Vivanco SR750	60	Cossetting physical design, attractive sound an pricing, though suffers overhang and lacks ultimate dynamics	D	●	●	●	188	-	●	1801	157				
Vivanco IR7100	120	Infra-red phones that work well but suffer from the limitations of the medium ie compression and hiss (Sessions)	D	●	●	●	265	-	●		149				

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Hi-Fi Loudspeakers

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As the last item in the hi-fi chain, the loudspeaker is merely the slave of what has gone before; it is only as good as the signal it is fed. Nevertheless, the distortions introduced by loudspeakers (and rooms) tend to be the most obvious. The average loudspeaker consists of an enclosure plus a couple of drive units behind a removable grille. Inside the box lurks a simple electrical circuit known as a crossover, which divides the incoming (full range) signal into the right bits for the drivers to handle. The designer's primary

task is to balance the 'sensitivity' of the loudspeaker (how loud it goes for a given electrical input) against the bass extension (how low it goes), for the given box size. Subwoofers augment the bass and come in passive and amplified active form. They are less sensitive to placement than regular speakers.

B Best Buy **R Recommended**

KEY	IMPEDANCE (Ω)	FREE SPACE	FACTSBACK NUMBER
SIZE WxHxD (cm): Width by height by depth in centimetres.	Measured in Ohms impedance it is a measure of how hard a loudspeaker is to drive; the lower the number the more powerful the amplifier needs to be.	Speakers should be placed away from walls. It is recommended that these speakers be placed close (between 3 and 12cm) to the rear wall.	The reference for ordering a fax copy of the review. Use the contents page to find the Factsback page.
FLOORSTANDER: As opposed to requiring a dedicated stand.	BASS FROM (Hz): The lowest frequency that a speaker can reproduce, based on in-room measurements.		ISSUE NUMBER: The issue of Hi-Fi Choice in which the original review appeared.
SENSITIVITY (dB/W): Efficiency: how much volume you get for a given input; the higher the louder.			

HI-FI LOUDSPEAKERS

Product	Price (£)	Comments	SIZE WxHxD (CM)	SENSITIVITY (dB/W)	IMPEDANCE (Ω)	BASS FROM (Hz)	CLOSE TO WALL	FREE SPACE	FACTSBACK NUMBER	ISSUE NUMBER
Acoustic Energy AE109	330	Lots of mass-loaded twin-driver speaker for the money, especially for loud, driving bass	18,90,25	●	88	4	25	●	1904	164
ATC SCM20	1,499	Massively built, invariably informative but the rather forward presentation can be uncomfortable	24,44,31	●	83	8	28	●		86
Audio Gem Emerald	540	Pretty compact floorstander with lively if lightweight sound	18,94,21	●	87	6	40	●	1905	164
Audio Innovations Alto	329	Styling makes competition look old-fashioned, but sound is thin and cold	20,38,26	●	88	6	45	●	1653	152
Audio Note AN-1/D	930	Light damping and local unevenness adds some colouration, but doesn't spoil the very speaker	38,58,25	●	93	8	25	●		110
Audio Note AN-E/D	1,520	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 3X	1,500	Superior time coherence, a wide dynamic range and exception bass/mid balance	19,32,98	●	89	8	20	●	1345	143
B&W DM302	150	highly competent and neutral all rounder; clever Prism enclosure	19,32,22	●	88	4	45	●	1778	156
B&W DM601	200	Great main driver for the price, entertaining dynamics	20,5,35,5,23	●	88	6	30	●	1779	156
B&W DM602	300	Prefers tall stands and space, but offers impressive midband dynamics and musical tension	24,49,31	●	90	8	30	●	1654	152
B&W 305	350	Ridged paper cone gives lively sound, clever box, but a little uneven	22,87,31	●	89	4	40	●	1908	164
B&W P4	675	Strikes a nice balance between all-out studio monitor sound and bass-filled crowd pleaser (tested in Sessions)	20,81,25,6	●	88	8	50	●		156
B&W CDM1	600	Gorgeous stand-mount delivers unusually good bass for its size	22,38,28	●	88	6	30	●	1818	160
B&W Matrix 805 V	1095	Stylish, remarkable imaging, good balance and low colouration	33,33,21	●	87	8	30	●		98
B&W Matrix 804	1695	A great all-rounder which combines exceptional bass extension with fine sensitivity	26,96,26	●	88	4	20	●		167
B&W Matrix 801S3	3,995	Lacks transparency and the drama of the best dynamics, but acoustically a tour de force	44,100,56	●	87	8	20	●		81
B&W Nautilus	35,000	Radical design results in one of the finest loudspeakers available. Active x-over needs 4 power amps (Statements)	42,105,90	●	87	4	10	●		166
Bose 305	430	Fine dynamic liveliness and a good room match counter strange imaging and treble	23,45,28	●	-	8	40	●		78
Bose 401	500	Cheaply built but distinctively styled, the 401 suffers from heavy midband	30,30,76	●	-	4	28	●		110
Cadence ES	3,500	Hybrid electrostatic/dynamic design from India that excels with classical material (Statements)	33,108,37	●	91	8	35	●	1798	157
Castle Isis	230	Expressive with a full upper bass, tonally colourful with a big, dynamic sound (tested in Sessions)	17,35,19,5	●	87	8	60	●	1729	154
Castle Severn	539	Light and bright, but sound is open and communicative. Looks good too	23,77,20	●	88	8	47	●	1655	152
Castle Avon	700	Lovely box and lovely voices from carbon-fibre composite cone	22,91,28	●	85	8	22	●	1909	164
Castle Harlech	849	Handsome big-sounding floorstander, great value and dynamic midrange	20,96,33	●	88	8	28	●	1820	160
Castle Howard S2	1,200	Able to fill the gap between Chester and Winchester; has a rich, laid back balance	26,104,41	●	90	8	40	●	1078	132
Celestion A1	700	Rich, warm and laid-back, but a true quality sound; lovely build	24,41,35	●	88	6	25	●	1910	164
Celestion 300	1,099	Splendid bass extension and fine panel-like openness, but dynamics and timing are suspect	21,97,33	●	84	8	20	●		118
Corwin-Vega VS10	350	Not all that refined but ballsy as heck, these rock boxes have no shortage of gung ho	33,70,29	●	95	6	37	●	1758	155
Dali 104B	370	Lively, rich sounding and communicative. Shame about bland styling and dull balance	22,86,27	●	93	4	28	●	1657	152
Dawn Audio Chorus FS	698	Compact floorstander with superb coherence but rather forward midband. Would suit smaller rooms best	26,88,21	●	89	8	30	●		114
Dynaudio Contour 1.8	1,842	Wonderful voice-band delicacy and loads of deep bass from a very elegant and compact box	21,95,29	●	85	4	20	●		167
Electrofluidics Sonolith 2.2xi	5,999	Polymer concrete cabinet with aluminium cones produces world class imaging and very serious bass (Statements)	38,95,42,5	●	86	4	n/a	●		139
Epos ES12	500	High quality luxury stand-mount has great midband and stereo imaging	20,38,25	●	85	8	45	●	1823	160
Epos ES14	675	Substantial stand mount delivers delightful midrange focus and delicacy with good bass control	23,49,29	●	87	8	25	●		98
Epos ES22	1,185	Elegant floorstander with 'safe' balance that can be enlivened with the right cable and energetic material (Sessions)	21,88,25	●	87	6	58	●	1629	151

HI-FI LOUSPEAKERS (CONTINUED)

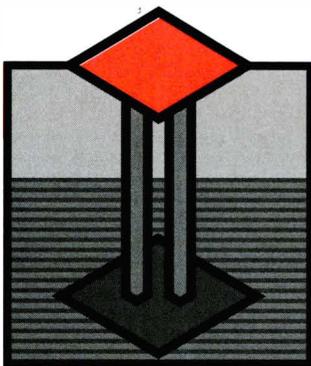
Product	Price(£)	Comments	SIZE WxHxD(CM)	SENSITIVITY(YB/W)	FLOORSTANDER	BASS FROM (Hz)	IMPEDANCE(Ω)	FREE SPACE	FACTSBACK CLOSE TO WALL	ISSUE NUMBER
Epos ES25	1,655	Handsome floorstander with a rather uneven and bass heavy balance	24,90,35	●	88	6	22	●	1346	143
Faraday Siren	445	High mass concrete cabinet is let down by imbalance of ageing driver combination	25,27,46	●	90	4	48	●	94	
GLL Imagio IC130	530	Lots of speaker for the money, but sound is decidedly dull and shut in	22,112,29	●	88	4	20	●	1824	160
Harbeth BBC LS3/5A	699	Still a classic miniature, though not to every taste, and none the better for the recent update	19,30,18	●	82	10	80	●	66	
Heybrook Prima	139	Fine pace and timing, but balance is forward and bass is tight	20,29,18	●	87	6	50	●	110	
Heybrook Heylios	339	Great all round performance in a pretty package at a sharp price	24,36,27	●	87	6	25	●	164	
Heybrook Solo	199	Untidy bass and treble, but handles complex rhythmic material well	23,36,23	●	89	6	28	●	90	
Heybrook Trio	373	HBS1 drivers in real wood enclosure give a sweeter and more forgiving sound	24,47,25	●	89	8	45	●	118	
Heybrook Heylo	389	Good vocal reproduction, but sounds thin and bass seems an afterthought	23,73,19	●	88	8	30	●	1658	152
Heybrook Heystak	499	Elegant, highly detailed and level-headed sound, but could use injection of life	22,98,28	●	89	8	38	●	141	
Heybrook Quartet	575	Solidly large bookshelf model with good sensitivity and a lively, forward sound	24,41,22	●	90	8	48	●	122	
Heybrook Sextet	1,159	Coherent and highly analytical, partly due to distinct upper-mid forwardness	27,90,20	●	88	8	25	●	102	
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	370	A cracking output for their size these rock boxes can be a tad bright but have decent bass	31,5,54,28	●	91	8	40	●	1758	155
Jamo Classic 8	430	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 477A	500	Very prettily styled, but build and sound quality are disappointing at the price	19,77,28	●	88	4	40	●	1549	138
Jamo Concert 8	1,300	Employing a die cast magnesium cone with a charming open and detailed midband (Statements)	24,5,38,31	●	90	4	38	●	1822	160
JBL L20	700	Pricely, 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 L40	1,000	Classic, large, stand-mount 3-way is full of vim and vigour, with a superb sense of balance	30,65,31	●	88	4	23	●	167	
JBL L90	1,500	A classic monitor which communicates with gusto and enthusiasm, though it can sound a tad crude	24,94,35	●	91	6	23	●	1348	143
Jordan Watts JH400	820	Piano finish hexagon has controversial sound, with uneven balance but delightful mid	28,38,21	●	86	8	50	●	106	
JPW Mini Monitor	60	Ultra-cheap miniature works well in a limited way	18,27,17.5	●	86	8	50	●	1781	156
JPW Gold Monitor	80	More informative than Mini Monitor - but fiercer too	18,27,17.5	●	86	8	50	●	1782	156
JPW MLS10	140	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 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
KEF Coda 7	130	Lovely open voice reproduction, but bass could be tauter, build tougher	18,30,23	●	88	6	50	●	1783	156
KEF Coda 8	190	Outstandingly well balanced, bass is deep but a little vague	20,32,5.29	●	86	6	28	●	1784	156
KEF Coda 9	300	Uneven budget 3-way floorstander with poor bass definition	20,86,28	●	89	6	30	●	1785	156
KEF RDM One	500	Cute and tiny, nice midband but lack of bass warmth and weight	23,30,24	●	88	6	70	●	164	
KEF Reference Model 2	1,599	Classy, large floorstander has massive headroom and clean mid-to-treble, but limited deep bass for size	23,103,34	●	89	4	30	●	167	
Keswick Audio Aria II	329	Confident and dynamic sound, if a little crude and shut in	21,42,24	●	89	8	20	●	1405	148
Keswick Audio Torino	900	Good value, lively contender with distinctive shape and styling. Goes loud and deep but could be smoother	18-26, 93,28	●	90	4	20	●	167	
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 unforgetting	20,90,28	●	87	4	25	●	118	
Living Voice Airscout	14,750	You want dynamics? Get a horn, get a very, very good horn. This is a very, very good horn. Tested with RW24 horn sub	62.5,115,57	●	104	8	60	●	163	
Living Voice Air Partner S	27,200	Outstanding transparency and dynamics from remarkably solid and fast mega horn	64,160,90	●	108	8	40	●	138	
Lumley Reference LM4	375	Metal diaphragm and wood veneer; balance uneven upper and has suspect timing	18,36,22	●	86	6	44	●	126	
Lumley Reference LM3	895	Despite indifferent bass alignment, LM3 is fast, coherent, solid and informative	27,87,28	●	90	8	30	●	106	
Meridian DSP6000	9,400	Sophisticated digital design, with a wide ranging, refined and detailed sound. Has onboard amplification	28,133,43	●	-	-	35	●	1226	140
Mission 731 PRO	140	Cautious balance makes a fine match with budget equipment. A classy baby for smaller rooms.	17.5,31.5,20	●	89	8	55	●	169	
Mission 753 Freedom	798	Great styling. New, more restrained tweeter reveals fine midband dynamics	21,90,31	●	89	4	40	●	164	
Mission 754 Freedom 5	1,298	Tall but exceptionally elegant floorstander gives fine midband projection; goes loud but limited deep bass for size	22,111,31	●	88	4	40	●	167	
Monitor Audio MA700 PMC	600	Good looking luxury compact with all-metal diaphragms, lovely midrange, but occasionally edgy	22,35,26	●	89	8	45	●	1661	152
Monitor Audio MA703 PMC	800	Lovely but pricey floorstander has up-front, coherent 'shiny' sound	20,89,27	●	88	8	50	●	1826	160
Monitor Audio Studio 12	1,000	A real looker, but sound and content are a bit on the small side for the price	17,92,20	●	90	8	28	●	1349	143
Mordaunt-Short MS10i	140	Up front, bouncy and a whole lot of fun	18.5,30.5,20	●	86	8	50	●	1789	156
Mordaunt-Short MS30i	275	Slightly shut in and coloured quality is compensated by fine bass and impressive communication	25,43,28	●	90	8	28	●	1662	152
Mordaunt-Short Perf 860	1,895	Although a very neutral loudspeaker it can, with the right ancillaries, pack a serious punch (Statements)	26,86,35	●	90	6	35	●	1367	146
Musical Technology Kestrel SE 300	300	Brighter and drier-sounding than standard Kestrel (and not the better for it)	20,84,19	●	84	5	50	●	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
Naim Int o	660	Great dynamic range and info retrieval, but thin, lacks warmth	24,89,27	●	89	6	30	●	164	
Naim SBL Passive	1,970	Lively and punchy - smoother but more upfront than before	27,89,27	●	88	6	25	●	1352	143
Neat Mystique	575	Elegant compact floorstander has good allround sound and value	20,85,18	●	84	8	25	●	1827	160
Neat Petite II	745	Compact design now utilising ribbon tweeter with a fine sense of timing and surprising musicality (tested in Sessions)	20,30,18	●	86	8	33	●	160	
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	●	167	
Origin Live Conqueror	1,600	Chunky floorstanding 3-way has lovely cabinetwork and lively sound, but limited deep bass	24,94,27	●	88	8	30	●	167	
Pink Triangle Ventrical	990	If you are after Quad Electrostatic type transparency but can't afford the price . . . (Sessions)	15,80,32	●	86	11		●	142	
PMC TB1	410	Superb transparency, subtle laid back sound, well worth seeking out	20,40,31	●	87	8	45	●	1830	160
PMC LB1	935	Delightful smoothness and transparency, though bass and treble are both limited	18,53,25	●	89	4	33	●	110	
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	800	Bass rich, lively and powerful, but suspect top end; big and not very pretty	22,105,39	●	91	4	22	●	1831	160
Polk LS70	1,200	High sensitivity, but balance has too much midbass boom; mid-top is laid back	31,94,37	●	90	8	22	●	1084	132
Proac Response 2.5	2,700	For aspirant high-enders looking for seriously good conventional boxes, this speaker should be first port of call	22,107,25	●	86	8	30	●	1457	149
QLN Qubic 222	400	Ugly but good value floorstander with loads of bass and a smooth balance	21,87,29	●	88	6	25	●	1832	160
QLN Signature	1,200	Attractive pyramidal stand-mount has heavy and laid back balance but remarkably unboxy sound; superb stereo	27,37,36	●	83	4	25	●	167	
Quad ESL-63	3,450	Classic electrostatic lacks punch, but has strengths some can't live without	66,93,27	●	86	8	34	●	60	
Rega Kyte	198	Has splendid timing and coherence, sounds very explicit and informative	19,31,19	●	87	8	50	●	114	
Rega EL8	298	Kyle drivers in compact floorstander gives more bass but less coherence	17,72,20	●	86	8	55	●	122	
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	1,550	Single-driver system has limited bandwidth and obvious coloration, but wondrous dynamic and temporal coherence	34,42,27	●	95	8	55	●	167	

HI-FI LOUDSPEAKERS (CONTINUED)

Product	Price(£)	Comments	SIZE WXHX(DM)	SENSITIVITY(OB/M)	IMPEDANCE(O)	BASS FROM (Hz)	FACTSBACK NUMBER	ISSUE NUMBER	
Revolver Beretta	100	Great bass for the price, a bit crude further up	19,35,22	87	8	45	●	1790 156	
Revolver Colt	139	A good all-rounder, if a little bland, and excellent value for money	30,19,22	88	6	48	●	1407 148	
Revolver 260	350	A no nonsense presenter of rock with plenty of dynamics, not too refined (tested in Sessions)	21,5,91,6,30	●	89	6	40	●	1731 154
RMS RevelationSeries 1	1,400	Innovative metal-box compact with integral port/stand – clean with good timing but very laid back balance	20,99,24	●	81	8	22	●	167
Rogers LS1	149	High grade miniature	20,20,30	87	6	●	1408 143		
Rogers Studio 3	499	Pricely LS3/5A derived miniature, excitingly coherent if lightweight, can't go loud	19,30,16	85	8	30	●	118	
Rogers LS3/5A	699	Clever AB1 stand/subwoofer helps the classic 3/5A monitor give its best shot	19,31,17	●	82	12	45	●	1354 143
Rogers Studio 5	699	Luxury finish bookshelf size model has genuine monitoring capabilities	25,25,48	89	8	40	●	1556 138	
Rogers Studio 7	899	Latest variation on classic BBC-monitor theme has beautifully voiced, laid back sound	30,63,30	90	8	30	●	122	
Rogers C6/28	1,303	Large floorstander with carbon-fibre tweeter. Sounds much better than it looks, especially through the midband	25,103,29	●	88	6	20	●	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 OJ3X Black	1,195	Innovative low-line, 2-way floorstander with decoupled tweeter, great bass and fine dynamic range	28,79,46	●	84	8	20	●	167
Royd Minstrel	269	Not much wellie or loudness but fine coherence and timing, a bit bright	18,69,12	●	86	8	30	●	1167 135
Royd Merlin	298	Invigorating and exciting design with plenty of upfront detail, but balance lacks warmth and a tad overpriced	20,31,18	86	8	33	●	1409 148	
Royd Doublet	450	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 fun to listen to. Aesthetics could use improving though	20,31,18	86	8	35	●	139	
Royd Abbot	665	Dynamic and fine transient qualities are hampered by a rather coloured mid-forward balance	20,81,30	●	90	8	43	●	118
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	1,600	Elegant luxury 3-way with wonderfully even-handed, if rather laid back balance	24,94,31	●	85	6	22	●	167
Ruark Equinox	1,849	The primary strength of this speaker is its ability to remove itself from the picture	25,88,34	●	88	6	45	●	1227 140
SD Acoustics SD3R	449	New SD3 has the agility and charm of a quality miniature, good bass and low sensitivity	20,38,30	87	8	25	●	106	
SD Acoustics SD5	1,395	Bass suspect but forward midband is delightfully smooth. Has ribbon tweeter	20,110,30	●	88	8	30	●	1081 132
SD Acoustics SD1E	2,995	Two part design with four rear firing bass drivers that has vibrancy, transparency and energy (Statements)	25,120,40	●	90	6	25	●	159
Sequence 400	330	Clever hang-on-wall panel is well voiced, though bass isn't too great	25,100,7	86	8	45	●	164	
Shahinian Arc	1,875	Occasionally wonderful small floorstanding omni; 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	●	164	
Sonus Faber Concerto	1,098	Beautiful Italian bookshelf design with superb midrange but limited loudness capabilities (Statements)	22,5,36,34	87	8	45	●	165	
Spendor 2020	399	Utilising an oval drive unit in a stylish cabinet this is a neutral design with AV inclinations (tested in Sessions)	18,34,26	87	8	●	1756 155		
Spendor 2030	599	Discreet slimline floorstander with delicately coherent, laid back sound	18,89,27	●	87	8	30	●	1836 160
Spendor S20	760	Maintains Spendor's tradition for peerless mid-to-treble coherence and perspectives	22,38,26	84	8	25	●	102	
System Audio 905	250	Fine coherence and remarkable dynamic freedom some something so small, though there's little real weight	15,27,21	89	8	60	●	1410 148	
Tangent Monitor 5	80	An uneven performer best suited to small rooms and generous volume levels	17,5,27,18	83	8	55	●	169	
Tangent Monitor 9	150	Budget floorstander that can motor when the music demands with a solid bass but occasionally raw treble	19,5,75,5,22,5	●	90	6	45	●	165
Tannoy Mercury M2	140	A fine allrounder with big box and deep bass for the price; could be sweeter and tighter	20,5,38,28	87	8	25	●	169	
Tannoy Profile 631	150	Balanced, open, unboxy and quite lively, but lacks muscle	19,34,15	87	6	60	●	1616 141	
Tannoy Profile 631SE	170	Very refined midband; maybe too laid back for some	13-19,34,16	86	7	45	●	1791 156	
Tannoy Profile 633	300	Impressive bass and balance from very compact floorstander. Upper midband could be cleaner	29,75,28	●	89	85	20	●	1665 152
Tannoy Profile 635	450	Beefy low-line floorstander packs real bass punch and an up-front balance	17-29,85,27	●	90	6	22	●	1665 160
Tannoy Profile 637	550	Good value package but a rather heavy, thick, big-bass sound	17-29,84,27	●	90	3	20	●	164
Tannoy D300	1,000	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
TDL Near Field Monitor	120	Despite low price, this is an unimpressive performer, poor low frequency resolution and analysis being main flaws	18,30,17	87	8	50	●	1043 130	
TDL RTL2	280	Spacious, weighty and enveloping sound if you can accept the laid back balance	20,73,22	87	8	25	●	1412 148	
TDL RTL3	400	Bargain price floorstander has rich, heavy and bright sound with a good scale	20,90,37	●	90	8	25	●	126
TDL T-Line 3	700	Plenty of bass and treble, but broad midband is rather repressed	20,97,38	●	86	8	20	●	164
TDL Studio 1m	899	Transmission line helps bring the best from metal cone driver	23,77,34	86	8	20	●	118	
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	●	100	8	25	●	1666 152
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	
Vandersteen 2Ce	1,395	Elegant staggered baffle contributes to a refreshing freedom from boxiness	41,101,27	●	88	7	23	●	86
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	
Wharfedale Valds 400	199	Goes very loud with a minimum of amplification, but the sound is very thick and uneven, with a heavy upper bass	25,80,26	●	91	8	30	●	1414 148
Wharfedale Valds 500	299	Offering a large version of events these rock boxes can move plenty of air, albeit not as subtly as alternatives	25,108,26,5	●	91	4	40	●	1758 155
Wharfedale MFM-3	350	Smooth broad midband gives fine voice rendition; bass could be better	22,89,28	●	87	8	40	●	164
Wilson benesch ACT1	6,400	Stylish, technically advanced and sonically as clean as a whistle this is a truly high end loudspeaker (Statements)	23,108,37	●	89	6	40	●	1852 162
ZYP AI	199	Cute metal cased micro-miniature is quite coloured but great fun	14,22,12	88	8	30	●	110	
SUBWOOFERS									
B&W AS6	500	Good material value with a fair amount of low bass from 100W active design	45,51,45,5	●	30	1736 154			
Celestion CS135	139	Compact hideaway passive sub lacks deep bass: for high sensitivity speakers	52,19,34	●	86	8	45	●	128
Jamo SW600	530	Has some neat styling touches and remote control but deep bass is limited (active)	38,41,53	●	30	1736 154			
KEF Model 30B	500	Commandably discreet with good sense of timing but limited extension (active)	38,5,37,43	●	45	1736 154			
KEF AV1	2500	Works well, looks great, shakes the windows but costs a lot and is bulky	56,43,50	●	45	128			
Living Voice RW24	9,500	The only horn subwoofer on the UK market brings new meaning to low frequency energy, speed and resolution	146,84,59	●	104	8	40	●	163
M&K VX-7B	450	Baby of a big range this active design delivers deep, plenteous bass albeit lacking in transparency	35,25,37	●	40	1736 154			
Rogers AB1	549	Subwoofer cum stand designed as partner for LS3/5a or similar miniatures	19,57,16	●	82	8	●	1354 143	


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Stands & Supports

Hi-fi furniture is more important than you might imagine. The effect it can have on the sound of your system is far from subtle. Hi-fi furniture can be split up into two categories — equipment supports and loudspeaker stands. It is not entirely clear what makes a great equipment support, but some are definitely more equal than others. There's a variety of approaches and materials used, including particle board, glass and

all manner of steel tube and section. Speaker stands come in a variety of sizes and styles to suit different models. Use dealer or manufacturer recommendations to narrow down the choice, but as a rule you want the tweeter at ear height.

B Best buy **R** Recommended

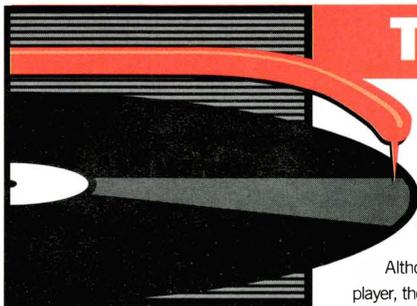
KEY	
HEIGHT (CM): Height of stand or equipment shelf.	lead to increase mass, which affects sound.
TOP PLATE SIZE (CM): Dimensions of top plate on speaker stand or equipment support.	WELDED: The better stands and supports are welded rather than bolted together.
FILLABLE: Some speaker stands can be filled with sand and/or	NUMBER OF SHELVES: The amount of tiers on an equipment
	rack or support.
	SHELF TYPE: Material that shelves are made of on an equipment rack. Wood generally means MDF.
	FACTSBACK NUMBER: The Factsback reference for ordering a fax
	copy of the review. Use the contents page to find the Factsback information page.
	ISSUE NUMBER: The issue of <i>Hi-Fi Choice</i> in which the original review appeared.

STANDS & SUPPORTS

Product	Price(£)	Comments	TOP PLATE SIZE(CM) HEIGHT(CM)	FILLABLE	NUMBER OF SHELVES WELDED	FACTSBACK NUMBER SHELF TYPE	ISSUE NUMBER
Equipment Supports							
Audiophile Furniture Base	480	Easy to set up, well ordered sound	40			4 Wood	1633 151
Custom Design Classic Four	270	Glass shelved stand with octagonal wooden uprights with upward facing spikes isolating the top shelf, adjustable shelf height	81	46,37		4 Glass	166
Fi-Rax R4	250	Lively, exuberant sound, slightly weak bass				5 Glass	1633 151
Frameworks H500/H175	404	Two shelf stand and isolation platform combo in tubular steel that made a spectacular impression on audition	70	52,34		3 Glass	166
Mana Acoustics Ref. Table	350	King of its type, angle iron, chipboard and glass combined to make a significant difference to sound quality				1 Glass	147
Mana 5 Tier Sound Table	600	Infinitely upgradable. Persuasive and thrilling glass and angle iron design that adds speed and bandwidth to components upon it				5 Glass	1633 151
Optimum Int 2000 OPT490	350	25kg stand with shelves sandwiched between variable height tubular uprights. Sounds smooth and relaxed with sturdy bass	50	60,40		4 Glass	166
Quadraspire Q4	200	Easy to live with, and tonally neutral				4 MDF	1633 151
Sound Organisation Z038	130	Too lively and lacking order — but cheap	50	84,40		5 Wood	1633 151
Organisation Z560	150	A mix of welded and bolted members gives good structural integrity. While performance is not up with the best, it's great value	90	46,36		5 Wood	166
Soundstyle Select 6105	280	Respectable sonics, structurally solid and smart				5 Glass	1633 151
Soundstyle Finewoods W105	320	Veneered shelves clamped between tubular uprights that delivers with classical material	82	48,27		4 Wood	166
Stands Unique Sound Tower	249	Wooden uprights combine with glass shelves to provide a fresh, forward sound, but bass could be quicker	81	72,42		5 Glass	1633 151
Target B5	175	Free of colourations, fine grip and good value				5 Wood	1633 151
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	80	Tall, slim and elegant, though sound and value are unexceptional	40-60	17,17	●		159
Alphason Titan	120	Excels in the midband and allows voices to come across in a detailed and expressive fashion	40-60	16,16	● ●		1373 146
Apollo AZ6	80	Fine engineering value, but sound unexceptional and top-plate small	66	15,13	● ●		159
Atacama BD21	55	Good looking and good value but doesn't match the SE24's sound quality	56	15,17	●		159
Atacama SE24	70	Stand out from the budget crowd because of the consistency and overall quality of the performance	61	19,5,17	● ●		1373 146
AVF Tower 400	35	Ridiculously cheap and much better than no stand at all	54	17,20	●		159
Ixos Deadrock 903	50	Smooth and tonally even but short on definition. Deep bass is soft which doesn't help timing	60				1373 146
Gale Reference 600	60	Smooth sounding with impressive bass well suited to less civilised speakers			● ●		1373 146
Kudos S50	100	Better sound than the budget stands, particularly at the bottom end	60	15,21	●		159
Kudos S100	270	The best all round stand around... Probably...	63	15,21	●		159
Mana Soundframes	125	For use under floorstanders and equipment racks these make music effortless and natural, can be stacked for greater effect	5		●		1373 146
Partington New Merlin	60	Although light in weight, the stands performance seemed remarkably muscular but musical rendering lacked a little precision			● ●		1373 146
Partington Discovery	80	The depth and substance of the presentation truly added to the convincing nature of the system's portrayal			● ●		1373 146
Partington Trophy	100	Four column design with damped top and base plates, sound is tight and cogent with smoothly integrated detail			● ●		1373 146
Revolver RS1	70	A good blend of performance and appearance for the price	53	18,18	●		159
RMS/Stands Unique Vivus	550	Pricey carbon fibres give ultra-clean sound with exceptional voices	50	N/A			159
Soundstyle 124	100	Big, shiny and solid, with fine midband projection	65	17,16	●		159
Stands Unique HP	220	Real wood disguises high performance tuned technology	59	22,23			159
Target R1	280	Truly high mass four pillar design with superb weight and speed, giving music delicious attack and outstanding imagery	53	15,21	● ●		1373 146
Target TR60	60	Lively, dynamic midrange and detailed treble from a less than audiophile oriented twin column design	60	15,15	●		1373 14

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Tonearms



Turntables at the cheaper end of the market tend to be supplied with a matching tonearm, and often include a 'starter' cartridge. Still better quality is found at higher prices among the separate motor units and tonearms. Careful partnering and set-up is essential for these components.

Although the turntable is the most important part of a record player, the tonearm is the second most important, and the quality of

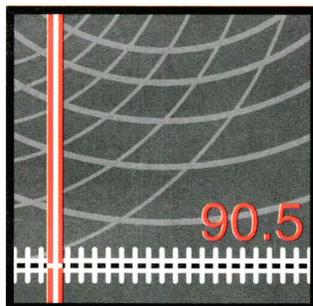
its construction and design have a significant bearing on sound quality. There are three basic types of arms listed in the key and each has its strengths, but pivoted designs are the most popular, for reasons both practical and economical.

B Best buy **R** Recommended

KEY			
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 arm from bearing to cartridge mounting.	ADJUSTABLE HEIGHT: Important for accurate cartridge set-up.	FACTSBACK NUMBER: The reference for ordering a fax copy of the review. Use the contents page to find the Factsback.	ISSUE NUMBER: The issue of <i>Hi-Fi Choice</i> in which the original review appeared.

TONEARMS

Product	Price (£)	Comments	PARALLEL TRACKING	EFFECTIVE MASS	EFFECTIVE LENGTH (cm)	ADJUSTABLE HEIGHT	FACTSBACK NUMBER	ISSUE NUMBER
Alphason HR100S	490	S-shaped arm sounds smooth, but nevertheless reproduces transients with fine attack	Medium	●	229	●	229	86
Kuzma Stogi Ref	1,000	Large, solid and well made arm, gives exceptionally clear sound with just a hint of brightness.	High	●	●	●	●	79
Linn Ekos	1,297	Superb, state of the art design which builds significantly on predecessor's strengths	Medium	●	229	●	●	6
Moth Arm	95	The ultimate budget arm? Refined, sweet, detailed and natural	Low	●	237	●	237	60
Rega RB300	139	Despite its modest price it sets exceptional standards and could be used on many high end turntables	Low	●	237	●	237	60
Roksan Tabriz Basic	275	Targetted at the Xerxes, this is a good alternative to the Rega arm in many cases – a touch bright though	Low	●	240	●	240	91
SME Series 300-309	657	Beautifully made and finished: fully adjustable and a highly neutral performer	Low	●	238	●	238	79
SME Series IV	936	Superb engineering and finish with a finely balanced sound, impressive stereo focus and low coloration	Low	●	233	●	233	60
SME Series V	1,391	Excellent in all respects, this arm arguably sets the standards for pivoted arms, regardless of price	Low	●	233	●	233	60



Tuners

The radio medium operates at a lower profile than TV, but in areas outside pop music the BBC service is the envy of the world. Live concerts rival all other sources from a hi-fi perspective.

Though tuners might seem something of a hi-fi afterthought, the task they discharge is far from simple, since it requires the skills of RF (reception) and audio (signal processing) engineering. The importance of the former will depend on reception conditions, but a high-quality aerial system is

well worth having. Tuners come in two basic types. Analogue models tune gradually and can have analogue or digital displays; they are often preferred for sound quality. Digital tuners offer convenient automatic tune facilities and pre-set memories.

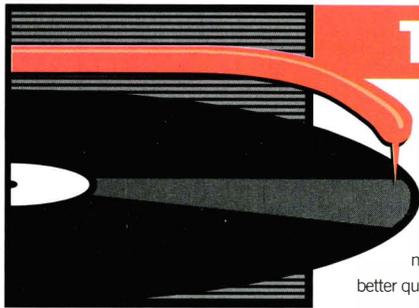
B Best buy **R** Recommended

KEY			
WAVEBANDS: Only the FM (VHF) bands give stereo hi-fi sound, though AM (MW & LW) are useful for receiving certain transmissions in the UK.	PRESETS: Number of station frequencies that can be stored.	RDS: (radio data system) was originally designed for in-car applications. Basically RDS tuners can identify and display the name of the radio station being received, but they offer a variety of other features as well.	REMOTE CONTROL: Couch-potato friendly.
SIGNAL STRENGTH METER: Indicates strength of signal from aerial, useful for aligning your 'twig' during installation.	ROTARY TUNING KNOB: The ergonomically attractive approach to dial-surfing.	FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page	to find the Factsback information page.
			ISSUE NUMBER: The issue of <i>Hi-Fi Choice</i> in which the original review appeared.

Tuners

Product	Price (£)	Comments	WAVEBANDS	PRESETS	SIGNAL STRENGTH METER	ROTARY TUNING KNOB	FACTSBACK NUMBER	ISSUE NUMBER
AMC T7	130	Performance adequate but price is sharp, especially with remote control. Some hum	FM, M	30	●	●	●	166
Arcam Alpha 7	230	Indifferent RF performance but a touch of audiophile sound quality with clean, strong signals	FM, M, L	24	●	●	●	166
Arcam Delta 280	399	Fine sound quality marred by mild synthesiser whine; RF performance only average. Remote £60 extra	FM	20	●	●	●	120
Audiolab 8000T	750	Unusually combination of fine sound quality and RF performance (inc AM), and superb ergonomics	FM, M, L	39	●	●	1254	142
Denon TU-260L	120	Careful minimalist design promises a surprisingly open and vivacious sound	FM, M, L	20	●	●	●	93
Denon TU-425RD	200	A fine all-rounder with advanced RDS, good RF performance and decent sound. Remote extra	FM, M	40	●	●	●	166
Harman/Kardon TU950	200	Bulky but effective, delivering fine RF performance and good sound for the price	FM, M, L	30	●	●	●	166
Linn Kremlin	2,600	Controversially good sound at a very high price. The reviewer's saving up but you should check it out for yourself	FM	80	●	●	1254	142
Magnum Dynalab FT101	825	Although fairly expensive given its minimum set of facilities, its excellent sound provided ample compensation	FM	●	●	●	●	72
Micromega Tuner	700	Has digital output but even without the Micromega DAC, this provides exceptional sound quality. Looks good too	FM	39	●	●	1810	157
Mission Cyrus FM7	400	Open, generous soundstaging gives the music plenty of foundation, if a touch shut in at the top	FM	29	●	●	1254	142
Musical Fidelity E50	300	Sounds involving if coloured and with a subjectively larger than life presentation	FM	20	●	●	1810	157
Naim NATO1	1,645	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	●	●	●	166
Rotel RT-935AX	160	Good ergonomics and sound quality at a realistic price, but limited features and RF selectivity	FM, M	20	●	●	●	166
Sony ST-SA3ES	250	Clean, lean presentation but needs a quality aerial to its best	FM, M, L	30	●	●	1810	157
Technics ST-GT350L	150	Decent RF performance is offset by sound quality more typical of a mini/midi system	FM, M, L	30	●	●	1254	142
Thorens TRT2000	450	Not exactly neutral sounding, it nonetheless makes listening fun	FM, M	59	●	●	1810	157

Turntables



Specialist turntables are what high fidelity sound is all about. CD players may offer silent backgrounds and flat frequency responses, but they can't match the dynamics and superlative timing that serious turntable users take for granted. Turntables at the cheaper end of the market tend to be supplied with a matching tonearm, and often include a 'starter' cartridge. Still better quality is found at higher prices among the separate motor units

and tonearms. Careful partnering and set-up is essential for these components, but many so-called 'sympathetic' combinations exist.

Because turntables are mechanical devices that are designed to retrieve modulations as small as a micron, engineering quality is of paramount importance. It is also the reason why turntables cost as much as they do, and require high quality support systems.



KEY

MANUAL: You do it all: put the needle on the record and take it off.
AUTO: The record player does it all.
SEMI-AUTO: You share the work: you put it on, it takes it off.
SPEEDS: In RPM to correspond with your platters.
SUSPENDED SUBCHASSIS: Sprung suspension to minimise

structural interference.
EXTERNAL PSU: Outboard power supply; generally it indicates high quality.
SUPPLIED WITH ARM: Many turntables require a separate arm to be fitted; if not, this tells you so.

SUPPLIED WITH CARTRIDGE: Most turntables do not come supplied with a needle.
FACTSBACK NUMBER: The Factsback reference for ordering a fax copy of the review. Use the contents page to find the Factsback information page.

ISSUE NUMBER: The issue of *Hi-Fi Choice* in which the original review appeared.

TURNTABLES

Product	Price(£)	Comments	MANUAL	SEMI-AUTO	SPEEDS	SUSPENDED SUBCHASSIS	EXTERNAL PSU	SUPPLIED WITH CARTRIDGE	FACTSBACK NUMBER	ISSUE NUMBER
A Alphason Sonata	835	Good sound in all areas - bass, clarity and neutrality all in top class (tested with HR100S MCS)	●					33	● ● ● ●	79
A Clearaudio Reference	2,500	Opulent beast tested with Souther TQ-1 arm. Tends to gloss over detail with a fizzy character but is quite bold	●					33/45		1328 144
A DNM Rota 2	4,800	Tonally slightly bleached, but extracts detail like few others. Works well on own table	●					33/45	● ● ● ●	1328 144
A Dual 505-4 UK	200	Consistent sounding and well isolated turntable. It is slightly lacking in oomph		●				33/45	● ● ● ●	103
A Kuzma Stabi/PS	1,200	(Tested with Stogi Reference) Solid oak plinth; sound is very clear, detailed and extended	●					33/45	● ● ● ●	91
A Linn LP12 Basik	1,050	Trails the full LP12 significantly, but pace, rhythm, timing etc still top rank	●					33	● ● ● ●	103
A Linn LP12 Lingo	1,750	The classic reference is improved by the Lingo, but charming character remains	●					33/45	● ● ● ●	91
A Michell Gyrodec	765	Sweet and natural sounding player, well matched to Rega RB300 arm	●					33/45	● ● ● ●	55
A Moth Kanoot	329	Rather coarse sounding deck that requires decent isolation and comes with a Rega RB300 arm	●					33/45	● ● ● ●	164
A Notts Analogue Spacedeck/Arm	1,125	No frills, just a first rate, outstandingly natural sounding deck that will last forever	●					33/45	● ● ● ●	159
A Pink Triangle Anniversary	1,980	Possibly the most detailed, clear and neutral sounding deck around. Likeness to master tape is uncanny	●					33/45	● ● ● ●	91
A Pro-ject 2	299	Remarkably effective at the price with decent timing and a generally well defined sound	●					33/45	● ● ● ●	164
A Pro-ject 6/Sumiko	699	Don't think of this as a mid price deck with a good arm, but as a scaled down Oracle Delphi - it's that good	●					33/45	● ● ● ●	138
A Rega Planar 2	214	A remarkable product at the price, surprisingly articulate and confident	●					33/45	● ● ● ●	48
A Rega Planar 3	274	The '3 sounds musical in a balanced and coherent manner, needs decent isolation and suffers a little pitch instability	●					33/45	● ● ● ●	164
A Rega Planar 9	1,598	Featuring the RB900 arm and a ceramic plinth this deck puts Rega into contention with the best decks available	●					33/45	● ● ● ●	151
A Reson RS1	675	Supplied set-up and ready-tuned, this unconventional deck is packed with mid-band detail	●					33/45	● ● ● ●	159
A Rivelin Eclipse	1,100	Tested with SME 309. Tends to simplify things and add a slightly ragged edge to the proceedings	●					33/45	● ● ● ●	1328 144
A Roksan Radius 3/Tabriz zi	890	Elegant looking turntable with a tidy, ordered sound. Bright and breezy if a shade lightweight	●					33/45	● ● ● ●	159
A SME Model 20A	4,631	Supplied with Series V arm. Engineered to last a lifetime, giving excellent stereo and detail retrieval	●					33/45/78	● ● ● ●	118
A Systemdek 1/920/Moth	235	The motor is derivative of the Rega Planar 2 with a Moth arm. Uptempo, even bright at times but never lacks enthusiasm	●					33/45	● ● ● ●	115
A Systemdek 2X2	499	Neutral, flexible and dynamic deck that begs to be used with a good arm and cartridge	●					33/45	● ● ● ●	159
A Thorens TD166 VI/UK/RB	300	Refined and solid sound with well focussed imagery; suitable for use with good MM and budget MC cartridges	●					33/45	● ● ● ●	103
A Thorens TD2001	700	Balances convenience and sound well, but deck lacks detail and bass could be better controlled	●					33/45	● ● ● ●	159
A Voyd 0.5	3,940	Cross between standard and Reference Voyds. Superb finish, colourful and dynamic	●					33/45	● ● ● ●	1328 144
A Voyd Reference	6,962	Voyd's flagship, equipped with three substantial motors, a strong contender for world's best	●					33/45	● ● ● ●	91
A Well Tempered Record Player	1,800	Intriguing and challenging. Musically it is not ideal, but has a limpid quality and a lack of artificiality that sets standards	●					33/45	● ● ● ●	1180 136
A Wilson-benesch TT/Act 2 arm	3,249	Carbon fibre is extensively used in this neutral and well resolved turntable with its fabulous unipivot tonearm (Statements)	●					33/45	● ● ● ●	1775 156

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KAL UK Ltd • tel 01303 245005 • fax 01303 221736
 KEF Audio Ltd • tel 01622 672261 • fax 01622 672939 • Dealers 240
 Kenwood • Trio-Kenwood UK • tel 01923 816444 • fax 01923 819131 • Dealers 1000
 Keswick Audio • tel 01977 671823 • Dealers 13
 Kimber Cable • RATA Ltd • tel 01539 823247 • fax 01535 823317
 Kiseki • Presence Audio • tel 01444 461611 • fax 01444 461510 • Dealers 10 + direct
 Koetsu • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962 • Dealers 20
 Koss • HW International • tel 0181 808 2222 • fax 0181 808 5599
 Krell • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962 • Dealers 17
 Kronos Distribution • tel 018687 48632 • fax 018687 48281
 Kudos • tel 01732 461648 • fax 01732 462949
 Kuzma • Audiofreaks • tel 0181 948 4153 • fax 0181 948 4250 • Dealers 12

L

LAT International • Audusa & Co • tel 0181 942 6241 • fax 0181 395 0793
 LFD • tel 01255 422533 • fax 01255 221370 • Dealers 7
 Lineaum • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962
 Linn Products • tel 0141 644 5111 • fax 0141 644 4262
 Living Voice • Definitive Audio • tel 0115 981 3562
 London • Presence Audio • tel 01444 461611 • fax 01444 461510 • Dealers 10 + direct
 Lowther Voight Ltd • tel 0181 300 9166
 Lumley Reference • Reference International • tel 01435 868004
 Luxman • Hi-fi Direct • tel 0171 827 9827 • fax 0171 827 9009 • Dealers 23
 Lynwood Electronics • tel 01709 873667 • Dealers 25
 Lyra • Path Premier • tel 01494 441736 • fax 01494 461209

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M

M&K • The Mafia Trading Co • tel 01794 519599
 MAG Audio (UK) Ltd • tel 0181 555 1222
 Magneplanar • Woodstock Music & Film Systems • tel 01865 883535 • fax 01865 881012
 Magnum • Hailey Audio Ltd • tel 01992 442425 • Dealers 6
 Magnum Dynalab • Audio Reference • tel 01435 575344 • fax 01483 301412
 Mana Acoustics • tel 01753 655744
 Manticore Audio Visual • tel 01767 318437 • Dealers 5 + direct
 Marantz Hi-fi UK Ltd • tel 01753 680868 • fax 01753 680428 • Dealers 200+
 Mark Levinson • Path Premier • tel 01494 441736 • fax 01494 461209
 Martin-Logan • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962 • Dealers 20
 Matisse • GT Audio • tel 01895 833099
 Maxell UK Ltd • tel 01923 777171
 McIntosh • MPI Electronic UK Ltd • tel 01483 454993 • fax 01483 454992
 Meridian Audio Ltd • tel 01480 434334 • fax 01480 432948 • Dealers 98
 Metaxas • UK Distribution • tel 01753 654531
 Michell Engineering • tel 0181 953 0771 • Dealers 8
 Michi • Gamepath Ltd • tel 01908 317707 • fax 01908 322704 • Dealers 18
 Micro-Seiki • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962
 Micromega DA Ltd • tel 0181 502 1416 • fax 0181 502 1438 • Dealers 104
 Minstrel • Quantum Audio Ltd • tel 01563 571122 • fax 01563 571133
 Mission • Centralforce Ltd • tel 01480 451777 • fax 01480 432777 • Dealers 259
 Monitor Audio Ltd • tel 01223 242898 • fax 01223 214532 • Dealers 45
 Monrio • UK Distribution • tel 01753 654531
 Monster • Gamepath Ltd • tel 01908 317707 • fax 01908 322704 • Dealers 181
 Mordaunt-Short Ltd • tel 01705 407722 • fax 01705 400099 • Dealers 200
 Morel • Wilmslow Audio • tel 01455 286603 • tel 01455 286605
 Moth Marketing • tel 01234 741152 • Dealers 30
 Musical Fidelity Ltd • tel 0181 900 2866 • fax 0181 900 2983 • Dealers 145
 Musical Technology • tel 01494 793137
 Myryad Systems Ltd • tel 01705 265508 • fax 01705 231407

N

NAD Marketing Ltd • tel 0181 343 3240 • fax 0181 346 4925 • Dealers 380
 Naim Audio • tel 01722 332266 • fax 01722 412034 • Dealers 70
 Neat Hi-Fi • tel 01325 460812 • Dealers 15
 Nottingham Analogue • tel 01773 762947 • fax 01773 533566 • Dealers 4
 NVA • tel 01763 272707 • fax 01763 271694 • Dealers 3

O

Onkyo UK • tel 0181 343 2082 • fax 0181 346 4925 • Dealers 120
 Optimum International 2000 • tel/fax 01274 583249
 Orelle Hi-fi • tel 0181 908 4126 • Dealers 30
 Origin Live • tel 01703 442183 • Dealers 25
 Ortofon • Henley Designs • tel 01753 889949 • fax 01753 889636 • Dealers 200

P

Panasonic UK Ltd • tel 0990 357357 • fax 01908 681931 • Dealers 3000+
 Papworth Audio Technology • tel 01480 830345
 Partington • tel 01322 383712
 Pentachord Loudspeakers • tel 0181 788 2228 • Dealers Direct
 Philips Consumer Electronics Ltd • tel 0181 689 2166 • Dealers 5000+
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 Pink Triangle Projects • tel 0171 703 5498 • Dealers 47
 Pioneer High Fidelity (GB) Ltd • tel 01753 789564 • fax 01753 789536 • Dealers 500
 Platinum • Woodstock Music & Film Systems • tel 01865 883535 • fax 01865 881012
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 Posselt • GT Audio • tel 01895 833099
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Q

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RCF Electronics • tel 01268 570808 • fax 01268 570809
 RA Labs • RDL Acoustics • tel 01484 603333 • Dealers 4 + direct
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 Rega Research Ltd • tel 01702 333071 • fax 01702 432427 • Dealers 54
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 REL Acoustics Ltd • tel 01656 766093 • Dealers 80
 Reson • Virtual Reality Audio Systems • tel 01277 227355 • fax 01277 224103
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 Ruark • tel 01702 601410 • fax 601414

S

Sansui UK • tel 01204 700139
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 Sennheiser UK Ltd • tel 01494 551551 • fax 01494 551550 • Dealers 850
 Sentec • MAG Audio (UK) Ltd • tel 0181 555 1222
 Shahinian • Pear Audio Ltd • tel 01665 830862 • Dealers 15
 Sharp Electronics (UK) Ltd • tel 0161 205 2333
 Shearpe Audio • tel 01438 740953 • fax 01438 740995
 Sherwood • Hi-fi Direct • tel 0171 827 9827 • fax 0171 827 9009 • Dealers 23
 Shun Mook • Audiofreaks • tel 0181 948 4153 • fax 0181 948 4250
 Shure • HW International • tel 0181 808 2222 • fax 0181 808 5599
 Siltech • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962
 SME Ltd • tel 01903 814321 • fax 01903 814269 • Dealers 125
 Sonic Frontiers • MPI Electronic UK Ltd • tel 01483 454993 • fax 01483 454992
 SonicLink • Audiokits • tel 01332 674929
 Sonus-Faber • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962 • Dealers 30
 Sony United Kingdom Ltd • tel 0181 784 1144
 Sound Organisation • Goldring Ltd • tel 01284 701101 • fax 01284 750040
 Sound-Lab • Audiofreaks • tel 0181 948 4153 • fax 0181 948 4250
 Soundstyle • Goldring Products Ltd • tel 01284 701101 • fax 01284 750040 • Dealers 170
 Spondor Audio Systems • tel 01323 843474 • Dealers 17
 Spica • Presence Audio • tel 01444 461611 • fax 01444 461510
 Stands Unique • tel 01933 461058
 Stanton • Lamba Electronics plc • tel 017278 40527 • fax 017278 37811
 Stax • Path Premier • tel 01494 441736 • fax 01494 461209
 Stemfoot Audio • Audio Synergy Ltd • tel 01924 406016 • fax 01924 410069
 Sugden • Audio Synergy Ltd • tel 01924 406016 • fax 01924 410069 • Dealers 12
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 Sumo • Audusa & Co • tel 0181 942 6241 • fax 0181 395 0793
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T

Talk Electronics • tel 01252 378383 • fax 01252 371818
 Tannoy Ltd • tel 01236 420199 • fax 01236 428230 • Dealers 400
 Tara Labs • Acoustic Energy • tel 01285 654432 • fax 01285 654430
 Target Audio Products • tel 01582 401244
 TDL Electronics Ltd • tel 01628850111 • fax 01628 850130 • Dealers 274
 Teac UK Ltd • tel 01923 819630 • fax 01923 236290 • Dealers 200
 Technics • Panasonic UK Ltd • tel 0990 357357 • fax 01908 681931 • Dealers 2000
 Tesserac Research Ltd • tel 0181 669 0011 • fax 0181 773 0406
 Theta • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962
 Thiel • MPI Electronic UK Ltd • tel 01483 454993 • fax 01483 454992
 Thorens • Portfolio Marketing • tel 01494 890277
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 Totem • May Audio Marketing (UK) Ltd • tel 01943 864930 • fax 01943 863814 • Dealers 6
 Townshend Audio • tel/fax 0181 979 2155
 Transfiguration • Audio Reference • tel 01435 575344 • fax 01483 301412
 Transparent Audio • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962
 Triangle • Kronos Distribution • tel 018687 48632 • fax 018687 48281
 Trichord Research Ltd • tel 01684 573524 • fax 01684 577380
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U

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V

van den Hul UK • tel 0181 810 9388 • fax 0181 810 9365 • Dealers 160
 Vandersteen • A&R Cambridge Ltd • tel 01223 440964 • fax 01223 863384
 Visonic • Canford Audio • tel 0191 415 0205
 Vivanco UK Ltd • tel 01442 231616 • fax 01442 235421 • Dealers 1000+
 VPI • Audiofreaks • tel 0181 948 4153 • fax 0181 948 4250

W

Wadia • Woodstock • tel 01865 883535 • fax 01865 881012
 Well Tempered • Pear Audio Ltd • tel 01665 830862 • 01665 830051
 Wharfedale Loudspeakers Ltd • tel 01480 431737
 Wheaton • Audiofreaks • tel 0181 948 4153 • fax 0181 948 4250
 Wilmslow Audio • tel 01455 286603 • fax 01455 286605
 Wilson • Absolute Sounds • tel 0181 947 5047 • fax 0181 879 7962 • Dealers 7
 Woodside Electronics • tel 01994 448271

Y

Yamaha Electronics UK Ltd • tel 01923 233166 • fax 01923 244930
 Yoshino • tel 01480 467788

Z

Zeta • Moth Marketing • tel 01234 741152 • Dealers 50
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RAYLEIGH HI-FI, 44a High Street, Rayleigh, Essex. Tel (01268) 779762/747571. 216 Moulsham St, On-the-Parkway, Chelmsford. Tel (01245) 265245. 132-134 London Road, Southend-on-Sea. Tel (01702) 432555. Arcam, Audiolab, Cyrus, Denon, Epos, KEF, Linn, Loewe Tvs, Marantz, Miller & Kreisel, Naim, Quad, Rega, Roksan, Rotel, Ruark. 0% finance. Excellent AV range. Home cinema Dolby Pro-Logic, multi-room specialist. **BADA**

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AUDIO T, 40-42 Albion Street, Cheltenham, GL52 2RQ. Tel (01242) 583960. Fax (01242) 226435. Open Tues-Fri 9.30-6. Sat 9.30-5.30. See our main entry under Oxford. We also sell Linn, Naim, Royd & Ruark. **BADA**

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AUDIO T, 4 Feathers Lane, Basingstoke, RG21 1AS. Tel (01256) 24311. Fax (01256) 24430. Open Tues-Sat 9-5.30. See our main entry under Oxford. We also sell Linn, Naim, & Royd. **BADA**
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KENT

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LONDON

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AUDIO T, 190 West End Lane, West Hampstead, London NW6 1SQ. Tel (0171) 794 7848. Fax (0171) 431 3570. Open Tues-Sat 10-6 Late Thurs until 8.00. See our main entry under Oxford. We also sell Micromega, Proac, Van den Hul & XTC. **BADA**

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MUSICAL IMAGES LTD, 45 High Street, Hounslow, Middlesex TW3 1JR. Tel (0181) 569 5802, Fax (0181) 569 6353. E-mail: sales@musical-images.co.uk. See main entry under London **BADA**

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AUDIO T, 159a Chase Side, Enfield, Middlesex EN2 0PW. Tel (0181) 367-3132, Fax (0181) 367-1638. Open Tues-Fri 9.30-6. Sat 9.30-5.30. See our main entry under Oxford. We also sell Kenwood, Linn, Micromega & Moth. **BADA**

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SOUND ACADEMY, 152a High Street, Bloxwich, Nr Walsall, W. Midlands Tel (01922) 493499/473499. Please see entry under BIRMINGHAM. **BADA**

NORFOLK

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SCOTLAND

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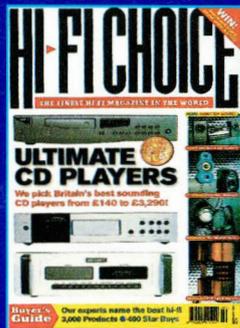
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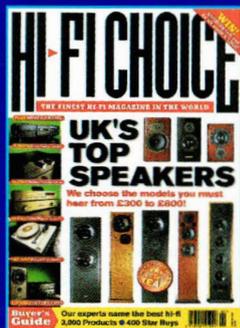
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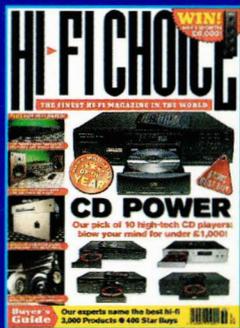
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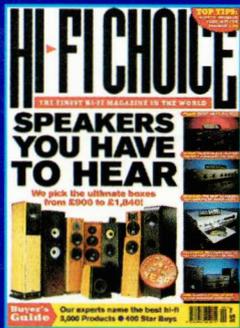
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Will these cute budget speakers cut the Hi-Fi Choice mustard?

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Twin-deck tape recorders: more music or just another black box?

REEL TO REEL

For all those budding dub kings and queens, we pit top twin tape decks against Yamaha's UK-tweaked KX580SE, with this test postponed from the current issue. Get your blank tapes ready!

THE PUDDING'S IN THE PROOFING

Check out our guide to room soundproofing to prevent angry neighbours banging on your door. Or you may want to try and block out your noisy next-door residents!

RECORDING THE EVENT

If you've craved your own CD recorder but couldn't afford the £1,300 asking price of the award-winning Pioneer PDR-05, think again. Next month we test Pioneer's £700 PDR-04 CD recorder to see if it cuts the mustard!

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Ultra

How can you recreate live gigs in your living room?

David Vivian finds the answer with Yes – and Mission.

Vivian Scene

The best sound I ever heard at a rock concert was produced by a reunited Yes 'big band' (a sort of Yes Generations) at Wembley Arena, about four years ago. I'd never been a huge fan of the band in any of its incarnations, but the chance to hear Rick Wakeman back in context was temptation enough. And remember: not all their albums were as bad as *Tales Of Topographic Oceans*.

I can't remember how many of the old boys actually turned up, but they made a simply colossal sound, and I don't mind admitting I was blown away. Preventing the sound from being just a wall of electronically-generated decibels was the fact of it being hi-fi in the best (possibly ultimate) sense.

Chris Squire's bass was astonishing, delivering not the expected amorphous thump-thump-thump, but fast, taut and tuneful lines that seemed to go right down to the centre of the earth. Steve Howe's lead guitar had stinging presence, Bill Bruford's mountainous drum kit had killer attack, Wakeman's synthesisers provided lush, layered warmth. Better still, the whole thing was seamlessly integrated and, despite the prodigious sound pressure level, wonderfully unforced.

Everything sounded so amazing that even protracted episodes of Jon Anderson's vocal high-wire act passed relatively painlessly. It could well have been that the seductive allure of the system was glossing over the naffer elements of the music — an effect, it is sometimes claimed, that hi-fi buffs crave.

Hunting for hi-fi

But that's another discussion. What we're stalking here is what I read as the Holy Grail of hi-fi: scale and dynamics. Usually, there's such a dislocation between a massively amplified and distorted rock concert and even the most muscular domestic hi-fi that comparisons are ridiculous. You can listen to a recording of the former on the latter because hi-fi is good at resolving 'liveness', if not raw power. But the Yes rig — predominantly a 30-ft high articulated fist of JBL cabinets suspended from the roof — sounded exactly like good hi-fi, only louder. A dumbfounding display of how good things could be.

For a small-speaker user such as myself, this was a bitter pill to swallow. On my return, I didn't want pinpoint imaging, minimal coloration and a perfectly formed miniature soundstage. I wanted pinpoint imaging, minimal coloration and believability: the Big

Picture, the seismic bass, the visceral punch. Unsurprisingly, my Mission 760i of the period could manage none of these things. No tiddler can, no matter how hi-tech or expensive it may be.

Small room; big bass?

I'd tried beefy floorstanders in my bijou listening room before, but the results were nearly always the same: more size and loudness, yes, but also bass boom that assumed



Mission 735i
The 735is from Mission can provide a big sound for a little room.

quite unbearable dimensions with the volume whacked up. And less stereo.

So I'd more or less resigned myself to living with small speakers on the basis that they alone interacted properly with the room. But I've never given up trying to get bigger boxes to work. Mission's new 73-series flagship, the £650 735i, looked like being a particularly hopeless case: four vertically stacked drive units, front and rear-facing reflex ports, a whopping 50 litres of internal volume, no provision for mass loading. And, at 42 inches sans spikes, it stood waist high to a Harlem Globetrotter. When I slid one out of its cardboard container, it just kept on coming like the underbelly of the battle cruiser in the

opening moments of *Star Wars*. But, at just eight inches wide, at least it was slim enough not to be visually overpowering.

Normally I still wouldn't have held out much hope, but several aspects of Mission's blurb planted a seed of optimism. First, the promise of some speed courtesy of a light, rigid low-energy-storage cabinet structure and two seven-inch polypropylene bass drivers working in tandem rather than one massive, more sluggish, unit. Second, a realistically attainable bass response strong down to 48Hz but rolled off after that. And third, fairly flexible advice about how close they could be sited to a rear wall. As little as 10cm was apparently okay. It would have to be!

Other features of note were the composite polymer/particle board front baffle that provided partial de-coupling of tweeter and bass drivers, the claimed 90dB efficiency, the "straight path" crossover design and two sets of terminals for bi-wiring. But it was the thought of all that lovely driver radiating area and snug positioning that raised my hopes.

Mission to the rescue

And (praise be) rightly so. If this was a formal review I'd feel obliged to applaud the Missions' notably smooth frequency response; sweet, extended treble; snappy timing; articulate, weighty bass; and, indeed, lower coloration and pinpoint imaging. Moreover, I'd give a big thumbs-up to their even-handedness; their generous, unflappable character; and easy-going musicality. But to a large extent, I'd be missing the point. 'Articulate' and 'weighty' aren't adequate adjectives to describe what's going on down below: bass that breathes sounds crucially different to the stuff that's squeezed out of a small enclosure. And the 735i fills its lungs in a way that the gamest tiddler never could.

Good bass isn't all twangy leading edge: it's the integrity of everything that happens after that. It's big and deep but unobtrusively so. So naturally and effortlessly does it underpin the music, it doesn't draw attention to itself. Everything falls into place that much more convincingly and sounds less contrived.

Sure, this is standard fare for all well-designed big speakers, but usually these need a big room and lots of space to work properly. The Missions would undoubtedly appreciate wide spaces too, but they're better than that. They make a big sound in a small space. You owe it to yourself to hear 'em. ▲

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