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iVE A

More power!

Budget amps punch above their weight p42



- **Exclusive** New Panasonic DCC deck
- C Hot Valves from Arion and Audio Innovations
- In car test: £13,000 Pioneer system and four CD/Tuners
- High tech Sony biocellulose speakers and Wilson Benesch carbon-fibre arm

Digital Radio decoded

Warofthe Woofs SUBS AND SATS TO TAKE OVER YOUR LOUNGE (discreetly!) P58

A CURE FOR THE COMMON COLD. ENGLAND TO WIN THE WORLD CUP. A TRUE AUDIOPHILE AMP FOR UNDER £200

WELL, ONE OUT OF THREE ISN'T BAD.

It seemed like the impossible dream. An amplifier that sounds like an esoteric, English one-off. Combined with all the value for money that the sub-£200 price tag implies.

Kenwood has turned the dream into reality. The original 3020 won rave reviews. Now, the SE model, with its 220VA transformer, uprated capacitors and larger heatsink adds the final polish to a truly outstanding, no-frills amp.

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For information pack, phone Dept. SE free on 0800 100110.



September 1994 No. 134

The name's Sam, Sam Stereo (daft name, I blame my parents.) Check me out in this month's free mag — <u>here's lookin' at you . . . (etc)</u>

C. The sum

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Best Buys and Recommendeds

Products that make the grade are awarded *Hi-Fi Choice's* unique Best Buy or Recommended accolades. This sets them apart as being capable of a higher standard of fidelity than average at a particular price.

A product carrying the **Best Buy** swing tag is significantly (better than the alternatives in its price band. It is of

excellent quality and very good value for money. Watch out for this logo. It is your guarantee of quality.

> **Recommended** products are also very good, but not quite in the same league as Best Buys. Despite being runners up, they are definitely worth considering, as they may prove more compatible in some systems.

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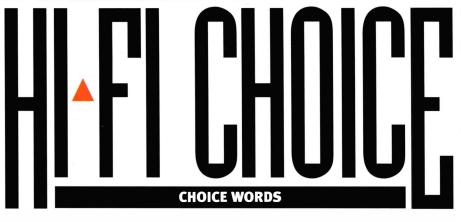
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THE GET OUT CLAUSE

While every care has been taken in the preparation of this journal, the pub-lishers cannot be held responsible for the accuracy of the information here-in, or any consequence arising from it. Readers should note that all judge-ments have been made in the context of equipment available to Hi-Fi Choice at the time of review, and that 'value for money' comments are based on UK prices at the time of review, which are subject to fluctuation and are

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The shock of the new

llow me to introduce myself as the new editor of Hi-Fi Choice. For those who care about such matters, I'm the seventh hack to have held this post. My publishing career to date has taken in professional audio, music and (most recently) home cinema. But it began with hi-fi, so arriving on the magazine has been a kind of homecoming. There is still debate about enclosures, transistors and uppermid-bass suckout, and in spite of all former predictions, no-one has made a CD player which sounds better than the finest turntable. However, only the best-buried ostrich head could disagree that the forums of the future will revolve around the onward

march of all things digital, which will influence audiophiles of tomorrow in more ways than they can possibly imagine today.

In the meantime, let the Seventh Dynasty of Choice begin with a call for more correspondence. If you agree with what we say, we want to know; likewise if you disagree. But it shouldn't stop there. I want to hear about your all your ideas, however bizarre. About your experiences, your thoughts on the future – and what has driven you to become part of the privileged élite who have realised that good hi-fi is the only route to true enjoyment of good music.

After all, if it is nothing else, this highquality audio stuff should be fun. Hi-fi is a means to an end. It exists to make pop more popular, operas more operatic, heavy metal more metallic. It's about getting the most from your records and CDs. It's about getting the very best next thing to 'being there'whether 'there' is the concert-hall or recording studio. It's about making an emotional connection with the unlikely combinations and permutations of soundpressure waves which we call music.

All well and good – but what makes hi-fi so continuously fascinating is that, even today, no-one has designed the perfect music reproduction system. Even with the accumulated wisdom available to today's electronic and acoustic engineers, no-one knows exactly how the myriad

> components in the audio chain affect one another, and hence how they affect reproduced sound.

For that matter, noone can name with certainty all the factors which have a bearing on how we perceive music (as distinct from the physical process of actually hearing it). That's why hi-fi remains so

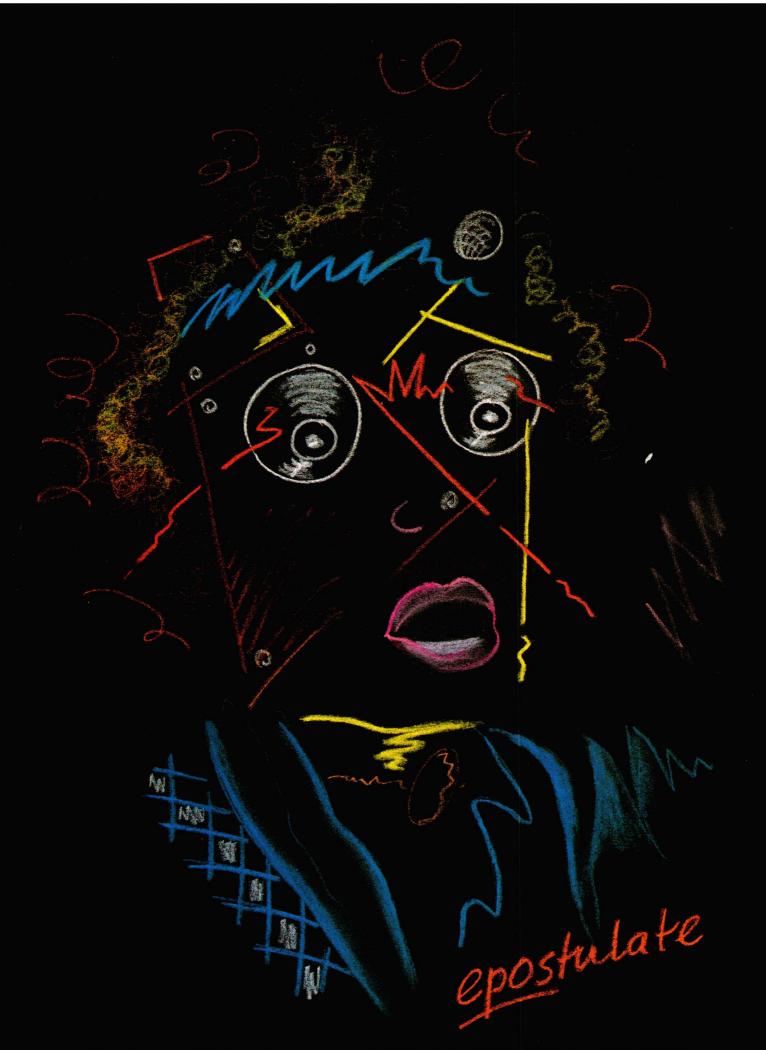
fascinating, because in an age when a great deal of technology is well charted, the expedition in search of super sound still has great areas left to explore. I hope that in future years Hi-Fi Choice will be remembered for having ploughed a little deeper into unknown tracts of audiophilia you'll read more in months to come.

Turning to more immediate matters, this month's issue is notable for its free supplement (cue the square jawline, above left), which is crammed full of tips for those who like their music on the move or on the beach. In the main magazine, meanwhile, we've got tests on satellite/subwoofer systems and integrated amps, to name but two. Also, next month you can look forward to our exclusive Awards issue, plus tests on

mid-priced speakers and budget AV amps – October's issue will be available in your newsagent by Friday September 9. Enjoy!

Stan Vincent





Choice news from around the world

'Cam you dig it?

Arcam has pulled the sheet off two digital products: the snappily-titled *Delta Black Box 500* Digital Audio Control Centre (DACC, £750), and the more succinctly-named *Alpha One*, which at £299.90 is the first Arcam CD player to cost less than £300.

The DBB 500 is based on an Arcamdesigned, one-bit DAC built with discrete surface-mount components. Up to seven digital sources may be accommodated, and the unit may be used as a digital preamp in association with a power amp.

The '500 also includes an internal master reference clock with voltagecontrolled crystal oscillator, and Arcam's Sync Lock feature is automatically activated when the unit



The innards of the *Alpha One* — get a load of that three-beam transport, laser fans.

is connected to a *Delta 250* or 170.3 CD transport — guaranteeing 'jitterfree' performance.

The Alpha One, meanwhile, comes complete with a Sony threebeam transport and the new Burr-Brown PCM1710 multi-level $\Delta\Sigma$ DAC, with fourth-order noise shaping. Inside the casework there's a steel chassis and rugged PCB, plus audiophile analogue components and a digital output.

Both products are covered by Arcam's two-year guarantee. 2 Arcam (0223) 861550

Philips unleash DCC assault

A

The DCC-MiniDisc war has escalated to another level with the arrival of Philips' first recording DCC personal. The *DCC170*, due for release in September priced £250-£300, offers the new 18-bit Studio Recording Technology with enhanced dynamic headroom, digital/analogue input and a mic input. Look out for a review in *Choice* very soon.

Due in November. the DCC-730 is the latest fullsize recorder (also priced £250-£300), which includes Philips' Turbo Drive mechanism for 'ultrafast' tape winding. Philips claims that this feature, when combined with more sophisticated control of a tape's Table Of Contents, will result in much shorter trackaccess times.

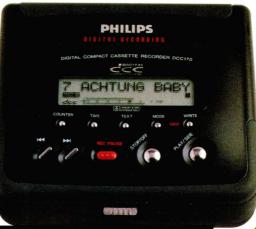
And New CD Players, Too! When it comes to Philips' fresh crop of CD players, continuous calibration is the name of the span, independent of external factors such as varying temperature.

On the two cheapest models, the £120 *CD710* and

the £130 CD720,

the calibration is

implemented



Philips' recording DCC personal, the *DCC170*see Barry Fox's first reactions to it on page 33

> game. The innovation, which has been patented, claims to keep players performing at their best throughout their life

alongside a new 16-bit DAC, the TDA1545A. In the £170 *CD740*, anew Bitstream decoder (TDA1549) is used in conjunction with continuous calibration techniques, while the flagship £200 *CD750* employs a selected version of the

premium Bitstream DAC, the SAA7350.

All players utilise Philips' recently developed CDM-12 linear-trackingtransport mechanism, with three-beam laser and digital servo IC. **2** Philips 081-689 2166



Update

Five guys named Rotel

Rotel has announced the arrival of three amplifiers, a CD player and a phono equaliser onto the market.

The £150 30Watt RA930AX MkII replaces the RA930AX (reviewed HFC 104), while the £200 30Watt RA930BX is brand new, reviewed on p52 of this issue. The £250 line-level 50Watt RA935BX MkII, meanwhile, replaces the RA935BX (HFC 121), for which a phono stage costs £50.

On the digital front, the

RCD940BXCD player (£230) replaces the RCD945AX (HFC 124): while the active phono equaliser is dubbed the

RQ970BX, and costs £130. The RA930BX claims to use passive audiophile components and specialist integrated circuits in the line stage, while the RA935BX MkII is said to benefit from '28 circuit revisions' over its predecessor, and packs slit-foil capacitors, toroidal transformer and star-earth grounding topologies on its PCB.

The CD player, meanwhile, uses an 18-bit, eight times oversampling chipset and a number of 'audiophile' analogue components. It benefits from a metal-chassis, bonnet and front panel.

The *RQ970BX* phono equaliser is designed for use with line-only amplifiers, but Rotel claims it will improve on the basic performance of integrated amps' recordreproducing internals. 🕿 Rotel (0908) 317707

One of the trio of amplifiers from Rotel that make up a fivestrong onslaught on the autumn market.



Siggy Stardust



Which wood would you choose? Veneer variety from ProAc.

ProAc is now producing a Signature version of its Tablette III speaker.

It's yours for £849 in Burr Oak, Ebony or Bird's Eye Maple realwood veneer; or for £779 if you choose Rosewood or Yew.

Benefits have been wrought from a copper magnet assembly in the bass driver, allied to a solid-copper phase plug; an, open, equalised reflex port; and not forgetting a modified crossover. 2 ProAc 081-207 1150

The power of 3

Not content to rest on the laurels of the amp that launched a thousand systems, NAD has brought its expertise to bear on a remote-control CD multiplayer, the £270 Model 513, which is out this month equipped with a MASH DAC.

The design has been kept simple, on the basis of customer research which indicated most users require no more than three discs to be loaded at once. While one disc is playing, you may change the other two as required.

Up to 32 tracks may be programmed from all loaded discs, and there is a track-assembly Edit function to ensure painless preparation of cassette compilations. 2 081-343 3240

Not only can you lounge in your armchair for a whole three compact discs' worth, you can point the remote and listen again, ad infinitum, courtesy of the NAD *Model* 513.



Aura has announced a replacement for the long-running VA-50 amp: it's the VA-80, which costs £280 in black-mirror finish or £330 in chrome. The minimalist VA-80's circuitry borrows heavily from the VA-100, reviewed in HFC 109, and claims to offer 45 Watts per channel RMS. (0903) 750750

AVI, the Stroud-based purveyor of designer audiophilia, has introduced an integrated amplifier (the £799 S2000MI) and a CD player (the £899 S2000MCII) to complement existing components (reviewed in Statements, p.20). The official launch will be at the Ramada hi-fi show, from September 8 to 11. a (0453) 765682



Look no wires! Monostem, neat and effective equipment supports.

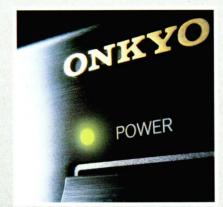
Monostem is a stylish equipment support system, encompassing tables, speaker stands and tape/CD racks. The table system is based on a single-piece fixing which attaches to the wall and neatly hides cables at the same time. A wide range of finishes is available, and prices for the table begin at £255. @ (0533) 433233

Sony has announced the latest version of its Super Bit Mapping (SBM) system, which claims to make 16-bit CD recordings sound more like 20-bit masters. Also, it is adding an SBM noise-shaping filter to the analogue inputs of new domestic DAT recorders, such as the DTC-60ES, for enhanced recordings

Meanwhile, in the analogue world, Sony has announced three new cassette tapes: UX, UXS and Metal XR. 1 (0932) 816000

It may look like a corrugated omelette, but in fact it is the new Magnapad Gold loudspeaker magnet damping pad from Spectra Dynamics - makers of the Deflex Acoustic Panel (reviewed Sessions, HFC 126). It costs from f15 to f20 depending on application, and we'll be taking a look at it soon. **2** (0745) 571600





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Update

Craggy thumbs aloft

Onkyo have added a Pro-Logic decoder to the stylish *Liverpool* series of mini components (reviewed *HFC* 131).

The SR 211 PRO (£400) offers Hall, Stadium, Disco and Dolby 3-Stereo DSP modes in addition to Pro-Logic, plus a test-tone generator, automatic input balancing, tone controls and three video inputs.

24Watts are available for the dialogue speaker, with 2x10Watts offered for the rear speakers (DIN figures, 80hms). 2 Onkyo 081-343 2082

This season's Liverpool line-up brings a Pro-Logic decoder, the *SR 211 PRO*, up front.

Celling England by the sound

Celestion has unveiled some adventurously-styled AV speakers.

The £149 MP1 multi-purpose speaker is reflex-loaded, with an injection-moulded polypropylene cabinet. Just 295mm high, it is magnetically shielded and easy to mount. Power handling is quoted at 150 Watts, and free-space LF extension to 70kHz (± 3dB). It comes in cream or grey.

Three other AV additions include the £99 *Little* 1 surround speaker, the £179 *Centre* 2 dialogue speaker and the £299 *CSW* powered subwoofer. Watch this space for details of

Celestion's radical hi-fi speaker, the



Kingston, whose curvaceous enclosure is made from a high-tech mineral material called Alpha Crystal. Pundits are talking of a November launch. **2** (0473) 723131

Pi-Fi Choices

In tune with Pioneer - RDS too!



The pace of innovation continues unchecked at Pioneer, where a whole host of components have just been rolled out.

There are no less than four CD players on offer. Of most interest are the £200 PD-5503 and £250 PD-5703 which, according to Pioneer, have benefited from extensive UK tuning and component upgrades.

Both sport Pioneer's Legato Link Conversion system, which claims to restore the musical naturalness which other players fail to reach.

They also incorporate Pioneer's Pulseflowone-bit DAC, with 384-times oversampling and second-order noise-shaping; and Clean Laser Pickup, which has a built-in RF amplifier for improved signal-pickup-accuracy and conversion. It's also worth noting that the PD-S703 is a cheaper reworked version of last year's PD-S702. This year's model has separate power supplies for digital and analogue stages, and defeatable digital outputs.

There are two budget models the £140 PD-103, which replaces last year's PD-102; and the £160 PD-203, which replaces the PD-202. Both come equipped with Pulseflow and Clean Laser Pickup.

Also new from Pioneer are two RDS tuners (the £180 *F-303RDS*, including EON; and the £130 *F-203*, including Radio Text) and an entrylevel amplifier, the £150 *A-203*, which includes a cheaper implementation of the Wide Range linear circuitry found in the highlyacclaimed *A-400X* **2** *Pioneer (0753) 789789*

Top tape from Technics

Technics is replacing the *RS-BX404* cassette deck with a new machine, the *RS-BX501*. This £180 remote-control player has a centrally-positioned mechanism with auto-reverse and automatic precision tape calibration, plus Dolby B, C and HX Pro.

Thanks to twin motors, Technics claim, the '501 will wind tapes approximately 50 per cent faster than its rivals. A microprocessor system slows down the wind just before the end of the tape to minimise the risk of snapping.

Something For The Weekend?

Also expected from Technics are three personal CD players: the \pounds 100 *SL-XP170*, \pounds 140 *SL-XP180* and the \pounds 160 *SL-XP250C*, which is optimised for in-car performance. All are scheduled for September release.

Both of the less expensive players have been designed to be light but rugged and reliable, especially in high temperatures, thanks to a polycarbonate body and toughened glass laser lens. Long alkaline battery life is another feature, being eight hours and 11 hours

respectively for the *SL-XP170* and *SL-XP180*.

The *SL-XP250C*, meanwhile, is equipped with a double-floating transport for immunity to knocks and bumps, and a back-lit display.

Cigar-lighter power adapter and car cassette interface are standard; a mounting arm costs £34. 2 *Technics (0344) 853943*

Lightweight, rugged CD personals from Technics sound like essential equipment for a survival course — may not keep you warm, though...



IN BRIEF

Keswick Audio Research has turned from speakers to amps with the *Vegas*, a line-level integrated valve amp, producing 18 Watts per channel using EL84 tubes for around £800. It's due in September, as is the *Cantana*, a high-sensitivity twoway speaker. **2** (0977) 671823

Polk's £300 AW-M3 is a compact outdoor speaker with an integrated mounting bracket, and a sensitivity quoted as 89dBW. Its white finish may be painted. **2** (0727) 827311



Polk's AW-M3 likes it outdoors.

New accessories: AC Mains'Press (£79) from the Audiophile Club ☎ 081-882 2822 claims to eliminate the interference sometimes caused by fridges, freezers et al. LFD Audio ☎ (0255) 422533 has a six-way mains distribution block, housed in steel, utilising gold-plated MK hardware, and wired with silver-plated copper cable coated in PTFE (from £150). Path Group has upgraded its *Ixos* range of connectors to include locking and sleeved banana plugs, plus heavy-duty phono plugs. ☎ (0494) 441736.



The most phono you can have with your clothes on .

Tube enthusiast Stuart Perry has formed a company to reproduce *Beam-Echo* valve amps (see *HFC* 131, p34), acclaimed in the '50s and '60s. He claims the replicas will be to original spec except where modern components can wreak improvements. **2** (0425) 278270

Errata: our steady quill slipped last month on some prices. The THETA Data Basic/COBALT 307 (p53) combination costs £2,696 not £987; the PS Audio Lambda/Ultralink Two combination (p51) costs £4,900 not £4,500, and the AKG K70 headphone (p66) cost £29.95 not £39.95. Our sincere apologies to all parties concerned.

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Musical Images, Edgeware 081-952 5535 Musical Images, {081-569 5802 081-570 7512 Hounslow NORFOLK Adcock & Sons, Watton 0953 881248 Adcock & Sons, Watten Coop 0222 Martins Hi-Fi, Kings Lynn 0553 761683 Martins Hi-Fi, Norwich 0603 627010 NORTHAMPTONSHIRE H.G. Rapkin, Northampton 0604 37515 NOTTINGHAMSHIRE F.L. Smith Electrical, Mansfield 0623 655684 F.L. Smith Electrical, 0909 479770 Workson Forum Hi-Fi, Nottingham 0602 622150 Superfi, Nottingham 0602 412137 OXFORDSHIRE Witney Audio Centre, Witney 0993 702414 SHROPSHIRE Shropshire Hi-Fi, 0743 232065 Shrewsbury 0743 232317 Telford 0952 613818 W. Owen, SOMERSET Paul Roberts. Taunton 0823 270000 STAFFORDSHIRE Purkiss Hi-Fi, Hanley 0782 265010 SUFFOLK Peter Watts, 0284 703045 Bury St Edmunds Sudbury 0787 372348 System Sound, SUBBEY 081-653 3657 Audiolite. Thornton Heath /2261 0932 854522 Cosmic. Addlestone /851753 Leatherhead 0372 378780 Tru-Fi. Tru-Fi,

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STRATHCLYDE Glasgow 041-248 2857 **Bill Hutchinson**.

Robert Ritchie, Montrose 0674 73765

WALES

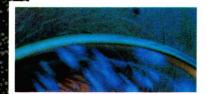
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The latest products, the best recordings and our own point of view on the most interesting developments to hit the hi-fi scene. Concise reports by the Choice team.

LOUDSPEAKERS

£449.99 🔼 Coherent, dynamic and transparent. Quite a tough load; need decent amplification. SOUND ***** VALUE *****

f this speaker hadn't been wearing its Sony badge (in fetching suede) I would have put it down as a BBC designed Harbeth or Spendor. Everything, from the shape and extensive use of felt damping, to the expensive understated veneer, says Studio Monitor. But look a little closer and this £450 Sony shows at least some of its heritage: there are little bits of rubber damping the surround, a dust cap on the woofer and the time aligned tweeter is made of the same bio-cellulose that was featured in the (£2.5k) R10 headphones.

The SS-A1L is an infinite baffle design that's a little bigger than an LS3/5a at 30x19x20cm (hxwxd) without the grille. Its response extends down to 60Hz by virtue of a 40hm impedance and 85dB/W sensitivity. Used on Acoustic Energy stands they worked well both close to and away from the rear wall, but the optimum site turned out to be between a foot to sixteen inches out. Positioned thus and fed glorious triode amplified signals from a pair of Gamma Aeons, some rather palatable sounds were heard to issue forth from the diminutive Sonys.



As one might expect from such a considered design, they were pretty short on character, reflecting instead the character of the music and the system. The lack of cabinet contributions made for truly 'out of box' imaging and the even balance delivered natural, convincing voices and a generally open soundstage. They lack little when it comes to coherence, rendering the fluid beat of the The Grateful Dead's Rosalie

McFall with some aplomb. Connected to the somewhat stiffer output of Michell Alectos, the Sonys produced some impressive low frequency grumbles and bounced along with Chaka Demus and Pliers. The transistor amplifiers produced greater spatial coherence but also a constant

desire to turn up the volume, which, if indulged, resulted in the speakers hardening up a tad.

Convincing and obviously well-thought-out, the SS-A1L represents a further step along the classic BBC path. It adds dynamics and pace to neutrality. Jason Kennedy

Sony UK Ltd, The Heights, Brooklands, Weybridge, Surrey KT13 0XW. 🕿 (0932) 816000

DENON PREC

TUNER Denon TU-380RD

£189.99 C Great RDS implementation in a good-value tuner. Long wave and signal strength omitted; sound quality compromised. SOUND ***** VALUE ****

t is gruelling to find out that yet another Japanese hi-fi brand has mastered RDS technology on its latest tuner, but I must report that Denon's TU-380RD features secondgeneration EON capability.

There has been British input towards the design, though, if only from extensive collaboration with the BBC. whose RDS development engineers were consulted at each stage to ensure the system was correctly configured.

Although lacking long-wave, this £190 FM/AM tuner makes full use of the active Radio Text messages which the BBC has been broadcasting alongside its

An affordable tuner with outstanding RDS capabilities.

10 Hi-Fi Choice September 1994

A stylish tower of a system from Pioneer — the *Impresso* 7 where the emphasis is very much on solid engineering.

00

national FM signals since the beginning of the year. These give details about the programmes and the music played.

On *Radio Three* this means the name of major works, performer or orchestra details, and the conductor. Many commercial stations are experimenting with the concept, and *Classic FM* is poised to go live with its text implementation. Others are less far advanced though, as *Radio Mercury* still refers to an engineering test from the long defunct IBA.

Other RDS features give access to accurate Clock Time, station ident and tuning by PTY (or programme type) be it News, Rock or Pop. And the TA flag means the *TU-380RD* will re-tune automatically to travel flashes from local stations.

While all the RDS functions work well, standard tuner features are sparse. There is an RF attenuator, but that's about all, as there isn't even a signal strength meter. Yet the 40 presets, arranged in five banks, should prove enough for the most avid radio fan. There's no tuning knob, instead up/down buttons are used in either manual or automodes to scan the bands for stations.

This is a fairly good sounding tuner which should find many friends. It's not outstanding, but its performance is no disgrace especially given the sub-£200 price point. Bass lines are powerful enough and the midrange is generally free of colorations. The treble could extend further and be smoother, but the soundstage is wide and provides a believable picture.

Removing the lid revealed a sparsely populated circuit board filling less than half the interior. There's nothing special inside: an off-the-shelf front-end from Mitsumi and the

popular LA1265 and LA3401 chip-sets suggest little in the way of audiophile application. But, at the price, we can expect little else and Denon has built a middle of the road tuner which will work with the majority of modest systems. The excellent RDS features are a real bonus in getting the most from radio signals. **Trevor Butler**

Hayden Laboratories, Chiltern Hill, Chalfont St Peter, Gerrards Cross, Bucks SL9 9UG. 🕿 (0753) 888447

Pioneer Impresso 7

 Eschews gimmicks for nonosense engineering; excellent performance, especially from CD and tape.
 Flat, opaque sounding tuner with mildly disappointing FM. SOUND *****

VALUE *****

ioneer has recently launched two rather serious-looking midi systems under the Impresso name which combine hi-fi credentials with stripped down controls and snappy 'lifestyle' packaging. Of the two, the costlier Impresso 7 is the more serious, with a better, more powerful amplifier, an RDS tuner and a CD player with Legato Link digital filtering for £900 – a modest £150 hike over its stablemate. And yes, for the real hi-fi techies out there, this is a system that you can buy without speakers, which is how it was tested.

The Impresso system consists of true separates. Each component has its own power supply and mains lead, albeit daisy-chained so that only one mains plug is required. Features included have been chosen on

strict

PIONEER

-100

utilitarian grounds, so the tuner has a timer and RDS for station naming, radio text and EON (Enhanced Other Networks), which in the fullness of time will allow such things as auto-retuning to catch traffic broadcasts — useful if your car is wired for 240 volts. The cassette deck has a single, auto-reverse mechanism, but is equipped with auto tape bias and level adjust. DSP modes and equaliser functions are notable by their absence.

Used with Mission 760i speakers, the Impresso 7 performed like a thoroughbred, thanks in part to a cleansounding amplifier which imposed strong control over the loudspeakers, and which lacked the opacity

and grain so prevalent with system amps. The Legato Link digital filter weaved its usual spell, giving an unusually smooth, naturally distanced sound from CD, and the cassette deck also impressed with its stability and solidity. The only disappointment was the tuner, which failed to transcend it's system origins, and which sounded rather flat and opaque, though it was adept at picking its way though an increasingly crowded FM band. Alvin Gold

Pioneer High Fidelity (GB) Ltd, Pioneer House, Hollybush Hill, Stoke Poges, Slough, Berks SL2 4QP. 20 (0753) 789789

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AMPLIFIERS Arion Elektra

 £999.00
 Natural sounding amplifier; fluid midband; good dynamic range.
 Utilitarian styling; can sound grainy.
 SOUND *****
 VALUE *****

Arion's intention is to produce good sounding, no-frills products and the £1,000 *Elektra* valve integrated amp is the first of these. Mains filters, cables and more valve products are to follow.

On the outside, the *Elektra* is fitted into a routine black case of the Audio Innovations *Series 500* school (though it lacks the pretty perspex top-plate). The valves in the *Elektra* are laid transversely along the top plate.

The line-level-only Elektra uses an ECC83 valve driving a 6SN7 to power a pair of 5881 output pentodes per channel. All of these tubes are sourced from the well-respected Sovtec catalogue, and the amplifier should give out a little under 25 Watts with the wind in its sails. Aside from hot, glassy things, the Elektra uses high quality components wherever possible, using 2.4mm thick double-sided-PCBs and components from such manufacturers as Audio Note, Beyschlag and Nipon ChemiCon. Such dedicated audiophile-valve components are seldom encountered in amps at this price, as many manufacturers opt for looks instead of decent sound.

If you are after decent sound, however, you'd be hard pushed to beat the Elektra. Partnered with a high quality CD source, good silver cables and efficient speakers, the amplifier produces a musical performance, whatever the demands of the style. Although the amplifier operates in push-pull, it has much of the speed and grace associated with more esoteric single-ended designs. It is equally at home playing a crisp, bright and dynamic movie soundtrack in stereo, as it is playing Johann Strauss or Rage Against The Machine.

A curious by-product of the *Elektra* design is that the gain from the tape circuit is so high that one seldom has to push the cassette recorder to get decent recording levels.

As with many of the best valve designs, the *Elektra*'s midband is extremely open and fluid, while the overall sound quality is clean and dynamic. Playing music with some deep bass, like The Orb's latest *Pomme Fritz*, showed up just how tight and deep the amplifier could be. It can't play bass with the sort of speed and fluidity that's possible with the best triode designs, nor does it have the attack of the finest transistor amps, but what it has is a palpable sense of real-life bass.

Ultimately, the amplifier errs on the grainy side of neutral. This can add a bit too much smoky jazz club to some recordings, but for the most part it just gives a touch of gritty realism. On the whole, though, the Elektra is excellent and is well worth seeking out.

Arion Acoustics Ltd, Unit 1, 35 Farlough Road, Newmills, Dungannon, Co Tyrone. Northern Ireland BT71 4DU. 22 (0868) 748632

Technics RS-DC8

£399.95
 Improved titling, tape handling and a sweeter, more transparent sound.
 No electrical digital inputs, slightly awkward tape handling software.
 SOUND *****
 VALUE *****

he skids are under DCC and MD. Neither has captured the public's imagination. DCC needs a dose of charisma, leavened by a lower selling price. Enter the £399 Technics *RS-DC8*. Its first generation predecessor, the *DC*-10, originally sold for £699.

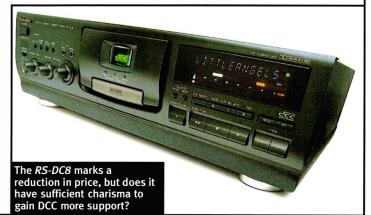
Continuing the Technicsisation of DCC, the new facia design has been brought into line with other Technics components. A fresh transport delivers faster wind times and improved end-of-side tape handling. The A/D and D/A chipset now uses Technics MASH processors instead of Philips Bitstream. The other key improvement is that it is finally possible to programme the album title, artists names or track titles, although it's still not possible to search by track title.

Tape handling is improved, though there are some delays, when sub-code data is written before a recording and when a rewind instruction is accepted after a recording. Musically, the story is all sweetness and light.

Recordings made digitally from compact disc were roughly comparable to middle ranking CD player sound quality, and better than I remember of previous DCC players. Even rapidly-changing, high energy material (which demands the highest data bit rates) retains its clarity, and stereo imagery doesn't collapse – both occasionally noticeable with earlier DCC hardware. Lower level passages, which would be coded with very few bits in normal linear digital encoding systems, sounded very good indeed, and are potentially superior to any compact disc but here the limits of the source material predominate.

A good showing all round, then. With an electrical digital input to handle direct digital domain dubs instead of the Toslink interface, the author's joy would have been unalloyed. *Alvin Gold*

Panasonic Consumer Electronics UK, Willoughby Rd, Bracknell, Berks RG12 4FP. 🕿 (0344) 862444



Meridian 500/563 CD DAC & transport revisited

This is the third time the Meridian 563 DAC has come under my scrutiny. The first review of the DAC appeared in the March issue this year and resulted in the award of a Recommendation. With such a favourable result it came as a surprise last month to discover that in combination with the 500 transport the sound produced was far from praiseworthy.

What proved to be minor performance foibles in issue 127 (March '94) had escalated to major blights by the time of issue 133 (August '94). A slight sense of anxiety with busy orchestral recordings had become a tiring loudness, the music lacking gradation and dynamic expression.

It wasn't only the views of the listening panel that were contradictory, the results from the test bench also identified a shift in performance. Specifically, there was a deterioration in low-level linearity, an increase in mid-level distortion and an unusual rippling of low-level frequency response.

Obviously, something was seriously awry with August's

sample. Ultimately, Meridian identified a faulty component in the second-stage PLL. This was causing the system clock to 'bounce' and modulate the output of the Crystal Bit Stream DAC. Hence, the rippled response. Therefore, in order to present a true assessment of a healthy combination, *Hi-Fi Choice* has taken a second glance at a fresh sample.

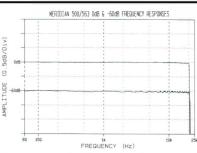
This time the performance was far closer, though not identical, to the 563 converter tested for March. Specifically, resolution has tightened-up (showing errors of just +0.1/-0.85dB across a 100dB dynamic range) while distortion at -6odB has fallen from 0.84 to 0.40 per cent (the original 563 clocked-up just 0.28 per cent). The -6odB response plot (lower trace) also shows the rippling reduced by a factor of three yet, unlike the 563 from issue 127, it's not completely eliminated.

The upshot is a 500/563 combination that sounds far closer to our Recommended sample in issue 127 than the unexpected results in issue 133. During my re-

test I found that a sense of apprehension or tension with classical strings and brass was, once again, an occasional rather than persistent feature of its sound. The music was generally underpinned by a very secure bass with strong vocals sounding a little forward but undeniably expressive.

It was gratifying to see the correlation between lab and lounge — the DAC with a defect revealed itself both on the test bench and in the listening room. However, it was a shame that the initial impression of the 500/563 was marred as this combination is a highly-evolved and elegant piece of digital engineering which, at its best, is a genuine credit to Meridian's latest range. **Paul Miller**

Meridian Audio Ltd, 14 Clifton Road, Huntingdon, Cambs PE18 7EJ. 😰 (0480) 434334





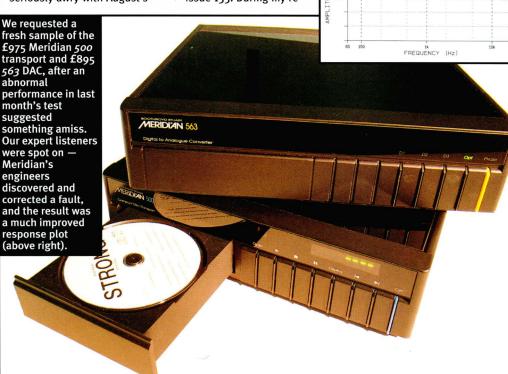
 £999.00
 Well-made, hi-tech arm; first-rate performance.
 No arm park; arm wiring; slightly bland with rock.
 SOUND *****
 VALUE *****

ver recent vears there has been frenzied activity in the turntable world, in an attempt to outflank the inevitable domination by CD. By contrast, the top tonearms have remained relatively unchanged since the latter half of the nineteen eighties. The new £999 Wilson Benesch Act One arm is sure to buck the trend. It uses up to the minute materials, like woven carbon-fibre (used in formula one chassis and missile ailerons), to produce an ultralight, ultra-stiff arm with none of the rings and resonances associated with metal devices.

The Act One has mistakenly been called a unipivot, but in fact the alloy ball bearing sits on three further ball bearings, making a pyramidal structure, like sitting on a three-legged stool. This is suggested to eliminate bearing play, at the same time obviating the need for damping.

Even the counterweight takes a more pro-active role in the function of the arm. In addition to downforce adjustment, the *Act One*'s counterbalance also controls the azimuth of the cartridge. This results in a great deal of cartridge control, but this depends on your degree of dedication when setting up the arm.

All this technology helps to make a sound as neutral as I have heard from any other tonearm. Compared to my Audio Note-wired SME V, the Act One had a more open treble and midband, with a beautifully



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clearly defined bass. It didn't have the same image focus that I have found so alluring in the SME, but imparts a sense of coherence and smoothness that leaves the SME standing. The SME is meatier sounding and has the greater bass extension, but the bass of the Act One seems cleaner and tidier by comparison.

tight,

I tried the arm on both the Pink Triangle Anniversary and a standard Voyd. It succeeded in digging out the fundamental characteristic of each deck: the Voyd's dynamic range and bass weight; the Pink's master-tape neutrality. Such absolute neutrality can leave fast-paced rock like Faith No More, Nirvana and Rage Against The Machine sounding a little insipid and jejune, but I think that is because the arm is simply not getting in the way of the deck's performance.

It's in dire need of a parking device, especially on as floppy as a suspension as that of the *Anniversary*. One is expected soon, however. I am also rather dubious about the quality of the arm cable. The Hitachi cable used is robust and doesn't interfere with the sound, but I can't help wondering what the arm would sound like with Cardas or Audio Note wire.

There is a lot going for the Benesch Act One arm. Its Babylon 5 styling gives it nineties chic, while its absence of tonearm signature make it the arm tough to beat at any price. If you are looking for the ultimate tonearm, this one must be on your shortlist.

Alan Sircom

Wilson Benesch, 109 Greystones Road, Ecclesall, Sheffield S11 7BS. (0742) 830088 A strong arm for the competition to beat — and a difficult *Act* for Wilson Benesch to follow.

DIGITAL SATELLITE RECEIVER Amstrad DSR100 RECEIVER: £230/DISH: £50-£90 Subscription-free German

 classical radio stations; superb glitch-free sound.
 The dish; non-classical music stations appear to use BBC-type compression.
 SOUND ★★★★★
 VALUE ★★★★★

Iways quick to spot a niche, Amstrad has designed a low cost satellite receiver package for German digital radio from the DFS3 Kopernikus satellite. Of the 16 services available, about half are classically oriented. Obviously, the main interest here is for listeners who want more than *Radio 3*, but who are put off by the 'Mail on Sunday' musical approach and poor sound quality of *Classic FM*.

Kopernikus programming often has a detectable bias

towards the Classical and Romantic eras, and the central European in origin: German classical radio might still seem rather esoteric for non-German speakers, but in its favour classical music tends to be long, the interruptions short, and the technical standards of these DSR transmission are at least the equal of anything

Satellite study notes

Everyone knows that Astra Satellites carry television programmes, but what many people aren't aware of is that each vision carrier carries a number of audio subcarriers, some of which are used by the BBC, Virgin and other foreign radio broadcasters. But these subcarriers are FM modulated using Wegener coding, and sound quality is certainly no better than standard FM.

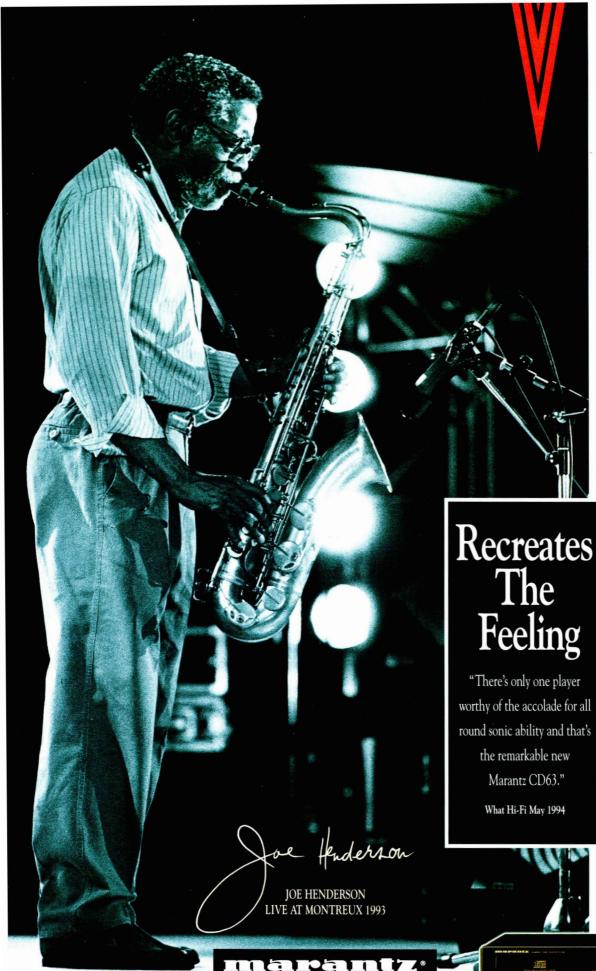
Kopernikus provides an alternative. Using 32kHz, 14-bit data which is capable of 16-bit resolution (a scaling feature imposes 16-bit data onto a 14-bit 'window'), these uncompressed DSR (Digital Satellite Radio) links offer sound quality roughly comparable to compact disc, albeit with a slightly narrower bandwidth - roughly 15kHz (o.5dB), which is similar to FM radio. Currently, Kopernikus can be received using an 85cm dish over most of the country. It is also possible to use two LNBs (the electronics package at the focus of the dish) to receive both Kopernikus and Astra (Sky etc) with a single 95cm dish, though larger dishes would be required in the west of the country. The transmissions are coded with an RDS type facility which allows channels to be grouped and searched by type. The (German language) labels change in real time as the transmission progresses from item to item.

you've heard off air to date. The Amstrad DSR100 is equipped with a fluorescent display giving the station's identity and programming type, also with line and headphone analogue sockets, a Toslink optical output and a

> coaxial digital output. I ran the DSR100 on its own and with an Audio Alchemy DAC-in-the-Box, which gave slightly more dynamic results than the integral Philips SAA7322 Bitstream DAC. Even

via its analogue outputs, however, the Amstrad sounded remarkably spacious, detailed and musically articulate, and an outboard DAC is by no means a necessity. Overall, sound quality was well up to commercial CD

Tune in to as much Beethoven, Wagner, Mahler and their mates as you can handle via satellite.



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CD63 COMPACT DISC PLAYER

Record review

The clarinet is very cosmopolitan, equally at home in the differing worlds of classical music and jazz. Stravinsky couldn't resist the challenge of writing a Jazz concerto for the instrument, his *Ebony Concerto* being one of the few truly successful 'marriages' between classical music and jazz. By contrast, Morton Gould's *Derivations for Clarinet and Band* and Leonard Bernstein's *Prelude, Fugue, and Riffs* are more jazz tinged.

Bernstein never wrote anything more exciting, the *Prelude* surely being one of the most attention-

grabbing openings ever penned. Likewise Gould's Derivations is great fun: starting with a rhythmically quirky *Warmup*, it has an exciting finale, *Rideout*. With Victor Babin's *Hillandale Waltzes* we move to less well-known territory, and the most 'classical' music on this CD.

Babin wrote these eight variations on a theme by Hummel. This version was made by Dennis Nygren and first performed in 1990. It's nice music, albeit with less impact and personality than the other pieces. Artie Shaw's brief and very jazzy *Clarinet concerto* brings the disc to a rousing close. Written in 1940, it's fast and often frenetic, featuring an exciting cadenza for clarinet and tom-toms.

Apparently, the original score was lost, and the work had to be reconstructed by listening to Artie Shaw's own 1940 78rpm shellac recording. The performances, spirited and very well played, rival Benny Goodman's definitive composer-conducted CBS accounts for sheer verve and panache.

Surprisingly, the Columbia recordings made in the '6os actually sound more vivid

> than these new ones. However, the older CBS sound is closemiked and larger than life, whereas the latest Reference Recording take a far more purist approach with less obvious instrumental spotlighting. An interesting CD for those attracted to this repertoire.

standards, and was often superior, thanks to the excellent microphone set-ups apparently frequently employed.

As far as construction goes, the DSR100 is only as good as it needs to be, but it worked well except for some intermittent loss of display data in poor weather apparently due to the fact that the dish was slightly obstructed at the test location. **Alvin Gold**

Amstrad plc, Brentwood House, 169 Kings Road, Brentwood, Essex SM14 4EF. ☎ (0277) 228888

PREAMPLIFIERS

Audio

 Innovations L1
 £299.00
 Smooth, refined sound; small size; good value.
 Lacks ultimate transparency; poor screen printing; lack of inputs.
 SOUND *****
 VALUE *****

hirty-five years ago, using valves was the only way to amplify a signal. Even today, there are still companies that believe in the valve's superiority. Audio Innovations is one such company. Despite producing the *Alto*, one of the most critically acclaimed solidstate integrated amplifiers around, the company is still resoundingly valve-oriented.

The £299 L1 preamplifier is Audio Innovations' cheapest 'hollow-state' product to date. It's a simple, line-only affair, with three inputs, a tape loop and poor screen printing. Inside the grey powder-coat rat-cage sits a circuit board with a single ECC82 tube. There is also a rear toggle switch, that acts as a gain booster, for power amplifiers with odd input sensitivities. It has some close family ties with the Audio Innovations top L2 preamp, but the L1 sits in a smaller case and lacks the L2's heavyweight power supply.

The sound, however, is something else, especially when used with like-minded valve power amplification. Here, the *L1* is quiet, graceful and very unhi-fi-like in its overall presentation. It's also more than adept at coping with the realworld dynamic range of an orchestra, be that Mahavishnu or London Symphony.

I can think of no other preamplifier the right side of £500 with the *L*1's lifelike coherence right across the frequency range. Such coherence is supplemented by a terrific sense of focus and a neatly imaged soundstage. But the best part about the *L1* is that, if you partner it with a cheap, harsh-sounding CD player, it can have a taming influence over the digital source.

The *L1*'s faults are only visible by comparison. Play it against the better valve preamps — like its bigger brother, for example and the little *L1* shows that it's not exactly the last word in transparency. In addition, its dynamics and focus, though very good, are not in the absolute top league.

Finally, the *L1* is less suited towards solid-state amplification than valves. At best, it will soften up a hardsounding power amp, but it is more likely to just blur the proceedings a little too much. But at this price, who's complaining? *Alan Sircom*

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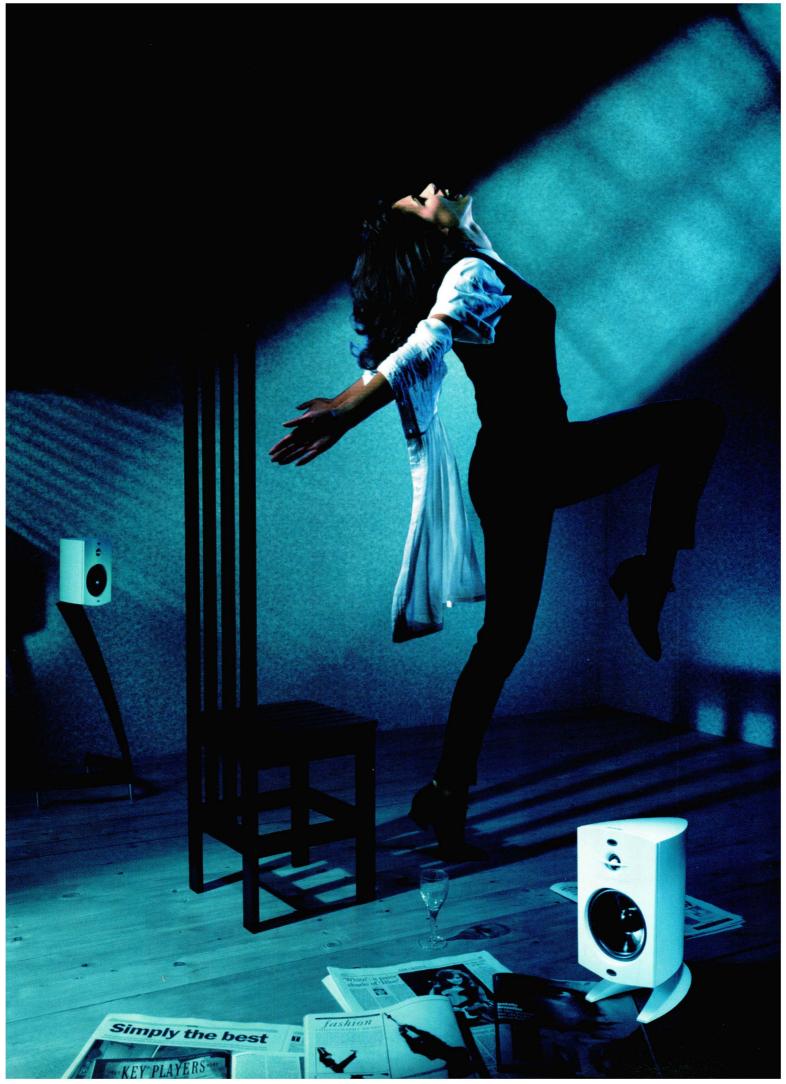
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Pioneer ODR

To many hi-fi purists, the idea of car hi-fi is almost a contradiction in terms. Enter Pioneer with its Optical Digital Reference (ODR) system which, as Simon Davies finds out, rivals many a domestic set-up for sophistication and sound quality.

system

any no-holds-barred car hi-fi systems are a disappointment. Over-elaborate installations, inadequate source components and an obsession with blowing the car doors off with monstrous subwoofers are just some of the horrors perpetrated in the quest for the 'ultimate' in-car sound.

Pioneer, thankfully, has managed to avoid all these pitfalls and build a demonstrator worthy of its fabulous new Optical Digital Reference (ODR) rangeofcarhi-fi. Close to £10,000 worth ofkit has been shoe-horned into a black BMW 520i saloon by ABC Car Hi-Fi in Newbury. The result has all the hallmarks of top-notch domestic hi-fi—control, pace, rock-steady imaging and a tremendous sense of 'being there'.

At the heart of this amazing system is the £1,400 RS-K1 radio/cassette controller. It slots into the usual hole in the car's dash reserved for car hi-fi units, but there the similarities end. Though it boasts a Dolby B and Cequipped tape deck, plus Pioneer's latest ARC-6 Radio Data System (RDS) 'thinking' tuner chipwith(18FM and six AM station presets), the RS-K1 hides these more pedestrian attributes behind a motorised flap that runs the entire length of the facia, folding down to reveal the cassette slot. This flap is, in turn, dominated by a 256 x 64 dot liquid-crystal display - one of the largest ever adopted in a car audio product.

The size of the display is no accident. This huge window into the very soul of the *RSK1* controller is used to display information through a system of icons and menus such as you would find on a personal computer. Access to its manylayers of information and system tweaking possibilities are via the socalled system communicator, mounted on the transmission tunnel. It resembles an electric shaver and can be used while secured to its mounting post, or unclipped and operated as a large infra-red remote handset.

Eitherway, the communicator offers easily-understood control of the main functions. A button on the left of the controller lowers the volume, one on



Take away in-car hi-fi to keep inhouse while the car's in-street the free range remote and detatchable facia.

4

the right increases it. A mute button also nestles on the left, while sources (tuner, tape, CD and auxiliary) are selected via one of four buttons arranged in a circle around the top. Four slightly smaller buttons below these select disc and track options, tape fast wind, music search, and radio tuning.

Leave the communicator mounted on its bracket, slide down the cover panel on the shaft of the unit and you open up a whole new range of command options. Six numbered buttons

VOLUME 05

have multiple uses depending on the programming menu selected. Just in case you get into difficulties, their current functions are identified in six boxes next to the display.

The main parameters for the system (filter frequency and phase, time alignment adjustment, image control and so on) will have been set up for you by the installer, but you can still havegreat fun playing with less critical items like the contrast of the display, the front to rear fade, the optimum sound for the number of passengers in the car, the equaliser settings – the list is endless.

The RS-K1 also acts as a controller for the new Pioneer RS-M1 12-disc CD changer controller (£600), found in the boot of the BMW. A double-floating disc-drive mechanism, with heavy disc clamper and diecast mounting bracket, do their bit to eliminate unwanted vibrations: the only way the signal gets out is via the optical digital cable. No on-board digital converters are needed, since the signal stays digital until it reaches the amplifiers. And in case you were wondering, the RS-K1 has its own 18-bit analogue-to-digital converters to translate the outputs from the tape deck and tuner into the digital language that the ODR system depends on.

ODR also depends on one other particularly clever box of tricks: the *RS-P1* digital signal processor (DSP). This £850 processor allows you to adjust the degree of early reflection and reverberation in the car to emulate any room acoustic your heart desires. It's a powerful tool that actually transfers information between its DSP circuits

((m)) FM1 98.8° rHz CD © 2:51 CD The RS-K1 controller's huge display

with computer-screen-like levels of resolution, is wasted on radio frequency data... ...as it is with the rather neat graphics used to indicate that the boot-mounted 12-disc CD autochanger is in use...

TRACK 1

...but starts to come into its own with the graduated bar graph used to represent volume, bass and treble levels. Optimising the sound balance for front or rear passengers is fun when you can match the sound to the pictures.



Power amps surround the *TS-W2RS* subwoofer while (right) the 12disc CD changer partially obscures the *RS-P1* processor at the heart of the ODR system.

and between itself and the amplifiers with 24-bit resolution — as good as many recording studios can manage. It's also a dual 31-band graphic equaliser, and can generate an amplified centre speaker output.

Serious Hardware

The speaker complement is comprehensive to say the least. Separate *TS-M1RS* 5in mid/bass units and *TS-T1RS* dome tweeters are mounted in the front and rear, while a 12in subwoofer, the *TS-W2RS*, sits behind the rear seat.

Two *RS-A1* power amplifiers are used to drive the mid/bass and tweeter units in front (one amp for each pair of speakers), while the rear set is powered by a brace of *RS-A2* amplifiers. The subwoofer gets its kicks from a single *RS-A2*. The *RS-A1*s, rated at $2 \ge 15/1 \ge 30W$ RMS, are termed 'Pure Class A' by Pioneer (Class A to you and me) while the $2 \ge 50/1 \ge 160W$ RMS *RS-A2* is described as 'Class A' (Class AB). The total cost of the amps and speakers? An eye-watering £6,350.

The amps and speakers are a little bit special, though: the speakers in particular benefit from Pioneer's experience in the field of professional studio monitors. Maybe it was this expertise that gave the mid/bass units such an incisive kick when unleashing Genesis and We Can't Dance through them.

Not for the ODR system the rather constrained and closed-in sound of many a car set-up when faced with this track. Rather, it conveyed a huge soundstage with real power and presence, punctuated with staccato vocals and drum beats from Collins himself. A slightly sibilant smear to the vocals with the wick turned all the way up was the only criticism that could reasonably be levelled at the system.

The fault probably lay more with the recording than the ODR components, however, as Julia Fordham's Happy Ever After came across superbly. Not only were Fordham's own lush tones and amazing range captured perfectly, but the backing vocals could be heard swinging into the mix with effortless timing. It really was a fabulous performance that highlighted only too well the ODR system's ability to place both vocalists and instruments with pin-point accuracy in the mix.

Grunt

Blood-and-thunder merchants won't be disappointed. The rumbling, threatening bass that heralds the arrival of Metallica's *Enter Sandman* echoed round the car like a living beast. No doubtit benefited from the lack of background noise provided by a pure digital signal path from CD changer to amps. Such powerful, rolling bass is almost unheard of outside a top-notch domestic set-up, but the seemlessly integrated subwoofer in Pioneer's BMW, fed by the incredibly powerful *RS-A2* bass amp, was more than equal to the task.

Which is more than can be said for the poor BM's battery. The Class A/AB



amps draw a lot of current and on more than one occasion — with the car sat in a traffic jam with lights, wipers, heater fan and heated rear screen on — the low battery warning flashed up in the display, indicating avoltage drop to below 11V for more than 10 seconds.

Perhaps those contemplating an ODR system should also consider fitting a slave battery. The temptation to take full advantage of this amazing system's potential in a traffic jam will, I'm sure, prove quite irresistible.

Pioneer High Fidelity (GB) Ltd, Pioneer House, Hollybush Hill, Stoke Poges, Slough, Berkshire. 22 (0753) 789789 Dash is dominated by *RS-K1*'s display flap, which folds down to reveal the tape slot; *Philishave* razor lookalike is the system communicator.

Adjusting the 31-band graphic equaliser curve would be a tricky business without the 256 x 64 dot matrix display. The Network menu allows the sound characteristics that best suit the vehicle interior to be created and memorised. Adjust the location and the spaciousness of the original sound with Pioneer's Natural Acoustic Control (NAC). No, it's not a gun-sight to knock out the Mondeo in front, but a rather sophisticated, infinitely-variable fader control. BOSE[®] Lifestyle[®] music systems

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⁶⁴I am greatly impressed by the Bose Lifestyle music system. The sound of individual instruments is as true a reproduction as you can hear. The speakers have great clarity yet are warm at the same time. What's more it is certainly excellent value for money.⁹ Julian Lloyd Webber, Cellist

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Lexicon CP1Plus

Paul Messenger has been having hours of fun trying to fly this computer masquerading as a surround processor. So what's your high score, Paul?

f you're into movies as well as music, you'll be well aware that movie soundtracks are going surround sound, in the home as well as the cinema. This in turn is encouraging various manufacturers to investigate the best ways of using these extra surround capabilities in the context of stereomusic signals.

One company which is several steps ahead of the competition is Lexicon. It started out in the Pro Audio field, where its digital 'black box' processors have long been used to create effects like reverberation — an integral part of most modern music and film sound. Many of the techniques learned here are equally applicable to the synthesis of surround sound effects, which is just one of the roles of the complex *CP*1*Plus*.

At £1,795 it's a seriously expensive piece of kit, but what do you expect of something which has the temerity to call itself a Digital Audio Environment Processor? And I have to admit it does live up to its name, with unmatched flexibility and versatility for those with the patience and perseverance to master the perversities of both manual and ergonomics. Bear in mind too that this is just a processor, and while you can carry on using an existing stereo amp and speakers as part of the whole package, you'll also have to add extra channels of amplification as well as loudspeakers - just how many depends on the extent of your ambitions.

The *CP-1Plus* is really a computer with phono sockets, and like most computers it's only as good as the software it runs. While the computer aspect must take some of the blame for the ergonomics, it does confer one special advantage — a virtual freedom from obsolescence.

The *Plus* in the title doesn't mean it's time to junk your old *CP-1*. It's merely



time to shell out for a new EPROM (an electronically programmable read only memory, I am given to understand), which is the brains of the system, and which in *Plus* form is just that worthwhile bit smarter and more capable than its predecessor. By passing on the fruits of ongoing research and development, it's a very elegant way for a small specialist company to keep its customers up to date.

I nevertried a CP-1, butdid get

exicon

my hands

on a *CP-3* for a few weeks, though the experience didn't help me get this one up and flying any quicker. Once again the Lexicon experience left me steaming and frothing after about three hours of struggling. But then I don't consider myself computer literate, and have never found the cursed things in any way friendly. And once I didget the hang of it, everything clicked into place rather well, and it hasn't given me a moment's difficulty since.

The CP-1Plus will do your Pro-Logics for you, no problem, which is arguably more than enough complication for the majority of people. But it doesn't just do your Pro-Logics with feeds to surround and centre-front channels, it gives you the option of connecting up to any of twelve different speaker configurations, utilising between two and seven speakers and power amp channels in all manner of dispositions. It may sound a little alarming, but actually makes a lot of sense, giving the chance to choose the best speaker layout to fit into whatever particular room, and then set up processor and power amps accordingly.

Without prior experience of the 1, I canonlysay that this 1Plus seemed very

A processor to increase the amount of thrills and spills you can get in your own front room. The Lexicon also gives you something to fiddle with while you're thrilling and spilling, as it's almost infinitely upgradable. similar to the significantly more expensive Three, in capabilities, performance and sound quality. Only the ergonomics are compromised, as you just get a single all-purpose handset here, and have to grope around the back of the unit to set up the surround sound balance.

All this means that you can now get most of the industry standard at little more than half the price. In sheer performance terms the *1Plus* lives up to its superstar status, with superb steering logic precision and a security of perspective in whatever mode, which can only come through painstaking refinement and lots of experience.

I have neither the patience nor the very necessary sense of humour, but exploring the various synthesised operational modes could keep a posse of dedicated surround sound mode investigators busy for years. I stuck

to Dolby Pro-Logic for the

most part,

but the simulated environments are verywell executed indeed, while the unique Panorama feature, which uses phase manipulation to cancel speaker crosstalk and create impressivelywide, wraparound images from just two loudspeakers, is arguably the most interesting of all, both technically and for would-be experimenters.

What I don't much like, however, is the resolutely digital nature of the sound. The Lexicon digitises everything that passes through it, performs whatever computations are necessary in the digital domain, and then restores everything back to analogue at the various outputs. The result is always beautifully controlled, it must be said, but also somehow devoid of expression and emotion. With many televisual sources, including most movie soundtracks, this seems an acceptable enough trade-off, but it does take the edge of, the listener involvement, especially when playing music.

In the final analysis, this very capable processor will be best appreciated by those already convinced by the undoubted virtues of digital audio. Analogue acolytes would probably do better to keep clear.

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A set procedure

About three years ago I set out to upgrade my 15 year old system and decided on a Meridian/Audiolab /KEF line-up. I now have a Meridian 500 CD transport with a DAC 7-equipped 203 converter, an Audiolab 8000A and 8000P amplifier combination and KEF Reference 103/4 speakers. Next I intend to replace the 8000A with the 8000C preamp, and the 203 DAC with a 563. Do you think these changes will result in a significant improvement. And if so, in what order should I proceed?

D Newall, Bristol.

The Audiolab 8000C preamp will give you greater crispness and more detail, albeit perhaps at the cost of a certain warmth and richness. The Meridian 563 DAC should sound sweeter and warmer than your old 203 and will thus reduce any tendency towards tonal coldness/hardness from the new preamp. Therefore, it might be best to go for the DAC first on the basis that the 8000C could unveil the stark neutrality of your current CD source. Additionally, the new Audiolab 8000Q preamplifier is just around the corner and may be worth considering in place of the 8000C.

Bi-wire and be damned. One minute you're browsing *Choice*, the next you're confused by-wire!

Terminal turmoil

After 20 years with my old system, I happened to see a copy of *Hi-Fi Choice* and started browsing. Fatal!I now have a new system, consisting of a Marantz *CD*-52/IISE CD Player, Marantz *PM*- 44SE amp, and a pair of Mission 760iSE speakers (I only went in for the Radio Times...). I want to bi-wire, but the instructions in the amplifier manual are not clear. If I bi-wire, do I connect both sets of leads to either the A or B terminals, or connect the treble wires to terminals B and the bass/mid to terminals A? Are there any internal differences in the feeds to terminals A and B?I also want to install a remote set of speakers – will I need a separate switch unit so I can run either or both sets of speakers? Name and address supplied

You can use terminals A and B combined for biwiring, but as you want to add remote speakers it would be easier to wire the two sets of cables for the main (bi-wired) speakers into one set of plugs. That way you'll be able to use your amp's second speaker output for the remote speakers without having to add a switch box. If possible, use good quality 4mm plugs that can be soldered to the speaker cable, to prevent the gradual oxidation of the copper cable exposed at

the terminals. Although terminals A and B are

nominally the same on the Marantz

PM-44SE (and on other integrated

amps), often the B set sound slightly

physically closer to the circuit board,

better because the terminals are

keeping the signal path slightly

shorter. This results in a cleaner

crisper sound – try it and see!

Query of the month

U



Each month we're giving away a one metre pair of Precious Metal Silver Signal 75 interconnects to the writer of the most interesting letter. If you've any system queries send them to: Hi-Fi Choice (Help!) Dennis Publishing Ltd, 19 Bolsover Street, London W1P 7HJ.

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However, because the loudspeaker's base is larger than the stand's mounting plate, the whole assembly is unstable and rather top-heavy. Which can't be good for sound quality.

Are there more secure ways of mounting speakers other than resting them on the studs provided, and if so how would this affect sound quality? *M Horsely, Dorset.*

Stands that deliver

Try sitting your speakers on sharp upward-facing spikes. Sonically, spikes give the sharpest, most tightly defined sound, and if the tips sink into the speaker cabinet, the result should be a stable interface. If spikes are avoided, a few blobs of Blu-Tack or Blacktak can prove very effective; in most cases speaker and stand will become quite tightly bonded. However, the sound will not be quite so sharp and detailed.

Otherwise get a stand with a larger top plate. It may even be worth splashing out on a really heavyweight stand, like the Target R1, which can take the speakers into a new performance league.



Mr Horsely transformed the sound of his 751s with filled Target stands.

WHEN digital Compact Disc reached the market over ten years ago there were many enthusiasts who felt the medium lacked a certain musical involvement. **Theta Digital** was founded in the heartland of America's semiconductor country to put back the attractive emotion in the music that many found missing from CD player reproduction.

Each successive generation of Theta products has been recognised by the world press as the most musically involving CD replay system available. Two years on from the acclaimed third generation products Theta feels it is now approaching the true frontier of the digital audio signal and have introduced the **DS Pro Generation V**. Generation IV developments were swept along and brought together in the radical Generation V converter with Theta's first ever fully discrete Class-A analogue section and a completely new power sup-

ATTRACTION

ply. For those wondering if digital audio has truly arrived in the 'high end' this is the product to hear. It's "the best Theta we know how to build".

Consider also the **DS Pro Prime II**: a twin DAC per channel converter with the option of balanced working and a programmable digital filter section that gives more accurate reconstitution of the music signal. The signal emerging from the oversampling section is phase, time and frequency accurate to preserve the reality of a quality stereo recording. The programmable digital filter is one reason behind the all-involving, "alive" character to the sound of a Theta processor.

Enter **Cobalt** – high-value high-end products from Theta Digital. The **Cobalt 307** digital-to-analogue converter is the first Cobalt product and offers unbelievable performance at the price. We feel it make a magic combination with the **Data Basic** transport to provide a true state-of-the art, high value combination at under £3000.

The Theta Cobalt 307 brings a fresh musicality to digital and redefines the high-technology value-for-money slot. The matching Data Basic drive is based on the superb Philip CDM-9 drive backed by proprietary Theta signal processing and ultra-low jitter re-clocking circuits. A new Theta optical link betters the AT&T optical system (AT&T connectors are still offered for compatibility).

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The A-400x uses tact, ploys and reason to gently squeeze the music into your speakers.

The demonstrable difference

I recently upgraded an old stack system with a Yamaha DSP-A2070 amplifier, Sony TCK-611S cassette deck, and Linn Keilidh speakers bi-wired with Linn K400 cable, retaining my original Sony X33ES CD player. The new system sounds worlds better than my old one, but not as good as it sounded during demonstration – probably because my dealer used a Linn CD Player. Having blown my budget, I'm left with £500; should I replace the X33ES, and if so with what?

N Sinclair, Rotherham

A CD player like Arcam's Alpha 5, or Orelle's CD-480, should produce the sort of improvement you're looking for. The Arcam is brighter and more punchy than the Orelle, but the latter gives a more full-bodied sound that has greater warmth and depth.

Are you using the Yamaha amplifier in its AV capacity, in addition to hi-fi use? Otherwise you may be better off going for a hi-fi amplifier. Although it is a fine amp, the 2070 can be confidently outperformed in hi-fi terms by amps like the Arcam Delta 290 or the Audiolab 8000A. You may find that swapping over to one of these amps and using an add-on processor amp, like the Yamaha DSP-E200, is a better bet.

Got feeling

My system consists of a Thorens *TD-160* turntable, Sony *ST-S110* tuner, Sanyo *Plus Series* pre and power amp, a Marantz *CD-52/IISE* CD player, and biwired Tannoy 609 speakers. I need a better amp and can afford between £250 and £300. I like a big open sound with strong bass. *L Burns, Fife.* Listen to the Arcam Alpha 6, Aura VA-50, Denon PMA-450, or Pioneer A-400 and A-400X. Any of these should improve on your Sanyo, though if sheer drive and guts is what you want, the Denon and Pioneer models might be favourite.

A sensitive issue

I have a Project 0.5/Linn K-5 record deck, Aura VA-50 amp and Mission 760i loudspeakers. I have recently become acutely aware of the K-5 cartridge's limitations. The most likely replacement looks to be Denon's *DL-110* highoutput moving coil, however I'm told that the amp's 2.5mV sensitivity will be insufficient for this pickup. **A Isa, Staffs.**

The Denon, while correctly described as 'high output' by moving coil standards, does of course have less output than a typical fixed-coil cartridge like your Linn K-5. However, the Aura should be okay: you'll just need to increase the volume slightly to achieve a similar loudness. Because the Denon has a low impedance output, it reduces the amp's input noise. So you won't suffer a noise penalty by having to increase the volume.

Size isn't important

My current speakers are old *AR-3a* Improved models, a 4 Ohm 3-way design I first auditioned 20 to 25 years ago. They sounded good then and over the years have improved as I've updated my other equipment. Presently I have a Rotel *RCD-965BX* CD player, and Musical Fidelity *The Preamp II/Dr Thomas* power amp. I still like my old *3a* speakers, but speaker design must have advanced significantly over the past two decades. Can you suggest some models for me to audition? Size is not too important, but I would prefer floorstanders.

E W Meadowcroft, Halifax.

Both the original and improved AR-3a gave a slightly dim tonal balance even by the standards of the late '60s, and you're likely to find most modern replacement speakers sound much brighter and more up-front. Given that your Musical Fidelity amps give a fairly forward sort of presentation, you may find many modern speakers sound very aggressive compared to what you've become used to.

But there are a few models that would be worth listening to. Castle Chesters or Impulse H-2 horn speakers would be a good starting point, along with the Shahinian Arc. These offer far more immediacy and clarity than the 3a, but probably won't sound as rich.

Battlestar Galactica

I have a Sony CDP-M55 CD player, Mission Cyrus 1 amplifier and Cyrus 781 speakers. I want to add a cassette deck in the budget range costing around £200 – what do you suggest? **P Briggs, Derbyshire** Aiwa has several models that come highly recommended in the £200 to £230 price range, including the three-head AD-F810 with dual capstan drive. Denon's DRS-610 is worth auditioning too, while Pioneer has recently announced a new machine called CT-S430S which breaks the £200 price barrier and includes Dolby S and should be worth checking out.

Let's twist again

I have a Mission Cyrus 1 amplifier, Marantz CD-63 CD player, Sony TC-K611S cassette deck, and Mission 760i speakers connected via QED 79 strand cable. The system sounds a bit harsh and I suspect the speaker cables are to blame. What would you suggest as a replacement?

PHo, SW London.

Chord's new Flatline speaker cable sounds very clean and open, and should give you a big reduction in harshness. It's a solid core type, albeit with eight separately insulated strands, so it combines the advantages of pure single-strand solid core types and stranded cables without the disadvantages of either.

DNM Solid Core is a good lower cost alternative and sounds marginally less 'hi-fi', but also less smooth, than Flatline.



Aiwa's AD-F810 is a bostin' budget cassette deck.

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Next, try the Alpha 5 tuner. Again, don't let its surprising

affordability seduce you. Instead, listen to broadcast sound that is natural, clear and dynamic, without annoying sibilance or harshness.

Finally, feast your ears on the Alpha 5 CD player - quite simply, the best value high performance CD player ever produced by a UK manufacturer. And, September's What Hi-Fi? agreed, calling it "the player to beat" and giving it a class leading 5 star rating. They concluded, "it's one remarkably transparent player, seeming to be at home with all genres of music, and equally enjoyable with all."

Just listen. Close your eyes, open your mind, and see the light.



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A pair of evergreen Epos ES11s; an interesting alternative to poorly SL6is.

Environmental extrapolation

Having recently moved, my once nearperfect system now no longer sounds as good as it did. I have a Michell *Gyrodec* with power supply, Roksan *Corus Black* cartridge. Naim 72/140/HiCap amplification, Meridian 200 CD transport with DPA Little Bit DAC, and Ruark Talisman Mk 1 speakers. Interconnects are from Monster (various), and Roksan speaker cables.

The equipment sits on Target 90 series stands modified by 3cm slate and glass supports, with cones and sorbothane feet. The new room is 9m x 7m with heavy curtains and a concrete floor. The previous sound was tight, coherent, fast, and very clear: now it sounds muddled, boomy, and sometimes rather shrill. A budget of £2,000 is available to put things right. **MP Scales, Essex**

Since your system originally worked well in a different location. it's clearly the room that's the problem. Did your earlier place have a concrete floor? If not, it could be that your use of slate and glass in the support stands is causing difficulties. The use of such materials with spikes seems to be problematic $on\ concrete\ floors.$

Try putting thin pieces of hardboard under each spike/cone and see if that reduces the shrillness and boom. Heavy drapes can lead to a loss of treble brightness and liveliness. especially if situated near the speakers. Unfortunately there's rarely a simple magic cure: even changing speakers is unlikely to effect a complete solution. You'll just have to experiment, carefully tuning your system to its new circumstances.

No room to manoeuvre

For just over a year now I've had a Pioneer stack system, and during that time my appreciation of music has deepened. I do not have much spare cash, but would like to improve my system. The trouble is, most of the connections seem to be made using ribbon cables. Does this mean I can't upgrade my system?

D Smedley, Lincs

Basically yes. Although you probably don't want to abandon your Pioneer system, having only recently bought it, you have to face the fact that it isn't designed to be upgraded like separates hi-fi components. In any case, it's likely your system is quite well-matched with no serious weak



Stack systems don't invite tweaking, but appreciate better speakers.

links.

Therefore, adding a better CD player would not produce a truly cost effective

improvement. A new set of speakers is probably your safest and cheapest option: audition Goodmans Maxims, JPW P1s and Wharfedale Delta 30.2s.

Spatial resonance

My system consists of a Rega Planar 3/Linn K9 turntable, Marantz CD-52/IISE CD player, Pioneer A-400 amp and Celestion SL6Si speakers on lead/sand filled stands. As my speakers were recently damaged, I've decided to upgrade and want something with the spatial quality of the Celestions but with better bass. WA Marriot, Wolverhampton

The latest version of the Pioneer S-4UK, the Epos ES11 or the Arcam Delta 2 would be a good replacements. All three have similarly neutral tonal balances to the SL6Si (a bit richer/warmer) but much deeper bass. They'd not prove too demanding on the amplifier, either. **Dimensionally challenged**

I haven't bought any new equipment since purchasing a Marantz *CD-50SE* about four years ago, and my system is even older: a Yamaha *C4/M4* pre/power set up, and *NS-1000* speakers. I like the sound generally but it's a bit flat and one-dimensional. Recently I hooked up a pair of JPW *Minims* in another room and was surprised at how good they sounded. Is it worth thinking about new speakers? Budget is £500.

A Burton, Northumberland.

NS-1000s were rather tight, dry and clinical, sounding best when played quite loudly. There might be some benefit to be gained by changing them, but be prepared for a bigger bill than £500. One solution would be to add a REL subwoofer. The Strata would give your NS-1000s a much bigger, fuller sound with greater space and depth.

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Tell us what you think about hi-fi and music

Full many a rose is born to blush unseen

Al,ost every modern CD player has a digital output, which encourages owners to use their players as digital transports. The degree of benefit gained by using an external DAC with any particular transport is dependent on the quality and synergy of the two components. While synergy may be unpredicatable, quality is quantifiable, as your reviews demonstrate.

Because stand-alone CD transports are expensive and seem to offer poor value for money, the most likely upgrade path for the majority of people will be either to purchase a better integrated player or to buy an external DAC for an existing player. With this in mind, many of those reading your reviews would be looking for an integrated player offering the best balance between quality sound at the outset and quality of transport for the future.

An assessment of the quality of integrated players as standalone transports is omitted from reviews. It would be useful if the player could be reviewed in its own right, and then feeding into a reference DAC. A better perspective might then emerge of the advantages offered by true dedicated transports and of their relative value for money. Who knows, there may be a real stunner of a transport hidden in some more modest integrated player which would offer the buyer the best of both worlds. Malcolm Summers.

Aylesbury, Buckinghamshire.

A corking idea

Paul's back page article in June's issue of *Choice* raised a most interesting question: should a hi-fi system sound as if the listener has been winched down into the recording studio or as if the musicians were actually playing in his listening room? A few years back I decided to make my room a less hostile environment for my Spendor Prelude speakers. It's not a large room, so we're not talking Channel Tunnel echo, but a sharp clap of hands confirmed definite reverberation. I didn't rule out sticking egg boxes all over the place but in the end I settled for the thickest cork wall tiles I could find, polystyrene ceiling tiles with a raised pattern to minimise sound reflections and a total covering of carpet.

The sound was transformed. At first it seemed worse; the more accurate sound was less exciting. Of course, like the best hi-fi, less initial excitement goes hand in hand with more long term enjoyment.

In answer to Paul's question, I want the sound of the studio and the musicians in my room. **Graham Smith, Leigh On Sea, Essex.**

An expensive fault

When my Meridian 206 CD player developed a small fault I had no idea how much it was going to cost me.

While it was off at the manufacturers I decided to get the amplifier, a Pioneer A400, modified by Tom Evans. The effect was quite startling, and I had the (repaired) CD player "clocked" by Trichord research. Even more startling: I added a Michell HRArgo preamplifier and the whole sound just opened up. What could I do? I had to have the Trichord Pulsar One DAC and finally the Michell Alecto monoblok power amps. They were so big I had to get a new stand. I'm still in the same house (though I doubt my neighbours are), and couldn't afford to move now especially if I replace my Monitor Audio Monitor 14, with the Studio 20, or maybe the Impulse H2 or the KEF 105/3. Is there no end to this? Nigel May, London.

Letter of the month

Each month, we're giving away a fabulous Hi-Fi Choice sweatshirt to the writer of the most interesting letter we receive. So get scribbling and send in your views on anything to do with hi-fi or music to: The Editor, Hi-Fi Choice, 19 Bolsover Street, London W1P 7HJ, or send a fax on 071-323 3547.

The great CD swindle

The gall of record companies never ceases to amaze me. They continually complain about home taping and yet they price new-release CDs at £14. Since most of the vinyl catalogue has been deleted, prerecorded cassettes aren't worth bothering about and DCC and MiniDisc are the biggest hi-fi joke for years, a lot of people don't have any choice other than home taping. And given the excellent decks available at reasonable prices, why the hell not?

It's about bloody time the record companies woke up and realised that they can't just keep on releasing extortionately priced software. Eventually there will be a consumer backlash, and then what?

What if the newly released CDs were the same price as a decent blank cassette (say £4)? No one would bother with home taping, sales would rocket, and the record companies would make just as much profit. After all, why record when you can buy the real McCoy for a few coppers more?

I've another small point to make. I find it very hard to believe that any of the hi-fi journalists out there are giving DCC or MiniDisc any credibility whatsoever. The object of hi-fi is to recreate as closely as possible the original musical event, and one of the factors essential to this is maximum detail retrieval. How is this possible when bit reduction is used? Mainstream hi-fi has been going steadily backwards for years and bit reduction is yet another regression.

First valves were written off, then vinyl was consigned to the scrap heap, compact disc limited the upper frequencies to 22kHz and now PASC and ATRAC are actually REMOVING information. I implore everyone out there who believes in music and real hi-fi to boycott these destructive technologies. It is time to stop the rot. *Mr M J Willard,*

Chester, Cheshire.



Alecto amps have Nigel in their grasp. Will he ever move house again?



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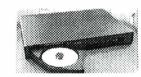
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21st Century Fox

Barry stalked the halls of the Chicago CES show in search of new hi-fi products, only to find little men turning somersaults and hacking each other to pixel pieces with bloody machetes.

"WW e are dinosaurs," said the PR man for several high-end hifi companies as we flew home from the last-ever Chicago CES. Next year, after 25 years, it will become CES Interactive, to be held in Philadelphia. This is because the games companies now call the shots. Theywanted a show in May to suit their trade-buying patterns, and Chicago's exhibition centres had no free slots. So Philly it is.

Big audio manufacturers like Sony no longer bother to exhibit at Chicago. Panasonic was only there to show the 3DO games system, and there was no sign of Technics. Although one hall did throb with sound, most of it came from the electronic synthesis chips in games systems, often tricked up with phase shifting stereo enhancement systems like SRS and QSound which the hi-fi fraternity threw out.

The arrogance of the cash-rich games exhibitors knows no bounds. Nintendo's stands were as big as those which Sony and Panasonic used to build. The companywashypingits latest games system, called *Ultra* 64(formerly *Project Reality*). Little men jump like fleas even higher and faster, and turn exotic somersaults whileslashing at each other with sabres. Instead of demonstrating this at the show, Nintendo hired a hotel and made the press crawl likes snakes for an invite to get in. "It's up to you," I said, finally, "I've got myself to Chicago and I'll get myself to your hotel, but if you don't want to show me the product, frankly, I don't give a damn". As if by magic an invitation appeared.

Earlier, Nintendo's US Chairman, Howard Lincoln, had given the Keynote Speech to open the show. During this he'd broken the unwritten rule of not plugging a product, by unashamedly promoting Nintendo's new *Donkey Kong* games. He then compared the current video games market to Hollywood in the 1920s. "We are now in the golden age of video games," he declared.

It seems that the serious hi-fi industry is now returning to its roots, and to those early days when most people bought mass-produced radiograms and a few people went round London hotels like the Russell, listening to amplifiers hand-made by Leak and Wharfedale.

Most people now listen to music on a stack system bought sight-unheard from a warehouse shed, or while watching a TV screen or playing a video game. Some firms will go with the flow and mutate. Goodmans, for instance, has just announced "two exciting new products for the Christmas party season":

Magic Mic plugs

into a karaoke machine, of the type that plays b a c k g r o u n d music to accompany amateur vocalists. At the press of a but-

ton it changes a pleasant voice into a rasping

rapartist, and alters the natural pitch so that bass singers can become sopranos. It also adds laughter and applause, "guaranteeing the full sounds of a rapturous audience".

The second of the Christmas products, the *PRO 11*, sounds even worse. It is a drum machine that lets party-goers hit electronic, pressure sensitive pads to generate the synthesised sound of a full drum kit. If people want to spend Christmas like this, good luck to them. But there will always be a few people who prefer to listening to music CDs on a decent hi-fi. So there will always be a hi-fi industry — it will just be smaller.

Though most of the main-hall activity fell swiftly from the mind, two facts

The Philips new *DCC 170* is unflappable during both recording and play back, even when shaken and stirred by the inimitable Mr Fox.

PHILIPS



made a lasting impression.

Sony's failure to exhibit hardened industry belief that both Sony and Philips now tacitly acknowledge the market unreadiness for a new digital home recording system. CD sales show no signs of flagging as early as soon as punditsonce, and the conventional analogue cassette remains the best bet for inexpensive music on the move.

Although Philips was there to show CD-i, the companystaged a surprisingly

strong push with DCC, especially the *DCC 170*. This is a portable that both records and plays back, and is reassuringly small, with two hours of recording time and three hours play back from its NiCad rechargeable batteries.

Although Sony has understandably played down the fact, MiniDisc can only provide jog-free playback, not recording. The buffer memory can onlywork on data which has already been stored. This makes MD useless to anyone wanting to make recordings with a unit that is not securely placed. Because DCC is a tape-based system, it can with-

stand jogs during recording as well as during playback. At Chicago I tried shaking the *DCC 170* violently, during playback, and it carried on working with no audible effect. It is a pity that Philips do so little to emphasise the benefits of jog-free recording.

My personal favourite event of the show was the "demonstration" staged throughout by the Home Recording Rights Coalition. This is the organisation which lobbies against issues like a tax on blank tape. The HRRC had hired a jazz trio, led by violinist Johnnie Frigo, who can be heard on a Chesky CD. They played in the corner of the hall, for most of the show, creating an island of sanity in the crazy world of video game-play.

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This Autumn, London and Manchester will be transported to electronic heaven with two top shows, Live '94 and Audio Vision '94.

Live '94

Set to be even more successful than last year, Live '94 is sure to be the consumer electronics event in the British Isles this year. Staged at London's Earls Court, Live '94 will run from the 20th to the 25th of September, and will cover the whole wide world of home entertainment, from in-car audio to cameras, computing to guitar playing, hi-fi to home automation.

This year, Hi-Fi Choice (in association with the British Audio Dealers Association) will be regularly demonstrating just what upgrading your system is all about, and showing the differences between a packaged hi-fi system and separates systems costing £700, £1,500 and £3,000. This will help you find out why hi-fi, instead of simply what hi-fi!

In addition, you have the chance to hear some of the EISA award winners — hot off the presses from the October issue of *Choice* — and BADA's Real Hi-Fi components, while both *Hi-Fi Choice* and BADA experts will be on hand to answer your questions and give advice on your system.

So get over to Live '94 at Earls Court. Adult tickets cost £4.00 on weekdays and £7.00 on

weekends, while tickets for accompanied children under 16 cost £3.00 and family passes (admitting up to two adults and three children) cost £16.00.

However, *Hi-Fi Choice* is offering free admission for 40 people each weekday, and a special VIP pass so that they can attend the first demonstration of the day, which will be exclusively for readers of this magazine. These will be awarded to the first 40 names and addresses sent to us on a postcard, (please state first and second choices of days when you'd like to attend, weekends not included). Post to: *Hi-Fi Choice* Live '94 Offen, 19 Bolsover St, London W1P 7HJ, by September 2, 1994. This offer is applicable to UK residents only.

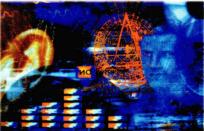
AudionVision '94

The popular Northern Hi-Fi and Video Show has undergone a dramatic

> transformation and is now known as Audio Vision '94. It will be held, as ever, at Manchester's massive G-MEX exhibition hall on October 28th, 29th and 30th. Sponsored by Cleartone, the show now covers the entire G-MEX main hall and will feature purpose-built soundproofed rooms.

Famous hi-fi and AV names from around the world will be appearing at Audio Vision '94. The

happening event will also play host to the finals of the BBC Young Broadcaster of the Year. Admission is £3.50 per person, but if you simply collect the three coupons printed in the September, October and November issues of *Hi-Fi Choice*, the holder *and* one other person will be admitted for the price of one, saving £3.50.







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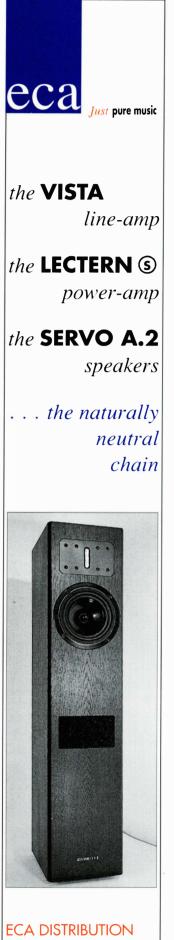
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COMPETITION

In this month's can-tastic £3,000 competition, you have the chance to win one of 42 pairs of headphones from the experts, Sennheiser.

f you've ever wanted a pair of headphones, look no further than this month's superb competition. We have no fewer than 42 pairs of 'cans' to give away.

The first correct set of answers out of the hat will win our star prize — a pair of the excellent *HEV60/70* Electrostatic headphones, worth £1,000. The next five correct entrants will each receive a pair of the £200 HD580 headphones.

The following 10 lucky people will each win a pair of *Expression Line HD320s*, the £35 headphone that *Hi-Fi Choice* recently awarded a confident Best Buy in the August issue. Finally, a further 26 correct entrants will each receive a pair of the stylish £25 *Las Vegas* headphones.

The German company Sennheiser is the top name in the headphone world. The company was founded by Professor Fritz Sennheiser in 1945, who was manufacturing milli-voltmeters in an old farmhouse near Hanover. From the start, the company's policy has been to produce high-quality, innovative products, that are both reliable and competitively priced.

Sennheiser is best known for its open back headphones, a design which dates back to the HD 414 in 1968. Some 26 years later the company takes great pride in offering replacement ear pads for this model. There are now 20 models in Sennheiser's headphone range, with prices from under £20 to over £10,000 (for the valve-powered, stunning-looking Orpheus system).

How to enter

To win one of these bodacious prizes, simply acquire a postcard or sealed-down envelope, and on the back write down what you think are the correct answers to the five questions below . Please don't seal answers inside the envelope, and give your full name and address, including your postcode and daytime telephone number.

Send your completed entries to: Sennheiser Competition (HFC409), *Hi-Fi Choice*, Tower Publishing Services Ltd, Tower House, Sovereign Park, Market Harborough, Leicestershire LE87 4AU.

Entries must be received no later than first post on Monday, 26th September, 1994.

Competition rules

The Editor's decision is final; no correspondence will be entered into. All winners will be notified by post. The competition is not open to employees of Dennis Publishing Ltd, Sennheiser (UK) Ltd, their suppliers, agents or associates. We regret the competition is open to UK residents only. No cash alternative will be offered. Submission of entry will be taken as acceptance of the rules. Proof of posting cannot be accepted as proof of receipt. Please indicate if you do not wish to be informed of any other special offers or promotions.

1. Who Founded Sennheiser back in 1945?

a) Professor Fritz Sennheiser
b) Carl von Headphone
c) Dr E A R Muph
d) Dr Adolph Sennheiser

2. What is the mythological name of Sennheiser's top valve-powered headphone system?

- a) Orpheus b) Œdipus
- c) Odin
- d) Oscar

3. When did Sennheiser introduce its first open headphone, the *HD 414*?

- a) 1948 b) 1875
- c) 1968
- d) 1972

4. Where was Sennheiser's first farmhouse-factory?

- a) Hangover b) Hanover
- c) Hamburg
- d) Holland

5. Which low-cost Sennheiser headphone recently won a Best Buy swingtag from *Hi-Fi Choice*?

a) HD414 b) Orpheus c) Las Vegas d) HD320







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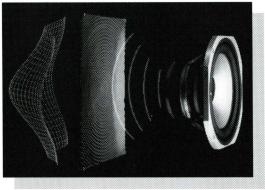
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Hi-Fi Choice - January 1994

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Audiophile - January 1994

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ON TEST Amplifiers

The cast list:

Arcam Alpha 5	£230
Скеек 4240	£249-£298
DENON PMA-35011	£220
Kenwood KA-3020SE	£230
MARANTZ PM-44SEMKII	£200
PIONEER A-303R	£200
ROTEL RA-930BX	£200
TECHNICS SU-A800MK2	£350

Paul Miller introduces the rigorous subjective and objective amplifier test procedure.

Inlike CD players, the crucial components of an amplifier cannot be condensed onto ever smaller and cheaper integrated circuits. Amplifiers will always demand expensive components such as chunky power supplies and robust power transistors, enabling them to wrestle with their unpredictable foe, the loudspeaker.

Naturally, there are a handful of integrated amps below £300 that juggle the compromises of an effective phono stage, main power supply and power amp circuitry very successfully indeed. And it's these that are pitched into our arena on this occasion.

As if to reinforce the twitchy and competitive nature of the budget scene, no

How the listening tests were done

Variety and objectivity are the keys to the reliability of our comprehensive listening tests. Variety comes in our choice of music which extends from pop, rock and jazz through to classical, female vocal and folk — an extensive battery of software chosen by our listeners at the beginning of each listening session.

Objectivity is maintained by the use of a consistent and familiar hi-fi system that allows the cross-correlation of results from one test to another. Once again this comprised a combination of DPA's *PDM2* DAC (CD) and Pink Triangle's *PT TOO* (LP) with Audio Note's *AN-E/B* loudspeakers at the end of the chain. The use of precisely matched listening levels across both CD and vinyl sources, and from one amplifier to another also ensures that every amp is auditioned on a fair and level playing field.

Thanks must go to John Bamford (Pioneer), Tom Barron (Rotel), Guy Sergeant (Audio Innovations) and Andy Whittle (Rogers) whose ears regularly grace our blind listening panel.

What's in a Watt?

First things first. Do not worry too much about 'matching' the nominal output of an amplifier to the power rating of your speakers. If the boxes have 50W slapped on the back, this does not prohibit the use of a 30W or even a 100W amplifier. It's also important to appreciate that a 10 or 20W difference between two nominal 100W amplifiers isn't going to make much difference.

For an increase in loudness of 3dB, for example, you would have to double the power output of the amplifier. Similarly, the difference between a 50W and 200W amplifier is just 6dB, which is rather less than the difference in sensitivity between competing speakers these days.

It's easier to damage your speakers by pushing an under-powered amp too hard, than by blasting out the occasional clean peak from a monster amp. Don't get hooked on power, though, because power does not automatically go hand in hand with quality.

So what's all this fuss about peak current? Well, current comes into the equation because a certain number of amps (or milliamps) are required to maintain the voltage across the speaker load, and the lower the load (or impedance) the more current is demanded for any given voltage level.

Combine a demanding style of music with low impedance speakers and your amplifier's reserve of current may suddenly run dry. So look for amps with Amps.

less than six of our amplifiers are variations or modifications on an existing theme; you can easily identify these by the mkII or Special Edition badges that grace their minimalise facias.

Where audiophile pretensions are high on the agenda you shouldn't expect anything more than simple balance, bass and treble tone controls, A/B speaker switching, independent rec-out selection and a source direct facility to bypass the lot. Similarly MC phono inputs are almost unknown, while even standard MM stages are being trimmed down, reflecting the demise of the vinyl LP.

Alternatively, there are still amps that make the most of features, bringing remote control operation and logic-controlled input switching to the affordable mass-market. In this case don't expect too many tweaky components hidden under the bonnet.

Either way, for an amplifier to be Recommended it must achieve a given standard of quality within the £200-£300 band, a benchmark that is judged to be above average for the price. By contrast a Best Buy is something very special indeed, representing astonishing value by combining subjective and technical excellence in a reliable and very compatible package. Many amplifiers are conceived with a Best Buy ticket in mind, but only the select few realise its glory.



The listening panel is allowed a moment's respite from the gruelling amp tests.

Look for amplifiers that not only have a healthy current rating but that also get close to doubling their power output between 8 and 40hm speaker loads. These specimens should

Most hi-fi buffs are interested in the macho

areas of performance such as power output,

a fixed limit of just one per cent distortion.

headroom and maximum current, so it's as well

to know that all three parameters are quoted to

supply will, perversely, also suffer from a limit-

have no trouble driving difficult or multiple loudspeaker combinations. Unfortunately, any amplifier with an appropriately stiff power

ed dynamic headroom. This latter figure gives us some idea of the maximum short-term power available under dynamic music conditions.

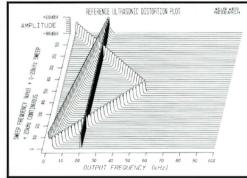
What the tests mean

It would be convenient to believe that very low distortion goes hand-in-hand with high sound quality but, I'm afraid, it doesn't. Sure enough, there are many superbsounding amplifiers with vanishingly low levels of THD (Total Harmonic Distortion), but there are just as many 'Recommendeds' cluttered with harmonics.

What counts is not the amount of THD but how its composition varies with the changing power output of the amplifier. Broadly speaking, so long as distortion rises

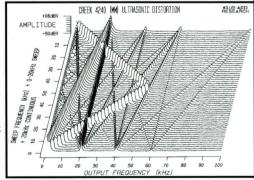
and falls in sympathy with the music, most listeners quickly become accustomed to it. Of course some types of distortion are more tolerable than others, and this is where the 3D Ultrasonic Distortion plot comes in handy.

The Reference Plot includes a continous tone at 20kHz, a sweep running from 0-20kHz and another stretching from 0Hz-50kHz-0Hz. This combination of signals taxes the amplifier in a more realistic fashion than traditional singlefrequency distortion tests. As with real music, both harmonic and intermodulation distortions occur simultaneously.



Our example plot, provided by Creek's 4240, shows straightforward harmonic distor-

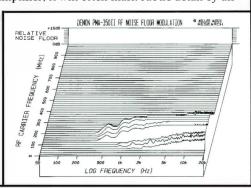
tions represented by a diagonal track running from 0-40kHz and by a vertical track located at 40kHz. Both of these are 2nd harmonics of the original 0-20kHz sweep and 20kHz tone respectively. By contrast, the intermodulation distortions are visible as V-shaped patterns beginning at 20kHz and 40kHz on the Output Frequency scale. These distortions are caused by one signal (the 20kHz tone) modulating or 'beating' with another (the 0-20kHz sweep) and are often more distracting than simple harmonics.



This busy nest of distortion is further complicated by electrical noise leaking-in from fluorescent lights, CD players and all manner of appliances. This is called Radio Frequency (RF) noise and, once inside an amplifier, it will often mask subtle detail by dis-

rupting the natural background of hiss. Even if background noise seems inaudible, RF interference can still make music sound fatiguingly hard or gritty.

The magnitude of this effect shows up as raised areas on the 3D RF IMD plot. Our example (Denon's PMA-350II) draws attention to the amplifier's sensitivity to RF noise from 80-380MHz. So if it's exposed to any electrical interference within this 300MHz range it's unlikely to storm through with flying colours.



ARCAM ALPHA 5

On test: Amplifiers

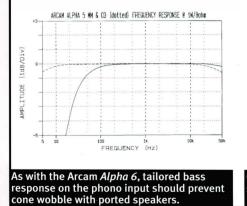
ARCAMO

rcam's *Alpha 5* has an immaculate and proven pedigree: the *Alpha 6* which earned a warm Recommendation in issue 129. Both amplifiers share the same matt-black facia and combination of tone, balance and input selection facilities. Yet the *Alpha 5*'s price-tag is £100 lighter than that of the 6, the saving being achieved by ridding the *Alpha 6* of its motorised volume control and infra-red remote receiver, and at the same time changing its PMI-based MM disc stage for something altogether more utilitarian.

Arcam's novel, quasi-complementary

Comparisons with Arcam's *Alpha 6* (issue 129) prove most illuminating, for though the latter provides an insignificant +0.6dB/+0.8dB boost in output into 80hm and 40hm loads respectively, both amplifiers are still capable of sustaining momentary bursts of 430W+ into very low loudspeaker loads. This is extremely unusual for a mere 60W integrated amplifier.

The Alpha 5 is the quieter of the pair, with a 10dBV advantage in residual noise that increases its overall Aweighted signal-to-noise ratio from 80dB (Alpha 6) to 86dB (re 1W/80hm). Furthermore, the Alpha 5 also offers a slight advantage in MM disc headroom over the Alpha 6, even though odd-order intermodulation distortion, produced by the MosFet power devices, is worse at low levels and higher frequencies.



power amplifier is retained, but the accompanying power supply is downgraded along with some passive components. The upshot is an amplifier which looks similar, is equally capable of driving tricky loudspeakers, and on the surface appears a likely candidate for a Choice swing-tag. Yet it serves to confirm that amplifier design is a holistic process if nothing else, because the *Alpha 5* sounds entirely different to the *Alpha 6*.

Sound quality

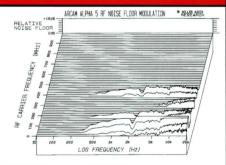
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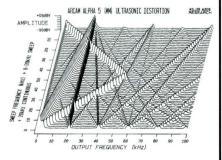
BALANCE

Clearly, trimming down the Arcam *Alpha* 6 has taken its toll, because the *Alpha* 5 is a less

LAB REPORT



Fairly persistent RF IMD occurs at frequencies which overlap with the spurious output of many CD players.



Crossover distortions are stronger at low signal levels than with *Alpha 6* (refer to issue 129).

impressive beast. Where the *Alpha 6* would maintain a very civilised but dynamic demeanour, the *Alpha 5* is neither as controlled nor as polished.

PHONES

The opening violins from Handel's *Concerto No.1* adopted a slightly insistent quality, and the timbre of the harpsichord was harder than usual — the overall performance sounded positive but stilted and mechanical.

Furthermore, Shelby Lynn's bass line tended to loiter behind the pace of brass and vocals, which also sounded slightly strangled. In many respects Arcam's pared-down MM stage was preferred for its richer balance, which avoided the lean, clinical outlook of the CD input.

Nevertheless, even on vinyl replay, the *Alpha 5* was criticised for its lack of dynamic contrast and stereo focus. A disappointing and thoroughly unexpected result.

Conclusion

With the benefit of 20-20 technical hindsight, the disparity between Arcam's *Alpha 6* and the less-than-impressive *Alpha 5* might well have been anticipated. After all, the appreciably wider signal-to-noise ratio of this new variant might just as easily unmask any cold effects of the RF IMD which plagues both the *Alpha 5* and *6*. Alternatively, is it possible Arcam failed to adjust the quiescent current of this sample before supplying it for review?

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On the evidence available, the *Alpha* circuit is basically sound, but only the *6* seems to realise the hidden potential left unfulfilled by the *Alpha 5*. The end result is a £200 amplifier which, I fear, bites off more than it can chew comfortably.

СREEK 4240

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ppearances can be deceptive. Outwardly, the 4240's slim visage and green lettering seem typical of earlier Creek amplifiers; however, the internal design marks a radical departure. The changes have taken place as the company has passed back under the control of its originator, Mike Creek, having been acquired by the TGI group (as Creek Audio Systems) three years ago.

The intervening period saw the conception of EMF Audio and a new amplifier topology. The internal power amplifier, for example, uses n-channel MosFets in a configuration that's akin to a single-ended, quasicomplementary stage — it's very unusual.

Creek's optional MM and MC phono cards are equally eccentric; they are all-discrete affairs with wholly passive RIAA equalisation and little or no feedback. This explains the wobbly response, the low overload margins and a colourful crop of distortions that, without wishing to give the game away, raised one or two eyebrows in the listening room.

Sound quality

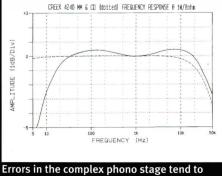
In practice, it's the intriguing MM card that saves the day for Creek. As a straightforward

LAB REPORT

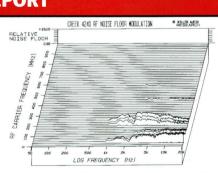
The huge difference in sound quality detected between CD and MM disc inputs is readily explainable. The basic line/power amplifier stage offers a modest 49W output and evidently fights shy of tricky speaker loads (note that it has a 5.5A current rating).

Distortion is odd-order and remains fairly constant with output (typically less than 0.03 per cent), while the generous 103dB signal-to-noise ratio can, possibly, make the unwanted effects of RF IMD more obvious.

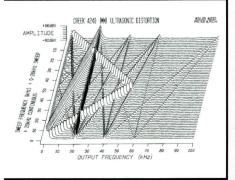
By contrast the edgy distortion of the CD/line input is swamped by higher even-order products generated by the unusual MM phono stage with its limited +18.4dB overload margin and tailored response. Evenorder intermodulation distortion increases from 0.0009 to 0.71 per cent while its signal-to-noise ratio closes-in to just 76dB — no wonder the CD and MM inputs sound so very different.



enhance both bass and treble at the expense of midband.



Demonstrates some susceptibility to RF noise around 50 and 250MHz.



Very colourful intermodulation patterns, created by the MM stage, are visible throughout the audio range.

line-only amplifier, the *4240* seems both dynamically and spatially restrained. For example, the massed strings from Handel's *Concerto No.1* started off sounding pleasantly smooth and mellow, but quickly degenerated into a mushy blur.

Similarly, Shelby Lynn opened with a clear and solid-sounding voice yet, with the introduction of the trombones and trumpets, her vocal performance became strained and rather edgy. In direct contrast, when playing LPs, the amplifier would readily expand its soundstaging and ambience to accommodate the richness and body of a large-scale musical event.

Where it sounds confused and congested via CD, the 4240 enjoys a welcome depth and robust colour with vinyl sources. The soprano saxophone that accompanies Sting on *Lazarus Heart* gripped our attention, the 4240 also highlighting the vocal reverberation to great effect. So the 4240 is odd, but not unattractive.

Conclusion

This is a perfect example of an amplifier that pitches the rich-sounding and generally affable distortions of one stage against the cold and uncomfortable sheen of another. This is why the 4240 positively glows via MM even though these signals still pass through a generally unsympathetic line and power amplifier.

So if your

-		50, ii youi
ALC: N	VERDICT	primary source is
0	The amp has an	vinyl, rather than
	excellent phono stage providing solid, beefy	CD, then Creek's
	and extended sound.	fully-fledged
0	Without thisoption the	4240 will
	4240 sounds warmbut constricted.	certainly be worth
-		checking out.
and a second		Otherwise, and in
	PRICE £249.00	the context of this
	Creek Audio Ltd.	group test, the
	2 Belleview Road,	4240 is an
	Friern Barnet,	interesting but
	London N11 3ES.	costly
2	081-361 4133	anachronism.

On test: Amplifiers

DENON -

DENON PMA-350mkll

he only visible difference between the *PMA-3501* and the original *PMA-350* (issue 92) is in its local A/B speaker selection switches and a £60 increase in price. The *PMA-35011* retains the same casework, bass, treble and balance controls, together with the existing range of inputs, as found on the earlier model.

Fortunately, the price increase is fully justified by internal changes. The original

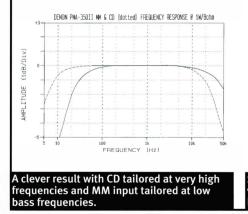
power supply, with its toroidal mains transformer and Cerafine electrolytics, has been relocated between newly designed and wholly symmetrical power amp stages. And both MM phono and tone control circuitry have enjoyed a spring clean, with Denon's favourite 'Ansar Supersound' polypropylene capacitors now deployed in key positions. All in all, the *PMA-350II* amounts to a brand new amplifier in a familiar case.

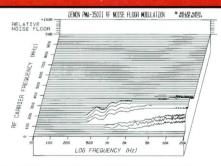
LAB REPORT

Comparing these figures with those from issue 92 demonstrates the far-reaching influence of Denon's modifications. Importantly, the PMA-350Il's power supply now sustains a +1.7dB boost to deliver 133W into 40hm and a healthy 15.8A for momentary peaks into very low impedances.

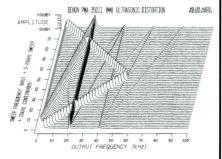
New OFC hard-wiring and local relay speaker switching has also forced the original o.10hm output impedance down to 0.050hm, ensuring a more consistent performance with different cables and speakers. Moreover, distortion produced by the power amp section has also been tackled, easing it down from a typical 0.03 to a surprisingly low 0.002 per cent — a change of some 25dB.

Fortunately, eliminating conventional distortions has not exposed any grislier nasties lying beneath.





As in the original *PMA-350*, a local susceptibility to RF noise could spark problems with some CD players.



Some ultrasonic crossover artefacts are visible though audible distortions are very low indeed.

Sound quality

By way of contrast with the original *PMA-350* (issue 92), the *PMA-350II* is a much bigger and more powerful-sounding amplifier, and one that's also very agile without appearing hurried. Tonally it has a fine balance allied to generous, see-through soundstaging.

VOLUME

Hino

The listening panel was able to appreciate the resonance from the body of Handel's opening violin, which was readily differentiated from the massed strings that follow. Once in full flight, the orchestra flowed naturally, free of the confusion and congestion that plagued many of the amps in this test.

Denon's MM input is similarly well-judged, revealing the lower registers of classical piano during Rachmaninov's *Symphonic Dances*. It demonstrates a marvellous grasp of dynamics at the expense of stereo imagery so, even if it's not the most polished performer, it still succeeds in conveying the progression and tempo of its music with little sense of coercion.

Conclusion

On the basis of both laboratory and listening tests, this *mkll* version of the established *PMA-350* must be judged a great success. It is clearly more invigorating and confident than its forbear, prompting our panel to suggest it



'sounds colourful without being overtly coloured'. On the other hand, it could certainly sound a little tidier, even if the sheer excitement and immediacy of the *PMA-350II* promises it'll be a sure-fire winner in the blood-andthunder stakes.

On test: Amplifiers

Thomas

Kenwood KA-3020SE

in Edit

eplacing a Best Buy is always a tricky business. So rather than abandon a successful product like the *3020* Kenwood has simply amputated its loudness widget, slapped in a beefier power supply and stuck a Special Edition logo on the familiar black alloy facia.

KENWOOD

But there's a catch — two, in fact: the KA-3020's price has increased from £140 (issue 97) to just under £200; furthermore, by dropping its rail voltage the output has been squeezed from 65W to just 39W. On the other hand, Kenwood has responded to criticisms made in our earlier review and replaced its manual A/B speaker selection with local relay switching. Otherwise, the layout and range of facilities remains broadly unchanged and there is still a separate rec-out selector for six alternative inputs.

OUT SELEP

Sound quality

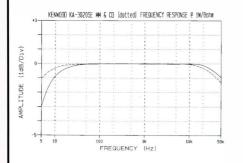
Despite being precisely level-matched with every other amplifier in this test, the *KA*-*3020SE* struck our panel as sounding

LAB REPORT

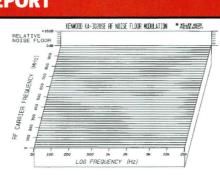
In many respects the *KA-3020SE* really does behave like a lower-powered version of the original *KA-3020* (issue 97). However, even though its 80hm output has dropped by a significant 2.2dB to 39W, its ability to drive tricky speakers has actually improved.

This is clear from the increased 10A current delivery, the stiff +2.2dB boost from 8 to 40hm and excellent retention of midband power at the frequency extremes. The new low 0.030hm output impedance will also ensure the *KA*-3020SE is less fussy about cable and speaker loading though, all things considered, sensitive speakers will remain your best bet.

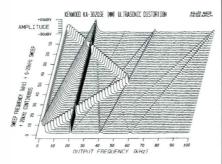
Otherwise, its mix of low noise, moderate input overload margins and lowish distortion all bode well for the *3020*'s continued success.



MM response is sufficiently extended for arm/cartridge resonance to cause cone wobbling.



The KA-3020SE's limited filtering and intelligent circuit design has minimised any reaction to RF noise.



Mild and essentially inaudible crossover distortions are seen to be present at low power. inherently louder via CD. Via MM it simply lacked dynamics, impact and interest and the phono input was decried 'something of an afterthought'.

Nevertheless, with CD at the helm this amplifier consistently grabbed the listening panel's attention, its performance at once upbeat and lively, yet also comfortable and undemanding. This is not a contradiction as the amp still betrays a hint of restraint, a suggestion of 'not quite letting go' despite sounding open and detailed.

Handel's *Concerto No* 1 revealed the 3020 at its strongest, allowing us to focus on entire groups of strings which sounded vibrant and colourful but not exaggerated. Ali Farka Toure's CD provided a musical contrast but was equally well representated by the open, generous and spacious acoustic developed by the 3020. In the words of our panel, 'this is a gracious but enthusiastic performer that allows its music space to breathe.'

Conclusion

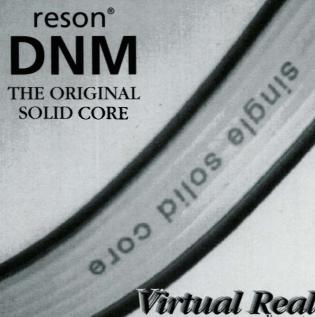
Three years ago our panel praised the original *KA-3020* for its solid, methodical and weighty sound — a description not far removed from the big and beefy flamboyance of today's *KA-3020SE*. Nevertheless, the intervening period has witnessed a deterioration in MM phono

	penor
VERDICT	reduct
🙆 Lively, exuberant and	basic (
enjoyable sound with CD player as source .	rating
If you have a tasty record	substa
deck, you'll want a better	in reta
MM stage.	This
	shine
	Kenwo
PRICE £199.95	origina
Trio-Kenwood UK Ltd, Kenwood House.	some
Dwight Road,	relega
Watford,	sibling
Herts WD1 8EB.	status
2 (0923) 816444	omme

performance, a reduction in its basic power rating and a substantial hike in retail price. This takes the shine off the Kenwood original Best Buy

relegates its *SE* sibling to the status of Recommendation.

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MARANTZ PM-44SEMKII



uperficially, this 40 strain of amps from Marantz has changed little since the *PM-40SE* (issue 97), two generations ago. The *PM-44SEmkII* still features the same large volume control, rotary input selector, balance, tape copy and source direct facilities.

The MC phono input was dropped on the *PM-44SE* (which bridges the gap between the two), while in addition this model features a larger power supply and Current Conversion Noise Eliminator (CCNE) to

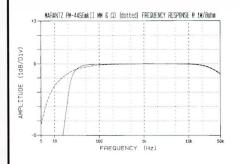
reduce diode switching noise.

The *mkll* version, reviewed here, takes the process a stage further with new 'Starget' power supply electrolytics, that are physically decoupled from the circuit board using a silicone-rubber damping compound. Incidentally, changing the nature of the main PSU has also demanded an appropriate modification of the CCNE stage. Crucially, these modifications are designed to influence the sound rather than the power output of the *PM-44SEmkll*.

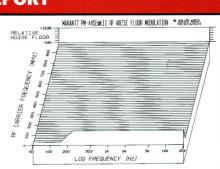
LAB REPORT

As predicted, there's little or no difference in the 56W/91W 8/40hm output of this *PM-44SEII* and the 61W/97W of the *PM-40SE* from issue 97. The dynamic headroom and maximum current ratings are also unchanged, despite claims to the contrary. Even the wide signal-to-noise ratio of 99dB (CD input) remains true to a fraction of a dB.

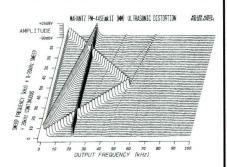
However, changes to the relative gain of both line and disc stages has prompted a disparity in distortion from 1W to two-thirds output, increasing from 0.002 to 0.014 per cent (CD) but from 0.002 to just 0.006 per cent via MM. By contrast, distortion created by the *PM*-40SE was reliably constant at all power levels and via all inputs.



The MM stage features an unusually severe bass roll-off; unfavourable subjective repercussions are a likely result.



An initial burst of RF sensitivity up to 15MHz is typical of Marantz amplifiers.



Unlike *PM-40SE*, low distortion at 1W/40hm increases seven-fold at higher power outputs.

Sound quality

And sure enough, this *PM-44SEmkII* certainly marks a change in performance over its grandfather, the *PM-40SE*. The *PM-44SEmkII* is evenly balanced but also rather grey, matter-of-fact and strangely uninvolving. Despite a semblance of control, its lack of air and spaciousness offers a poor facsimile of real instruments being played in a believable acoustic, particularly when the going gets tough and the sound of the *PM-44SEmkII* becomes progressively more untidy.

Shelby Lynn's track failed to bounce along with its customary enthusiasm, the brass devoid of raspy overtones while her voice lacked both humour and expression. 'Hints at great clarity' suggested the panel, 'but is accompanied by a discomforting edginess'.

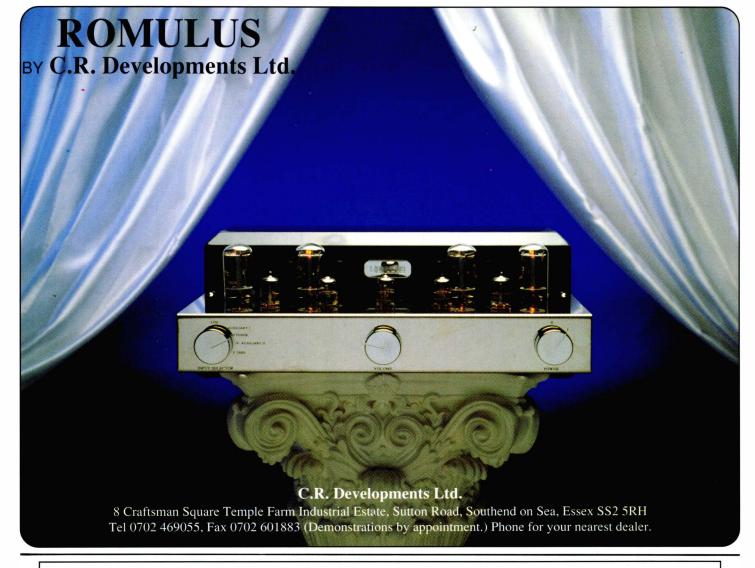
Its MM phono input was described as brisk but brash, a monotonic performance lacking in both dynamic contrast and basic enthusiasm. Sadly, it's hard to find anything to say other than that the mkII is an unpalatable upgrade.

Conclusion

Has something gone seriously awry between the *PM-40SE* and this latest model? Suspicion falls on the intermediate *PM-44SE*, if only because changes in circuitry were more significant on that occasion.

Thoro

	THEFE
VERDICT	remains little
 Clear and evenly balanced sound; ergonomic layout. Music sounds characterless; poor dynamics; shouty phonostage 	that is 'special' about this edition of the <i>PM-44</i> . It is a clean, but lightweight and
	sadly uninspiring
VALUE ★★★★★ PRICE £199.90 Marantz Hi-Fi UK Ltd, Padbury Oaks, 575-583 Bath Road, Longford, Middlesex UB7 oEH. ☎ (0756) 795333	amp guaranteed to provide an ultimately fatiguing listening experience.





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n test: Amplifiers

and

PIONEER A-303R

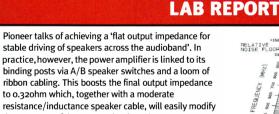
he Pioneer A-303R proved to be a refreshing experience. Even though it may be operated from the armchair, there's no reason why a remote control should affect sound quality and with this amp we have a case in point.

DIONEER .

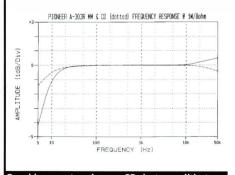
Sure enough its various phono (MM only), CD, tuner, aux and two tape inputs are all routed by a handy integrated circuit, but

this is common enough these days with or without the luxury of remote control.

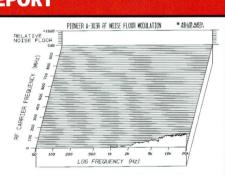
Similarly, the volume knob is driven by an internal motor, preventing the wear and tear on your fingertips and without fouling the signal path itself. Pioneer has also included an on-board 'Direct' facility which side-steps the remaining bass, treble, balance, tape monitor and loudness widgets for a shortcut to and



the response of the average loudspeaker. Otherwise, the *A*-303*R* is typical of many a mass market budget amplifier, albeit achieving some distinction with a thoroughly a-typical and very wide 102dB signal-to-noise ratio. Fortunately, this wide window on the music remains free of any RF pollution even if the latter is only achieved by dotting its PCB with nasty little ceramic capacitors.

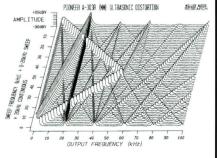


Good bass extension on CD, but possibly too much extension on MM — could cause problems with ported speakers.



Pioneer's brutal filtering on all inputs prevents the ingress of RF noise from <u>CD players.</u>





Looks messy but audible distortions are not too dissimilar from those found with the Rotel *RA-930BX*.

from the volume control.

A control socket on the rear of the *A-303R* also allows you to fire-up a compatible tuner, CD player and tape deck from this single remote handset. For 'compatible' read 'matching Pioneer separates'.

Sound quality

Handel's flourishing violins retained their customary brilliance and sounded neither grating nor edgy. Our panel did complain about a hint of reediness or stridency when the amp was pushed too hard; on the whole, though, there's an attractive sense of detail and quiet spaciousness. Just avoid up-beat rock and pop, particularly with tricky speakers.

The MM input on the Pioneer fared equally well, being applauded for its suppression of obvious surface noise and generous dynamics, and only mildly admonished for a lack of weight and gumption. Then again, the circuitry used in this MM stage is duplicated in both input selection and line stages, contributing to a very consistent sound.

Conclusion

Whether the true bonus of this amp is its unexpected sense of poise, structure and substance, or having full remote control, will

VERDICT	pers
Spacious, enthusiastic sound uncompromised	pref
by remote control. Can sound strident if driven too hard; avoid long speaker leads.	easy spea
SOUND $\star \star \star \star$ VALUE $\star \star \star \star$ PRICE £199.95	you' disa this
Pioneer (GB) Ltd, Hollybush Hill, Stoke	bler goo
Poges, Slough SL2 4QP. (0753) 789789	g00 g00

depend on your personal preference. Just stick to sensitive, easy-going speakers and you'll not be disappointed by this pleasing blend of good features, good sound and good value. **On test: Amplifiers**

ROTEL RA-930BX

ith the *RA-930BX* Rotel has made an attempt to recapture the performance of glorious amplifiers like the Best Buy *RA-930AX* (issue 104). The *BX* shares the same casework and essential facilities as its hallowed cousin, but features a variety of significant revisions inside.

Known quantities like Rubycon BGF coupling capacitors and Panasonic HFS electrolytics have been introduced, though the layout of the *RA-930AX* with its El mains transformer and classic high-current Sanyobased power amp remains untouched. One other principle revision concerns the line amplifier, which now uses a dual-channel TL052 op-amp in favour of the old Signetics NE5532AN.

So the *RA-930AX* has been thoroughly gilded. But what would the *Hi-Fi Choice* blind listening panel make of the results some two and a half years on?

Sound quality

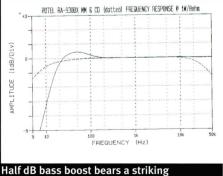
In the event, Rotel's *RA-930BX* not only sounded suspiciously expensive but also

LAB REPORT

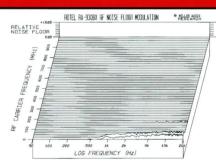
As expected, the technical fingerprint of the RA-930BX is very, very close to that of the RA-930AX from issue 104. The 50W/74W 8/40hm power output, +1.4dB dynamic headroom and 13A current rating are all but identical - even its +55mV DC offset remains characteristically high!

Distortion remains fixed at 0.008 per cent over much of its dynamic range though the overall S/N ratio is just a little poorer at 81dB rather than 86dB (re 1W/80hm).

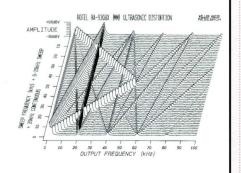
Other subtle variations include the increase in output impedance from 0.00580hm to 0.0150hm, the slight increase in sensitivity from 202mV to 188mV (re full output) and the wholesale decrease in susceptibility to incoming RF interference. Like its forebear, the RA-930BX is difficult to fault.



resemblance to the Rotel *RA-930AX* (see issue 104).



Much reduced susceptibility to RF intermodulation is a feature of the latest 900 series amplifiers.



Even-order distortions trickling into the audioband are typical of the Rotel *820* and *930* series.

emerged as the unchallenged star of this month's show. Certainly none of its immediate competition could match the ingenious blend of power and polish, a dark and clean sound that prompted one astute (but blind!) listener to identify its origins as 'typically Rotel'.

Han

It was described by the panel as having an architectural presentation, with specific areas of a performance located firmly within a broad and deep soundstage. At the same time it was free of wavering or obvious fuzziness. On the other hand it isn't entirely neutral: the richness and colour of its music is enhanced with a typically bold but unforced stroke of the brush.

It's nearly as impressive via MM disc, perhaps lacking a little sparkle but otherwise retaining the crisp and powerful bass, sweet treble and seemingly limitless stereo depth that had proved so engaging with CD sources. All in all it's a real scorcher.

Conclusion

A real ale among keg bitters — the RA-930BX combines an almost velvety texture with a strength and colour that is only glimpsed at by the vast majority of £200 amplifiers. Importantly, these are qualities that are maintained at both high and low listening levels, resurrecting memories of both the RA-930AX and the

	VERDICT	an
0	Open, dynamic and generous with deep, dark soundstaging; offers rare qualities for price. Bass could sound slightly soft with some loudspeakers; lacks some sparkle via MM.	of by ba Ro to It j
		sh
	VALUE *****	ne
	Gamepath, 25 Heathfield, Stacey Bushes, Milton	the tin
1	Stacey Busiles, Million	
2	Keynes MK12 6HR. (0908) 317707	p d
	PRICE £199.95 Gamepath, 25 Heathfield,	r t

RA-820AX amplifiers. And the moral of this tale? Only by looking backwards has Rotel learned how to move forwards. It just goes to show that one need not re-invent the wheel every time a new product is developed.

TECHNICS SU-A800mkll



he £350 remote-equipped SU-A800mkII is a model of sophistication. It has logic-controlled input selection, local A/B speaker switching and motorised volume control; and there's even a cooling fan which is activated when the amp's pushed too hard (beyond 1A output). If the amp seems unusually heavy that's because it's built onto a shock-

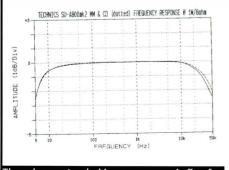
absorbing base made from a sandwich of sheet steel and visco-elastic rubber.

Technics' amplifiers are well known for incorporating Class AA technology. In such designs a voltage amp is connected to the speaker load via a resistive bridge network and robust Current Dumping output stage. The former limits the amplifier's distortion while the dumpers provide the muscle.

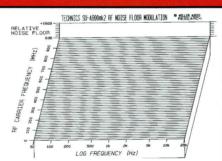
LAB REPORT

Although Technics claims to be chasing improvements in sound quality, products like the *SU-A8oomkII* only reflect the pursuit of specmanship. The company emphasises 'low noise' and 'Silence Technology' with its Virtual Battery Operation and R-Core power transformer. Yet in practice, the 82dB 1W signal-tonoise ratio is readily exceeded by most of its peers in this group.

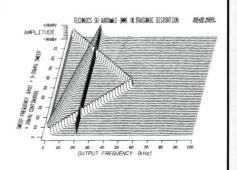
Otherwise, the performance of its hybrid MosFet/bipolar power amp is proven by the consistently low 0.002 per cent distortion and healthy +2.1dB boost in output between 8 and 40hm. Under dynamic conditions a full 285W is sustained, albeit momentarily, into loads as low as 10hm. So tricky speakers hold no fear, but when it comes to sound quality, that's a different matter.



Though an extended bass response is fine for CD, it can only boost arm/cartridge resonances via MM.



Scrupulous RF filtering, rather than innovative circuit design, prevents interference.



Little or no distortion is allowed to escape the MosFet/Bipolar Class AA amplifier.

The *SU-A800mkll* takes this a stage further by combining the linearity of MosFet transistors in the voltage amp with the high current handling of bipolar transistors in the dumper stage.

Sound quality

This amplifier provides a big, beefy but distinctly coloured view of events. Its handling of very low bass is a persistent niggle, creating a waffly undertow. Its portrayal of low strings from Handel's *Concerto No.1* also brought a softening to the orchestra as a whole, making it difficult for us to appreciate the resonance of higher strings.

Shelby Lynn sounded rather hurried, her vocals tripping over a rather confused bass. Nevertheless, this is not an offensive confusion, for though the *A800mkll* sounds jumbled it is neither hard nor harsh.

Its MM phono stage sounds louder and cruder still: a subjective anomaly encouraged by the forced or hyped-up tenor of its midband. Few acoustical instruments retained their natural character, the amp imposing a Technicolor resonance all of its own.

Conclusion

Our panel admitted to being fooled by the

	exciting
VERDICT	presenta
 Remote control; potentially big, beefy and euphonic sound. Is readily confused by complex material; strained and untidy. 	the A800 The expl detailing certainly impress
$\frac{\text{SOUND}}{\text{VALUE}} \times \times \times \times$	its supe
PRICE £350 № Panasonic Consumer Electronics, Panasonic House, Willoughby Road, Bracknell, Berkshire RG12 BFP. (0344) 853943	was soo apparen our asse listeners mouth a trousers conclude
(0)44/0)943	conclud

exciting presentation of the A800mkII. The explosive detailing is certainly impressive, yet its superficiality was soon apparent to all our assembled listeners: 'all mouth and no trousers', they concluded.

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On test: amplifiers

AMPLIFIERS

Conclusions, best buys and recommendations

ur objective procedure, together with comprehensive lab testing, allows a firm correlation with the results of amplifiers reviewed, under identical circumstances, two, three or even four years ago.

Marantz has been achieving sporadic success over the years, but, on this occasion, with the *PM-44SEmkII*, it has fallen someway short of the mark. Greater consistency rather than greater num

bers is the route to suc cess. **Technics**

has also fall



en into the trap of follow

ing fashion rather than building on the strengths of

one-off designs like the *SU-VX600*. **Arcam** seems to have taken a retrograde step by taking the *Alpha 6*, a complete and successful design, and knocking it off balance with the revisions necessary to create the *Alpha 5*.

By contrast, **Creek** has come up with something totally new in the 4240 power amp and phono stage. The end result is predictably mixed, yet it would be interesting to see if the sympathetic distortions of the phono input could be assumed by the line/

power amplifier.

Best of the rest

If the best of our test fail to set your toes a-tapping, try out the following contenders. There are four principal Best Buys, not least being the *A*-400 (£280) and *A*-400X (£300) from Pioneer. The former is bubbly and forthright, the latter more reserved but equally engaging.

Otherwise, both NAD's *304* (£230) and Denon's *PMA-450* (£250) are entertaining, though the '*450* could sound a little too extravagant in some systems. The slimline *VA-50* (£250) from Aura is a UK-designed amp with genuine style, while Harman Kardon have the gutsy and expressive *HK6250* (£280). Somewhere in this little lot should be the sub-£300 amp of your dreams!



Pioneer has distilled the bare bones of amplifiers like the *A*-400 and *A*-400X into an unpretentious and flexible package (the *A*-303R). It's no world-beater, but neither is it typical of mass-market, remote-equipped amplifiers. <u>How the test results compare</u>

The **Kenwood** *KA-3020SE* is a little less flexible, yet its big, energetic sound clearly builds on the foundation of its forefather, the *KA-3020* (issue 97). If only its price had not been hit so hard.

Denon has also beefed-up the performance of its original *PMA*-350 (issue 92) and preserved the enthusiasm of our panel. It was one of the few amps that allowed us to separate the two electric guitars from Ali Farka Toure's *Talking Timbuktu* while still relishing the percussion. The *PMA*-350II is comfortable, but never lazy.

Rotel's *RA-930BX* had a slightly better grip of musical dynamics. It's an amp that sounds inherently quieter, darker and more insightful than its competition. It can dispell ambient detail to the far corners of the room rather than funnelling sound directly at your ears. And, in harmony with the *RA-930AX* before it (issue 104), the *RA-930BX* also brings home a Best Buy.

16t 20t1 16t1 20t1			Arcam Alpha 5			Creek 4240		PN	Denon PMA-350MKII	U	ΧĀ	Kenwood KA-3020SE	W	PM-	Marantz PM-44SEMKII	Ħ	A-	Pioneer A-303R		RA	Rotel RA-930BX		Technics SU-A8ooMKII	ics MKII
Main State Vieta State Vieta State Vieta State Vieta State Vieta State Vieta	MAXIMUM CONTINUOUS	20Hz	1KHZ	20KHz	20Hz	1KHZ	20kHz	20Hz	1kHz	20kHz	20Hz	1KHz		20Hz		1			1			1		z 20кHz
(H) +1.0e8(7.3M)		85.6W	94.1W*	90.3W*	40.0W	75.8W	74.9W	112.3W	133.2W	119.8W	63.4W	64.2W		86.6W		1			1				>	1
Model -0.05 (M) -0.05 (M) -0.13 (M) <t< th=""><th>DYNAMIC HEADROOM (IHF)</th><th></th><th>+1.40</th><th>3 (83.0W)</th><th></th><th>+1.0DB</th><th>(61.8W)</th><th></th><th>+1.20B(</th><th>(17.9W)</th><th></th><th>+1.0pB</th><th>(M0.64)</th><th></th><th>DB (</th><th>i.</th><th></th><th>DB ()</th><th>1</th><th></th><th>DB (</th><th>1.1</th><th></th><th>B (1</th></t<>	DYNAMIC HEADROOM (IHF)		+1.40	3 (83.0W)		+1.0DB	(61.8W)		+1.20B((17.9W)		+1.0pB	(M0.64)		DB (i.		DB ()	1		DB (1.1		B (1
1 0.0050um 0.0050um 0.0050um 0.0130um 0.	MAXIMUM CURRENT (5MSEC, 1% THD)			20.7A			5.5A			15.8A			10.2A			17.9A			8.3A			2.7A		16.9A
	OUTPUT IMPEDANCE		0	.061онм		0	0480HM		.0	МНОЭ4С		0.0	1300нм		0.0	мно		0.319	мно		0.01	мно		0.0820нм
(14) (12)Aux MM (12)Aux	DAMPING FACTOR			130.4			166.1			175.5			263.2			142.6			25.1		-	33.8		98.0
(10(1) (13) <			CD/Aux	WW		CD/Aux	WW		CD/Aux	WW		CD/Aux	WW	U	D/Aux	WW	CD	Aux	WW	9	/Aux	WW	CD/AU	WW X
(1401) (1750B) (570B)			73.3DB	74.5DB		76.5DB	67.6DB		78.8DB	78.9DB		70.3pB	70.3DB	~		04.8DB	65		80B	78		.50B	58.30	3 57.90B
C(L)(Hz) 0.020B 0.710B 1.1210B 1.1210B 1.1210B 1.1210B 1.1500B 0.1210B 0.010B 0.010B <th< th=""><td>(20kHz)</td><td></td><td>47.9pB</td><td>46.7bB</td><td></td><td>52.8DB</td><td>47.3DB</td><td></td><td>54.3DB</td><td>52.7bB</td><td></td><td>45.0pB</td><td>44.7DB</td><td></td><td></td><td>8.7pB</td><td>39</td><td></td><td>60B</td><td>5</td><td></td><td>.60B</td><td>34.90</td><td>33.40B</td></th<>	(20kHz)		47.9pB	46.7bB		52.8DB	47.3DB		54.3DB	52.7bB		45.0pB	44.7DB			8.7pB	39		60B	5		.60B	34.90	33.40B
(-001V) 1.120B 1.120B <th1.120b< th=""> <th1.120b< th=""> <th1.120b< t<="" th=""><td>CHANNEL BALANCE (1KHZ, -20DBV)</td><td></td><td>0.62DB</td><td>0.67bB</td><td></td><td>1.21DB</td><td>1.19DB*</td><td></td><td>0.43DB</td><td>0.42bB</td><td></td><td>0.54pB</td><td>0.68pB</td><td>5</td><td></td><td>0.1108</td><td>0.0</td><td></td><td>4pB</td><td>0</td><td></td><td>20DB</td><td>0.37b</td><td>3 0.29bB</td></th1.120b<></th1.120b<></th1.120b<>	CHANNEL BALANCE (1KHZ, -20DBV)		0.62DB	0.67bB		1.21DB	1.19DB*		0.43DB	0.42bB		0.54pB	0.68pB	5		0.1108	0.0		4pB	0		20DB	0.37b	3 0.29bB
CD5., (000W) 81.2B 7,6 bB 7,1 DB 64,5 B 93.0B 7,1 DB 64,5 B 93.0B 7,1 DB 64,5 B 93.0B 7,1 DB 83.0 B 83.0 B 83.5 B 83.0 B 83.5 B 83.0 B 83.5 B 83.0 B 83.5 B 93.5 B 93.5 B 73.0 B 73.5 B 73.0 B 83.5 B 83.0	(-600BV)		1.23DB	1.28pB		1.19bB	1.16bB*		1.25DB	1.24pB		0.47bB	0.61pB			.10pB	0.2		60B	1		54pB	0.560	3 0.48pB
Dist. (000W) 89:508 77.508 64:60 95:108 77:508 77	TOTAL HARMONIC DIST. (0DBW)		-81.2DB	-76.8DB		-71.7bB	-64.5DB		-93.0DB	-96.0DB	1	94.1DB	-89.5pB	ż	Ľ	14.4DB	-87	· .	ODB	80		.90B	-96.2D	3 -90.5pB
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APEDANCE 9.5V (bisc) / 137 colm 1.1.2V (bisc) / 233 colm 1.0.1V (bisc) / 330 colm 1.1.2V (bisc) / 134 colm 1.1.2V (bisc) / 230 colm 1.1.2V (bisc) / 200 colm 1.2.2V (bisc) / 200 colm<	(50kHz)			2150MV			475MV			3875MV			2715MV		1	VM065		66	0MV		312	VMO		1480MV
19K0HM/100F47K0HM/120F 47K0HM/120F16K0HM/-FF 41K0HM/120F46K0HM/120F 31K0HM/130F49K0HM/130F49K0HM/130F 32K0HM/120F49K0HM/130FF 32K0HM/120F7	TAPE OUTPUT/IMPEDANCE	9.	5V (DISC) / 1	.87конм	5	5V (DISC) / 1.	13конм	-	1.3V (pisc) / .	2390нм	10.1	1V (DISC) / 3	3380HM	11.6	V (DISC) / 2.	320HM	9.0V (D	ISC) / 1.84K	WHO	11.2V(DISC) / 2.04H	WHO	11.2V (pisc	/ 1.86конм
LET/RIGHT +0.5MV/+0.5MV +1MV/+4MV -2MV/-1MV -4MV/-2MV -0MV/-9MV -0MV/0MV +55MV/+56MV -55MV/+56MV -55MV/+56MV -55MV/+56MV -55MV/-56MV -55M	INPUTLOADING	19K0HM/	100PF 47K0.	нм/120РF	47KOHM	1/100PF 16K	Энм/-рЕ	41KOHN	1/80PF 46K01	i M/200PF	31K0F	HM/310PF 8	30конм	31KOHM/18	0РF 49конл		вконм/800	F 49конм/		2конм/120	РF 48конм/		04M/400PF 44	конм/360Р
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		*2.5AL	INE FUSE BLO	WS >88W	0'CLOCK																			

Hi-Fi Choice September 1994 55



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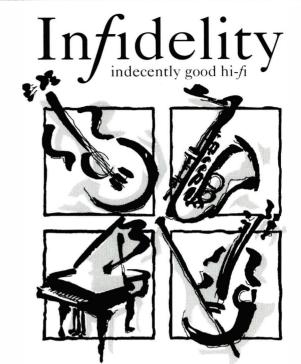
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Why take two big speakers into the listening room, when you can use a tiny satellite/subwoofer system? Paul Messenger investigates.

Three-box satellite/subwoofer speaker systems have been threatening to become a viable alternative to conventional stereo pairs ever since the first Bose *Acoustimass* model in 1987. It's still a minority choice, but the fact that the Bose is now in its *MkIII* guise, and also thatmostother majorhi-fi speaker specialists offer one or more examples, prove that the three-box concept has staying power.

The raison d'être is all about cosmetics. The satellite units are usually small, inconspicuous and the only bits which need to be mounted in line of sight of the listeners (theoretically, at least). The much larger subwoofer, which handles the bass section of the sound, may in theory be tucked out of the way, relying upon our hearing's

The cast list	
Bose Acoustimass 3 Series III	£499.95
INFINITY INFINITESSIMAL MICRO II	£399.95
JPW SUBWOOFER (£130), SATELLITES (£80/PAIR)	£210
B&W Solid Verticale	£399.95

'relative' inability to distinguish the direction from which bass sounds are emanating.

The theory sounds plausible enough, but this repackaging of the stereospeakersystem has a number of practical implications: some positive, others negative.

Don't be fooled by the term 'subwoofer'. The Bose term 'bass module' is much more linguistically precise. There's nothing 'sub' about the bass of any three-box system *Choice* has assessed so far — rather, the bass extension is much the same as that from a typical bookshelf pair.

The stereotype three-box speaker houses two bass units (one for each channel) in one fair sized (20-30 litre) box; while the midrange and treble duties are handled by a pair of miniature satellite units (two litres or less).

There are, however, numerous subtle variations. In our test foursome, for example, two have satellites containing separate midrange and tweeter drive units, while two opt for single combination drive units. The former offers more consistent distribution, better power handling and high frequency extension, while the latter is simpler and more compact.

In two of our test systems, the amplifier output must first be fed to the subwoofer's input terminals, and then the satellites speakers are wired to the subwoofer'soutput terminals – the 'daisychain' arrangement. In the other two, there's the option of wiring both subwoofer and satellites independently, which might be more convenient in some room layouts.

Whicheverapproach is adopted, tiny satellites do offer their own inherent advantages over conventional speakers. Small boxes generate relatively little cabinet coloration, and possess fine all round sound distribution, which should provide superior openness and stereo imaging. To achieve the full benefit of this, however, the satellites should be situated in free space, where they usually look rather daft (Solid Verticale excepted). Wall bracket mounting is less desirable acoustically but is often preferable aesthetically. Generally, it also provides a firmer mechanical platform to compensate for the low mass of these units.

It's handy to be able to tuck the combination bass unit out of sight, but a single point source close to the floor will never give complete sound wavefront coherence with two dispersed satellites. Such placement will also drive the room less evenly than the two separate sources of a conventional stereo speaker pair.

Like all approaches to speaker design, it's a matter of weighing up the positives and negatives. The bottom line is that three boxes of two different



Bose Acoustimass 3 Series III

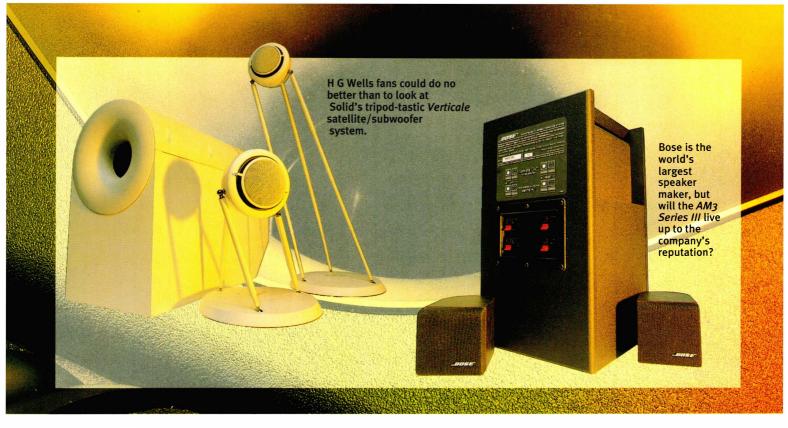
B&W Solid Verticale

Infinity Infinitessimal Micro II

2

JPW Subwoofer/Satellite system

Chances are that you'll choose a three-box system for its style, its invisibility or a combination of the two.



kinds, often using six drive units, are bound to cost rather more than a conventional four-driver stereo pair of similar potential performance. But these three-box combinations do look more stylish, and style always commands a heavy premium.

CONSTRUCTI	ON
Bose Acoustimass 3 SIII	*****
INFINITY MICRO II	*****
JPW SUB/SAT SYSTEM	*****
Solid Verticale	****

The cost of these four systems range from £210 to £500, yet after weighing everything up, I'd have guessed that the Bose was the least, rather than the most, expensive. However, I was genuinely surprised how much JPW you get for the money, while the Solid, and, to a slightly lesser extent the Infinity, look good value considering their clever flexi-stand cum brackets.

In acoustic engineering content terms, there's not a whole lot of difference between them. True, the Infinity and JPW are three-ways while the Bose and Solid are two-ways, but even that distinction is less consequential than the specific implementations.

Nor does it much matter that the Bose bass module only takes up a third of the volume of the others. In fact, it

What's in a subwoofer?

A subwoofer is a bass box in which the driver(s) are hidden within the enclosure. Their cones are loaded on one side by a sealed-box, and on the other by a cavity/port arrangement. All the sound comes out of the latter, which delivers a band-pass output across a range of bass frequencies determined by the cavity/port tuning (which is often complex). might prove an advantage, and not only from a space saving perspective in our 1992 three-box speaker reviews, this smaller AM3 actually performed rather better than the larger AM5 equivalent in balance terms.

All the bass units operate on the coupled cavity principle, whereby internal drivers excite tuned cavity/port arrangements. All are built up from particle board, but both the Infinity and the Solid are distinctively decorated with additional plastic mouldings. In the Solid's case, this slightly restricts the orientation options, but it's nice to see something done to tuck the terminals out of the way.

All have output-to-satellite as well as input connectors, even though this is only essential for the Bose and Solid designs.Most use spring-clip terminals, but JPW does the decent thing for would-be audiophiles by fitting proper 4mm socket/binders, supplying spikes for properly floor-coupling the unit, as well as some felt to damp the port output depending on taste.

The satellites show much greater variation, especially on style grounds. JPW's brick-shaped rectangular box is the only one to adopt traditional materials and shape. It's the only one which makes no satellite wall bracket or stand provisions either, but I dare say the accessory makers have something to fill the gap. It is also the only one which has no style whatsoever, arguably missing the whole point of a satellite/subwoofer system in the process, but at £79 for the pair, I'm not arguing.

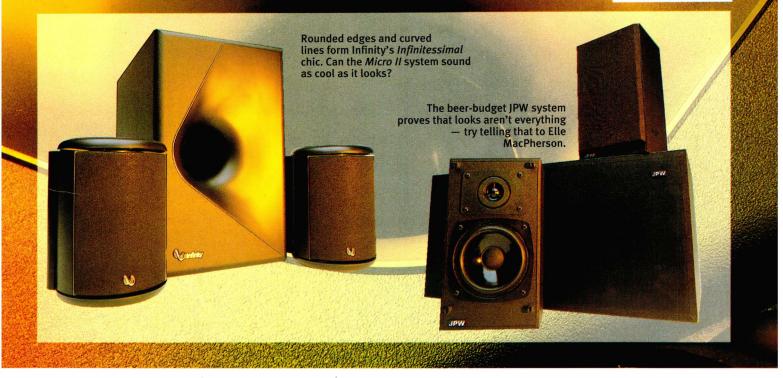
Style is what you get in abundance with the other three designs. Each achieves its own particular cuteness by the imaginative application of plastic moulding techniques to satellite construction in particular.

The £399 Solid Verticale must be the most inspired, and not just because our samples came finished in white (black is an option). The tripod support with weighted Anglepoise-type base and extending telescopic legs offers marvellous flexibility and dramatic aesthetics. Rather elegantly, it also gets around the intractable problem of keeping the satellites away from walls (for best acoustic performance) without leaving them looking stupid. The bases are heavy enough to allow the satellites to be set at some surprising angles, and are designed to act as brackets screwed to walls, if desired.

The £499 Bose may not show quite the same flair as the Solid, but the fact that it's altogether far more discreet is more than fair compensation, in a sector where invisibility is a key priority. Whether that hideaway advantage can really justify such a less-costs-more price-tag must remain a matter of debate and priorities. It's going to be hard to resist paying an extra £20 to £30 for one of the various satellite mounting devices (not supplied). The update from Series II to Series III signals a change in satellite design, the latest being essentially a single-module variation on the twin-module AM5 satellite theme – and much the better for it.

The £400 Infinity is something of a cross between the other three, using a largish two-driver satellite of moulded plastic construction, with a novel cylindrical shape and clever stand-cum-bracket which may be removed if preferred. In-built high pass filtering

On test: Sats and subs



allows it to be connected direct to power amplification and driven hard without risk of damage. Two circular non-slip end caps clamp the mounting bracket after the required swivel angle has been set, the bracket itself having two mutually perpendicular flats of a decent size, either of which can support the cylinder on its side or be fixed to walls or other surfaces.

COMPATIBILI	ΤΥ
Bose Acoustimass 3 S III	*****
INFINITY MICRO II	*****
JPW SUB/SAT SYSTEM	*****
SOLID VERTICALE	*****

In terms of amplifier compatibility, there's really very little in it. None of these designs represents a particularly easy load, most remaining below 60hms for a considerable portion of the power hungry midrange part of the spectrum, while the coupled-cavity bass arrangements inevitably introduce a number of resonances.

Of the four, the Bose is the easiest by a small but significant margin, especially through the bass. But this is effectivelynegated when sensitivity is taken into account, the *AM3/III* requiring rather more amplifiervoltage than the others to achieve the same acoustic power output.

In these days of AV integration, a word on magnetic compatibility might be timely. Anyone planning to place a television set between a pair of stereo speakers needs to bear this in mind, but if you place your speaker centres a typical six feet apart, the two feet of fresh air between each speaker and the TV will be more than enough to avoid magneticpollution—with most speakers, a foot is plenty.

The only speaker in an AV system which does need magnetic shielding is the centre-front 'dialogue' unit used in a Dolby Pro-Logic system. The fact that three of our four have shielded satellites is only really likely to be relevant if you decide to add a third matching

"Each achieves its own particular cuteness by the imaginative application of plastic moulding to satellite construction in particular."

satellite for dialogue duties — a task which might be beyond the smaller satellites anyway. (The JPW sats are not normally shielded, but are available so treated if required.)

What's regrettable, in my opinion, is that no manufacturer has shielded the magnetic fields from the subwoofer. The 'stick it anywhere' philosophy is all very well, but the obvious place a system is likely to work best (especially those with crossover points above 200Hz) is halfway in between the satellites — either behind or beneath where you want to put the TV set.

SOUND QUAL	ΤΥ
Bose Acoustimass 3 S III	****
INFINITY MICRO II	****
JPW SUB/SAT SYSTEM	****
Solid Verticale	****

Although absolute sound quality is vitally important, Chances are you'll

choose a three-boxsystem for its style, its invisibility, or a combination of the two. And although the sonic compromises involved may not appeal to the hi-fi purists, most consumers will find sub/sats a perfectly acceptable tradeoff. For the best sound, you'll do much better looking at a conventional stereo pair of loudspeakers on proper stands.

The most obvious general limitation of the three-box packages concerns the qualitatively rather vague and imprecise bass, which seems to show greater variation in level throughout the room than a conventional (twin source, distributed drive) system. The bass is still there, indeed often delivered with altogether too much enthusiasm. But it's a bit lazy and laid back, and never really gets the firm grip necessary to drive the music along. However, the plus side is that stereo images are lovely and spacious, yet have an almost tangible precision in positioning; and box colorations are generally modest.

Such subtleties aside, a good basic overall tonal balance is a prime requirement for a hi-fi speaker. A degree of aberration might be acceptable under some conditions, but the Infinity Micro II takes altogether too many liberties. I didn't like it a few months back when assessing it for Choice's sister magazine, Home Entertainment; and the cold light of comparison here merely makes its failings more obvious. Like a Norwegian Eurovision Song Contest entry, it sounds, heavy, thick, ponderous, shut-in and dull, although I confess it's true that the bass has plenty of weight behind it.

I'd like to award the Solid *Verticale* two and a half blobs, but give it the

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Bose's Acoustimass AM3/III is the complete antithesis. It is the ultimate clever chameleon that not only almost disappears visually, but does a pretty good job of repeating the trick sonically, thanks to a superbly neutral overall tonal balance.

It's not especially subtle or smooth, and quickly gets embarrassed when you start increasing the horsepower dramatically. But simply because the tonal interrelationships are more or less correct, you find yourself forgetting the speakers and listening instead to what they're saying.

Ironically, the best sounding of the four is also the cheapest, the most conventional and least designer/lifestyle at the same time. The JPW does a good job of sounding like a proper pair of hifi loudspeakers. It's a little rough around the upper midband and topend edges, and - like the Bose Acoustimass 3-is somewhat lacking in drive; but it has poise and dynamic capabilities comfortably above the rest. The freedom from boom and decent neutrality help, but there's an impression of musical coherence which might well be a consequence of the directcoupled satellites.

VERDICT	
Bose Acoustimass 3 S III	****
INFINITY MICRO II	*****
JPW SUB/SAT SYSTEM	****
Solid Verticale	*****

How do you reach a verdict on four such very different systems? It's rather like comparing apples with oranges. I'll start off giving the JPW five for sound, six for value for money, but then have to subtract six for negative style and bulk. By such reasoning, I'm able to award it the laurels.

The Bose scores top marks on selfeffacement and neutrality, but loses out slightly on material value and party-pooping grounds—head-bangers need not apply. However, I'm very impressed by the way the *Series III* changes have countered my strongest criticisms of its predecessor, and that itself deserves the highest praise.

Solid's *Verticale* seduces at first sight; its innate sense of fun and impressive practical versatility more than compensate for some designer self-consciousness and soniclimitations. As far as the visual statement is concerned, I'll plead the eye-of-the-beholder defence and let the beholder make up his or her own mind. If the cap fits, it deserves further investigation.

It's tempting to dismiss the Infinity as a poor-sounding product, but I suspect the *Micro II* may be a victim of home cinema compatibility. What sounds bass heavy, when fed stereo music in partnership with two satellites, is likely to balance up much better in combination with five mid/treble satellites and playing movie soundtracks in Dolby Pro-Logic mode. (The corollary, ofcourse, is that anyone contemplating giving the JPW or Bose a home cinema rôle might have to contemplate using two subwoofer units.)

Bose UK Ltd, Trinity Trading Estate, Sittingbourne, Kent ME10 2PD. ☎ (0795) 475341

Infinity, Gamepath Ltd, 25 Heathfields, Stacey Bushes, Milton Keynes, Bucks MK12 6HR. 26 (0908) 317707

JPW Loudspeakers Ltd, Ocean Quay, Richmond Walk, Plymouth, Devon PL1 4LL. 2 (0752) 607000

Rock Solid Sounds Inc, c/o B&W Loudspeakers, Marlborough Rd, Churchill Ind Est, Lancing, W. Sussex BN15 8TR. (2003) 750750

Lab reports

There were no real surprises in the lab test results, merely confirmation that the three-box package does represent a compromise compared to the normal stereo pair. Considering that most present the amplifier with a quite demanding 40hm load, the combination of modest sensitivity and unexceptional bass extension isn't impressive.

Ironically, the higher the sensitivity, the more uneven the overall sound balance. The Infinity's useful looking 88dB is very much a rough estimate, because its relative output falls some 1odB between bass and treble, and is also decidedly up and down along the way.

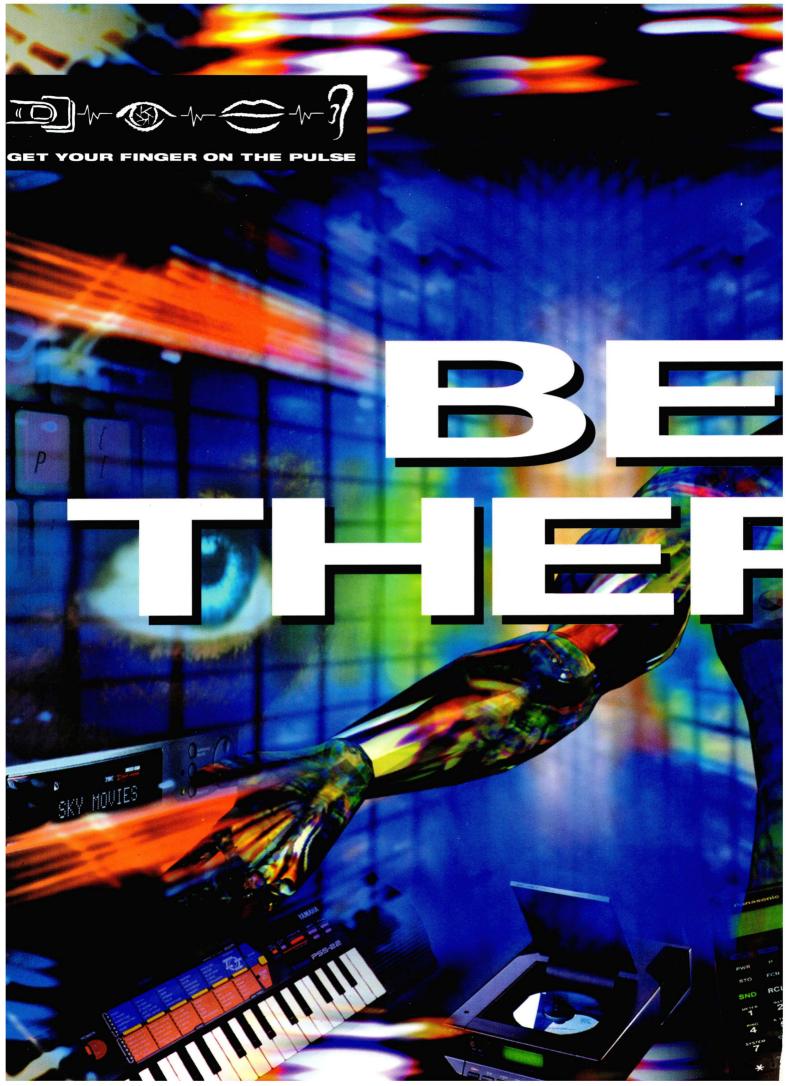
The 87dB Solid has a much flatter overall balance, but is no less uneven. This is mainly due to a substantial (+8dB) peak from the sub at 100Hz, immediately below a broad -5dB trough 150-350Hz, even when positioned with port firing up. The two anomalies do average out in net balance terms, but two wrongs don't make a right, even though its ultimate bass extension is a little better than its rivals. The mid and treble are also well balanced but uneven, with identifiable 'hot spots' at 500-600Hz, 3kHz and 12-15kHz.

The JPW results were surprising, inasmuch as this big ugly subwoofer unit actually produced a quite modest output in both level and bandwidth terms. This was very similar, indeed, to the much smaller Bose bass module hence its similarly lowish 86dB sensitivity and rapid rolloff below 50Hz. Happily, it's a pleasant surprise. because it means that this bass unit does what it ought to be doing, which is filling in the bass to match the mid and treble. It doesn't feel the need to draw attention to itself by booming away in the midbass. One minor difficulty concerns a substantial overlap between subwoofer and satellites, which introduces unpredictable cancellations and reinforcements in the upper bass. The satellite output is reasonably flat and smooth, holding within close ±3dB limits above 150Hz.

That the Bose AM3/III was the best balanced of all was no surprise, since its predecessor had laid the ground back in issue 104. Sensitivity remains a modest 85dB, and the rolloff below 50Hz is pretty final, but apart from a mild 100Hz peak, the response is now held within a splendid ±3dB 50Hz-15kHz, thanks to the much improved (AM5-derived) new satellites.

How the sat/sub test results compare

	Bose AM3/III	INFINITY MICRO II	JPW SUB/SAT?	SOLID VERTICALE
Subwoofer size (height x width x depth, cm)	19x36x20	39x23x39	27x51x27	45x20x34
Satellite size (height x width x depth, cm)	8x8x12	20x14x14	24x13x11	24-64x19diam
Weight Sub/Sat	5/0.5kg	11/1.7кд	9/1.4KG	7.5/3KG
Configuration	THREE-BOX, 2-WAY	three-box, 3-way	THREE-BOX, 3-WAY	THREE-BOX, 2-WAY
RECOMMENDED AMPLIFIER POWER	20-70W	20-100W	20-70W	20-100W
RECOMMENDED SUB PLACEMENT	CLOSE TO WALL	ON HIGH STAND!	CLEAR OF WALLS	CLEAR OF WALLS
SUB-TO-SAT CROSSOVER POINT (ACOUSTIC)	250Hz	280Hz	120Hz	280Hz
Best in-room averaged response limits (50Hz-10kHz)	±5 dB	±7DB	±7bB	±8dB
_F ROLLOFF (-6dB ref midband, in room)	45Hz	45Hz	45Hz	48Hz
ESTIMATED MIDRANGE SENSITIVITY (REF 2.83V, 1M)	850B	88dB	86 dB	87dB
MPEDANCE CHARACTERISTIC (EASE OF DRIVE)	QUITE DEMANDING	DEMANDING	DEMANDING	DEMANDING
MAGNETIC SHIELDING SUB/SAT	NO/YES	NO/YES	NO/NO*	NO/YES
* (YES OPTION AVAILABLE)				







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On test: in-car CD autochangers

Life on the road just isn't the same without the power o' funk. No one knows this better than David Rowlands, who's been checking four top CD combos in his quest for the lost chord.



9 **3**.5

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BAAK MTL AMS MANU DISC	XR-U401RDS		ST RD SECH	TAPE
MUTE - SEL - L L LOUD	FH2	Б	87.50	AE/TA
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Joior Booty 66 Hi-Fi Choice September 1994

here's a vigorous train of thought that says compact disc is the worst possible music medium to use in cars. However, it transpires that the most vociferous supporters of this view are the purveyors of DCC and MiniDisc equipment. Susceptible to damage from sticky fingers, liable to melt-down under solar influence, an added security risk and desperately unfriendly to handle at 70mph are just a few of the criticisms.

But the consumer thinks otherwise, and CD in cars has become a force to be reckoned with as owners of expanding silver disc collections seek to maximise usage of their investments. No doubt the relief from the audible and mechanical frustrations of analogue tape is a factor. CD autochanger boxes, in the boot (or, more accessibly, in the glove compartment) answer some criticisms. Discs are protected from heat and mechanical damage; sticky fingering and distractive handling problems are also avoided.

In this test we look at four ensembles of radio/cassette head unit and shoebox autochanger at around the £620 price point, a little above the entry-level for this equipment, but within the budget category. In each case you get a capable tuner; a tape deck with a practical, if not exalted, level of facilities; high power amplification from an internal power pack (as well as system expansion options); and a competent disc-shuffling box.

The contenders come from some of the most august names in car audio: Alpine, Clarion, Panasonic and Sony. Individually, they display some of the idiosyncrasies of their marques, particularly in styling terms. The main differences are that Sony, Panasonic and Clarion squeeze Radio Data System tuners into this price bracket (Alpine doesn't), while Alpine, Panasonic and Clarion vie for the accolade of smallest

I ne cast list						
	Controller	Autochanger	TOTAL			
ALPINE	7514LS (£270)	5952Z(£349)	£619			
CLARION	CRX-87RM (£300)	CDC-9530 (£325)	£625			
PANASONIC	CQ-RD45LEN (£300)	CX-DP60 (£320)	£620			
Sony	XR-U401RDS (£329)	CD-XU65 (£320)	£649			

Time for an autochange

In-car CD autochangers take a small, but growing, share of the market. In 1993 some 50,000 units were sold, with a value of over £15 million, to take almost five per cent of the total car audio market (more than the falling share for CD/tuner combinations). An autochanger needs a controller head unit, so the real figure for the share of the market gained by full three-way systems (radio, tape, CD) approaches 10 per cent and a £30 million peryear value.

One of the reasons for this popularity is TINA — Mrs Thatcher's "There Is No Alternative". There is no other viable, affordable way to get digital sounds in the driving seat — at least until the data-compressed DCC and MiniDisc rivals get their price and performance act together. Another attraction has been prices that have fallen, both visibly and in real economic terms.

There are two components to a three-way system. The head unit is an ostensibly normal radio/cassette unit to which autochanger control capability has been added. This has raised prices very little in the traditional in-car combination market (implementing RDS and the move to removable front plates for security have cost more — a combined price hike of \pounds 50- \pounds 80). Most makers now have autochanger controllers in the mid and high levels of their ranges (Clarion and Sony units will also control MiniDisc players).

The autochangers have come right down in price and size. Although in this test, the Sony remains as a reminder of the early days when big, 10-disc players ruled, the Alpine, Panasonic and Clarion six-disc units, with compacted dimensions that see glovebox mounting as a possibility, are the new norm.

The units here, ranging in price from £320 to £349, also display considerable diversity in their digital regime. Alpine ploughs a lone furrow with its 20-bit hybrid approach, Sony and Clarion prefer the safer ground of 1-bit, eight times oversampling, while Panasonic has assiduously applied its MASH technology. At this price level you don't get digital outputs, but their arrival can't be too far over the horizon given the inexorable progression of sophisticated Bitstream and integrated chip architecture.

While an autochanger offers disc protection and handling advantages (as well as a choice of music sufficient for extended journeys) it does have a downside. Even the most compact model can require substantial surgery for installation anywhere other than in the boot, as well as extra, vulnerable wiring. In the boot, where golf clubs, a full truck-load of shopping, tools and DIY necessities may be flying around, the shoebox takes up space and is frighteningly vulnerable to damage.

All makers offer vertical and horizontal mounting choices (electronically programmable in Panasonic's case). With a bit of ingenuity, autochangers can be slung off the load floor so they're not nudged by the odd purchase of bricks. The best makers also reduce wiring clutter. Sony and Panasonic, in this group, have anachronistic separation of audio and data cables — Alpine and Clarion have a single umbilical. None have that bane of cheaper units, the need for separate power and earthing feeds.

autochanger, with their six-disc models. Sony offers a 10-disc unit of more imposing dimensions.

FACILITIES		
ALPINE	****	
CLARION	****	
Panasonic	****	
Sony	****	

Because Alpine doesn't offer RDS at this price it loses out a little by comparison with the three slightly more expensive units. But this is splitting hairs. Alpine's tuner is a thoroughly competent, highly interference resistant and gripping design that can render full stereo when all other units are spluttering. And the lack of RDS is redressed by a full logic electronic tape deck, with auto-equalisation selection and blank skip, on top of Dolby B and an effective track search system.

Internal power is a generous (and conservatively estimated) 25 Watts into each of four speaker outlets. Like all of these units, the Alpine has fully electronic audiocontrol, a loudnesscircuit and a system-expanding (single) RCA phono connector for additional amplification. The CD controls command a fairlybasic set of disc and track shuffling capabilities, which include random and repeat play. This must be measured against the added value programming facilities available with the





Sony control system. Alpine has a single wire connection to the player - a plus point compared to Sony and Panasonic.

Clarion's controller is radical in design, lifting off from an original Sony idea that saw controls in a wide Ushape around the face-plate, and adding in some interesting contouring of buttons. The CRX-87RM is an RDS/EON tuner with programme type (PTY) tuning in addition to the normal RDS attributes of auto-tuning throughout the national radio network. Though it is sensitive in operation and almost as positive in its rejection of interference as the others, the Clarion's autostore (to pick out the best stations in any area) was less selective.

Clarion has economised on the tape deck (no Dolby or metal equalisation selections) but not on the electronically-controlled amp stage, which boasts 4x30 Watts and an RCA phonoline-out for system building. The unit's CD control ability is much the same as Alpine's and Panasonic's in that it has a minimal offering of random and repeat play in addition to normal track management, when compared to the Sony. Though slightly larger than the Panasonic, the Clarion CD player is a titch compared to the Sony (Alpine is the largest of the six-disc units).

In the Panasonic CQ-RD45LEN there's a marriage between the excellent Alphatuner chip (one of the best FM tuners on the market for autostore capability, interference rejection, stereo stage projection and sheer sensitivity) and a proven RDS/EON capability which includes PTY tuning. Although this is a mechanical deck, for the price bracket it has a full complement of Dolby, metal tape equalisation

The Clarion CDC-9530 autochanger is simplicity itself next to its partnering head unit which boasts 26 buttons.

and track search featuring.Fully electronic controls command a 4x22 Watt internal power stage, which is supplemented by both front and rear pre-out connections (neatly stashed into the rear of the unit rather than dangling on leads) and a fancily termed High Definition Bass (a loudness circuit to you and me). Panasonic's MASH-chipped DP60 player is the

In-car CD on a budget

Just a word on budget alternatives. Most makers (Alpine is an exception) offer stand-alone CD autochanger kits which link into an existing system via an FM modulator. You lose bandwidth and dynamic range but the results can be better than an indifferent tape deck if your tuner is up to scratch. Performance will not, however, come close to that of the units in this test. The CD autochanger kits cost from around \pounds_{400} and include the modulator plus a small hard-wired remote controller.

The 59522 autochanger is the important part of Alpine's candid system.

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CUME COMPACT DISC CHANGER 59522

smallest on the market and will fit many glove-boxes. It would also go under some front seats and could more readily be shielded from load floor vulnerability. Although more ambitious controllers can derive extra programming facilities from this unit, the lower-cost head unit here manages a set of

functions that differnot a jot from those of Alpine and Clarion.

Sony's shoebox, clumsy by the side of the rival mini-changers offered at the same price, is a member of the company's databus-linked clan of units. This Unilinksystem allows controllers like the XR-U401RDS to command up to ten remote units (or 100 discs). Note that Clarion's unit is also databus connected and can handle up to four external changers via the C-Bus system; these are undoubtedly the forer unners of a new trend.

The U401RDS is another RDS/EON unit, shorn of the PTY facility. You have here a competent tuner that lacks the sparkle of Alpine and Panasonic chips, but with its own solid abilities in dispelling the muzz and fuzz of interference, rendering a good stereo image and hanging on resolutely to distant stations with little stereo/mono switching fuss. Sony has not been mean on the deck front either: you get DolbyB, track search and metal equalisation facilities. The electronically controlled powerstagepumpsout 420 Watts, and loudness boost and a single set of RCA phono line-outs.

The big difference with the Sony player is that in addition to providing facilities covered by the other units in this group, it is also highly programmable. It will memorise play and skip

SONA

track sequences as well and you can enter enter disc titles in up to eight alpha numeric characters. There will be those who argue that this has no audio enhancement function or relevance to piloting a car skilfully — but we just tell it as it is.

EASE OF USE		
Alpine	****	
CLARION	****	
Panasonic	****	
Sony	****	

All these units have removable front plate security and, by coincidence, all have wholly detachable panels (as opposed to unitswhich part with a few buttons). This undoubtedly places some constraints on the space available for controls. The ratings we have given each unit are, to an extent, nitpicking; because with a contempt born of familiarity, none are that difficult to come to terms with.

However, the button counts are telling. Sony and Clarion clock in at 26 and 27 respectively while Alpine and Panasonic have 18 each (not counting Alpine's Clock selector, which is a bit superfluous at this level of equipment given most owners' cars). The latter companies are much more adept at multi-function controls and the results show in a less cluttered control interface. Unfortunately, Panasonic takes this as a licence to clutter up the front panel with a mess of printed graphics. But the lesson is clear. For easy familiarity, the Alpine and Panasonic are the models to pick.

Clarion has very interesting ideas on the control layout, which we have already remarked upon. There is some

sensible dualling of functions but the number of smaller buttons for minor functions give the game away. Sony, normally a model of control disposition, has not fared so well in this design, which is atypicallyscatty. Why, for example, place an RDS button right in the middle of a line-up that is essentially devoted to source selection?

10 DISC MAGAZINE

Night lighting is a critical test which all the units pass. Clarion's display is switchable between orange and green — the others cannot be changed from their fairly neutral green (or paler) stance.

SOUNDQU	ALITY
Alpine	****
CLARION	****
PANASONIC	****
Sony	****

There are four quite separate criteria on which this foursome can be judged for their audio performance. Three are the sources — radio, tape and CD while the fourth bears on all these parameters. This is amplifier stage quality, which so colours all

It's little but it's not red, nor is it a Corvette. However, the Panasonic *CX-DP6o* is a Prince among autochangers.

MASH 45

Get your ten favourite cruisin'

discs, i.e. Little

Deuce Coupé, I

Like Driving In

My Car, 2-4-6-8

Sonv CD-XU65's

cart and hit the

highway.

Motorway etc, stuff 'em in the

aspects of operation that it must be considered first.

1 BIT D'A CONVERTER SYSTEA PACT DISC CHANGER CDX-65

Clarion's overall feel is one of great openness but with a disturbing highend emphasis that can begin to jar on material with a predominance of detail, whether it is demanding guitar and percussion or closely-etched chamber music. This is an aggressive power stage that refuses to be curbed by its electronic tone control. That forward nature makes light work of crumping bass-lines but becomes tiring in its higher frequency confusion.

The flip-side is displayed by Sony's amplifier which is too laconic and laidback for its own good. There is the accuracy and capability on detail that the Clarion lacks, but none of the excitementor, even lower down the scale, the sheer dynamics that make really compelling listening.

Panasonic and Alpine have much more sensibly hedged the options that lie between urgency and stridency and authority and dynamism. Only when placed side by side did it become clear that the Alpine has a slightly smoother touch and reassuring direction, combining strengths in bass rendition and effective stereo staging, without descent to deceit; and high-end





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clarity that stops short of overcoloration. That's not to say that the Panasonicin-car combination is a ragamuffin. Here you find commanding bass, well-judged midrange presence and a sparkling high-end. It's as difficult to discern the difference as it is to distinguish between a diamond and good paste.

In radio there's the same pattern, with Alpine and Panasonic sharing joint honours for overall supremacy on all bands. Sony and Clarion trail them by only a few nudges of injudicious interference and glitches in stereo/mono switching. Panasonic's RDS capability also outshines that of Clarion and Sony, between which our on the road test failed to distinguish a significant difference.

Audio cassette capabilities displayed aslightly different pattern, with Alpine showing through as incomparably superior in its ability to derive the best dynamics from superior metal recordings. Clarion also proved it has the panache to carry through ferricrecordings with a great deal more credibility. Sony and Panasonic offer, from both tape types, what is a blander sensation altogether. Neither excelled in deriving the best from our metal collection, nor did they hit the raw peaks of which ferric is capable.

But then we come to CD. Clarion's power stage simply lacks both the refinement and the agility with which this medium must be addressed. Sounds are hard and brittle, lacking depth, and with a brashness that drives out any essential warmth. The Sony rendition is rather weak and lazy, denying the confrontation and attack that the ear expects on familiar passages.

Alpine and Panasonic manage far better results. There is a genuine warmth to these two ensembles which falls well short of artifice. The sound produced is stimulating, clear (without quite reaching the transparency you would revel in a thome), clean and crisp in the bass area, pleasantlypushy in the mid-range and divertingly explicit at high frequencies. Once again it is the smoothness of Alpine's delivery, and the more vivacious character that Panasonic imbues in each demanding passage, which stand out.

How they compare								
	ALPINE	CLARION	PANASONIC	SONY				
TUNER								
Presets	18FM,6LW/MW	18fm, 6lw/mw	15FM, 5LW/MW	12fm, 6lw/mw				
RDS/EON	No	YES	YES	YES				
DECK								
Догва В	Yes	No	Yes	Yes				
Metal EQ	Аυто	No	YES	Yes				
CDAUTOCHANGER								
NUMBER OF DISCS	6	6	6	10				
DIGITAL REGIME	20 bit 8 x over	1 віт 8 x over	1 віт 32 х over	1 віт 8 x over				
Amplifier Power	4 x 25watts	4 x 30watts	4 x 22watts	4 x20watt				

From the pleasing symmetry of nearidentical pricing in this group there emerges a divergence of performance and value. The entrants from Clarion barely put a foot wrong technically although the marque's RDS capability doesn't quite match that of Sony and Panasonic. However, wholly subjectively, for both design and audio output, there is a brashness and a levity that are not matched by in-depth capability. The stridency of the audio stage, deteriorating to a thin scratchiness on metal tapes is a disappointment that carries through into the CD department.

The Sony, on the other hand, is repressive in nature. While the units breeze almost faultlessly through the entire radio, tape and disc repertoire there's atautness in delivery that hints at a buttoned-down presence — you begin to shriek for the high-end to deliver and the lower frequencies to be unleashed. Some clever databus tech-

RDS/EON-A national standard

When the BBC made its voice felt at the European Broadcasting Union, it got results. RDS/EON (the last bit stands for Enhanced Other Networks) is the outcome, a third generation RDS technology that has now become the standard throughout Europe (and may also take hold, shortly, in the US). One reason the BBC fought for it is the ability to select local traffic information input while listening to national network stations. Listen to R1, 2, 3, or 4, with the Traffic button engaged on an RDS/EON unit and you'll hear the latest hold-up news from the nearest, or strongest, BBC local radio station. Programme Type (PTY) tuning is increasingly a feature of in-car RDS units. It has limited but growing application in the UK to date, but will become important when new FM independent stations start to flex their audience -attracting muscles. nology is a saving grace if you enjoy labelling up your disc collection for more stimulating display patterns.

These are the contrasts against which the candidness and honesty of the Alpine and Panasonic entrants came to be judged. Both are accomplished performers. Alpine has clearly concentrated on the deck and sound stages of this 7514L head unit, which ideally and effortlessly complements one of the best autochangers in the business. Smoothness in operation and sonic delivery, neatly executed stereo staging and impressive living and breathing dynamism.

To this Panasonic adds considerable RDS panache and a hint of additional vivacity and drive, but it does so without detracting from accuracy and persuasive dynamics. Although RDS is undoubtedly the way to go in car audio for the edge it gives in traffic info delivery, you may be sufficiently Luddite to ignore its siren lure. In which case Alpine's offerings at this pricelevel are a sufficient enticement to stay on more conventional ground.

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Clarion Shojai UK Ltd, Unit 1, Marshall Road, Hillmeade, Swindon SN5 9YX. 🕿 (0793) 870400

Panasonic Consumer Electronics, Panasonic House, Willoughby Road, Bracknell, Berks, RG128FP. 2 (0344) 862444

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GILSON AUDIO LTD, 172 Borough Road, Middlesbrough. (0642) 248793. Exposure, Arcam, Mission, Cyrus, Denon, Marantz, NAD, Rotel, Pioneer, Audiolab, Tannoy, Teac, Yamaha. Demonstration facilities in main shop and 2 dem. rooms, 1 AV room, appt nec, home trial facilities, free install. on request, service department. BADA Access, Visa, HP. 10-5 - 6 days.

CORNWALL

DEFINITIVE AUDIO, Cornwall, Near St Austell, PL26 6R7. (0726) 844039. For audio componants/systems which actually work! Impulse, Micromega, OVA, Audio Innovations, Audio Note, Voyd, Systemdek, JPW, Silver Custom Design, DNM. Demonstration by apppointment only. Demonstrations throughout Cornwall, Free Installation Service Facilities

RJF AUDIO VISUAL, 84 Pendarves Str, Tucking Mill, Camborne, Cornwall TR14 8NJ. (0209) 710777/612260. Audio Note, Audio Innovations, Impulse, TDL, Michell, Musical Fidelity, NAD, Nakamichi, Bower & Wilkins, SME, Micromega, Pink Triangle, Pro-jekt, Perception, Harman Kardon, Triangle. Integral Demo room/ showroom and special home dems. Appts nec, home trial, free install, service dept. All cards, switch and transax. Open Mon-Sat 9.30-5.30. Please see advert in Dealer Guide.

CUMBRIA

MISONS SOUND & VISION, 11 Warwick Road, Carlisle CA1 1DH. Tel (0228) 22620, B&O Rotel, Sugden, Harbeth, Quad, NAD, Yamaha, Sony, B&W, Castle, Bose. Demo Suite, No appts nec, Home trial facilities, Free Installation, Service Department. 9-5:30 Mon-Fri. Thurs 9-1. Sat 9-5.

PETER TYSON, 6 Abbey St, Carlisle, Cumbria, CA3 8TX, "Cumbria's premiere hi-fi centre", Part exchange welcome. (0228) 46756. Linn, Musical Fidleity, Cyrus, Marantz, Denon, Philips, Nakamichi, Technics, Pioneer. Creek & more. Dem room. Dems without obligation. Home trial, Free install. In-house service dept. Access & Visa, HP 9- 5.30pm.

DEVONSHIRE

THE HI-FI ATTIC, 58 New George St, Plymouth, Devon PL1 1RR. (0752) 669511. We stock most leading makes and have an expert enthusiastic staff. Premises include attractive hi-fi and home cinema demonstration rooms. We offer free installation and credit facilities (written details on request) also a fully equipped service department. We can also provide a mail order service for all your LaserDisc requirements.We accept Visa, Access, Amex.

DORSET

DAWSONS, 23 Seamoor Road, Westbourne, Bournmouth, Dorset. (0202) 764965. B&O, Castle, Canon, Jamo, JBL, Pioneer, Sony, Target, TDL, Technics. No appts necessary. Free install, Service depart. Various credit facilities available. Open 9-5.30 6 days a week

MIKE MANNING AUDIO New branch now open at: 128 Pool Road, Westbourne, Bournemouth. (0202) 751522. For details see main entry under Somerset.

SUTTONS HI-FI, 18 Westover Road. Bournemouth. 0202 555512. Linn, Arcam, Mission, Quad, Audiolab, Rotel, Yamaha, Denon, etc, 2 Single Speaker Listening Rooms, Home Demonstrations, Free Installations.Open Mon-Sat 9-5:30. Call for details. BADA

DURHAM

HI-FI EXPERIENCE, 17 Coniscliffe Road, Darlington DL3 7EE. Tel Help Line (0325) 481418. Agencies include: Arcam, Audiolab, Bang & Olufsen, Celestion, Cyrus, Denon, Harman, IMF, KEF, Marantz, Mission, Musical Fidelity, Meridian, NAD, Pioneer, Quad, Rotel, Shearne, Tannoy, Yamaha. 3 listening rooms. 3 years guarantee. Free delivery and simple installation North Yorks/South Durham. Home cinema specialist. BADA

ESSEX

AUDIO T, Gants Hill, 442-444 Cranbrook Rd, Gants Hill, Ilford, Essex 1G2 6LL, Tel: 081 518 0915 Fax 081 554 8463. Arcam, Audiolab, Cyrus, Denon, Kef, Meridian, Rotel, Micromega, Yamaha & many more. Mon-Sat 10-6. 3 yr gntee on Hi-Fi. Free del & instal. 30 day upgrade BADA scheme. Home dems. PX. BRENTWOOD HI-FIDELITY, 2 Ingrave Rd, Brentwood, Essex, CM15 8AT. (0277) 221210. Audio Innovations, Denon, DNM, EAR, Marantz, Micromega, Mission, Pink Triangle, Quad, Tannoy plus many more. Single speaker dem rooms, home trials, evening appts (high end), home installations Mon-Sat 9 30-5 30 Access Visa BADA Service Facilities. Advice second to none.

INDICATES MEMBERSHIP OF The British Audio Dealers ASSOCIATION

RAYLEIGH HI-FI, 44a High Street, Rayleigh, Essex. (0268) 779762/747571. 216 Moulsham St, On-the-Parkway, Chelmstord. (0245) 265245. 132-134 London Road, Southend-on-Sea. (0702) 435255. A&R, Audiolab, Cyrus, Denon, Epos, Linn, Marantz, Meridian, Mission, Naim, Quad, Rega, Roksan, Royd. 0% finance. Excellent audio visual range, home cinema Dolby Pro-Logic, multi-room specialist. EADA

GLOUCESTERSHIRE

AUDIO EXCELLENCE, 58 Bristol Road, Gloucester. (0452) 300046. Great Hi Fi carefully selected and demonstrated by friendly and enthusiastic staff. Closed Mon.

HUTCHINSONS, 295-297 High Str, Cheltenham, Glos. GL50 3HL. (0242) 573012. Pioneer reference point, Technics, Dual, NAD, jWharfedale, Celestion, Marantz, Aiwa, Kenwood, Sennheiser. No appts necessary, free install, service dept. Instant credit up to £1000. Open Mon-Sat 9.15-5.30.

HAMPSHIRE

AUDIO SOUTH for further details see the Surrey entry.

FLEET AUDIO, 287 Fleet Road, Fleet, Hants GU13 8RT. (0252) 811088. Micromega, Exposure, Ruark, Royd, Denon, Orelle, Aura, Nakamichi, Rotel, JPW. "Sound advice for a sound system". Home dem facilties, hours to suit. Appts prefered, service dept, free install within local area. Access, Amex, Visa. Open Tues-Sat 9.30-6pm

AMPSHIRE AUDIO LTD, 2-12 Hursley Rd, Chandlers Ford, Hants S053 2FU. (0703) 252827/265232. 3 hi-fi and 2 home cinema/Dolby surround sound demo studios. Thurs late eve, closed Mon (except in Dec). 2year guarantee, service dept on site, large free car park, junctions 4 (M27/M3), 5(M27), 12(M3), BADA 13(M3) all within 3 miles Est 1969 ERIES HI-FI 29 London Road, Portsmouth. PO2 0BH. Tel (0705) 663604. Hi-fi, home cinema and multi-room specialist. Bange includes Adcom, Arcam, Celestion, Denon, Dynaudio, KEF, Lexicon, Linn, Meridian, Mitsubishi, Naim, Panasonic, Polk, Quad, Rega, REL, Rotel, Royd, Ruark, Sony. 2 dem rooms. Open Tues-Sat, late night Wed. Free parking, bus route, credit facilities. Winner Sony/Hi-Fi News Best Southern Dealer BADA

HEREFORDSHIRE

ENGLISH AUDIO, 37 Whitecross Road, Hereford HR4 0DG. (0432) 355081. Arcam, Audion, Audio Technica, Chord, Cyrus Centre, Denon, Exposure, Heybrook, JPW, KAR, KEF Reference, Marantz, Michi, Micromega, Mission, Musical Fidelity, Moth, NAD, Nakamichi, Orelle, Pink Triangle, Rogers, Rotel, Ruark, SME, Stax, Systemdek, Tannoy, TDL. Yamaha and others. Single Speaker Dem room. Home trial. Free install. Service dept. Access, Visa, Credit arranged. Open Mon-Sat 10am-6pm.

HERTFORDSHIRE

ACOUSTIC ARTS LTD, 101 St Albans Rd, Watford, Herts. (0923) 245250. Fax (0923) 230798 Adcom, AMC, Apogee, Audiolab, Audio Research, B&W, Bose, Celestion, Chord, Classe, Denon, KEF, Magneplanar, Marantz, Martin Logan, Michell, Micromega, Orelle, PS Audio, Professional Moitor, Roksan, SME, Sonus Faber, Sonic Link, TDL, Tannoy, Theta, Thorens, Wilson. 4 demonstration rooms. Purpose built AV studio. Credit available, 100 yards from Watford Junction station. Open Tues-Sat 10-6:00. BADA AUDIO FILE, 27 Hockerill St, Bishops Stortford, Herts CM23 2DW. (0279) 506576. 9.30-5.30 open 6 days. Dealer of the Year 1988/89. Linn, Naim, Quad, Cyrus, Arcam, Roksan, Denon, BADA Epos, Rotel, KEF, ProAc. 0% credit. HALEY AUDIO LTD, 328 Ware Road, Hailey, Hertford SG13 7PG. Tel (0992) 442425, fax (0992) 448387. Enjoy choosing your system in one of our three listening rooms. Relax with coffee or something from the bar. Demonstrations include Lexicon CP3 with THX surround sound with the guaranteed deepest, tightest bass available. Choose your hi-fi (top valves and MOS-FETS), LD, CDi etc in a realistic domestic environment. Brands include; REL, AC Magnum, CR Devs, Rotel, Celestion, Micromega, Lumley Reference, Acoustic Energy, Royd, JPW, Sonic Link, Harmon, etc. We deliver anywhere in the UK for home audition, or mail order, Access, Visa etc.

STUDIO 82 (Harpenden) Ltd, 82 High Street, Harpenden, Herts AL5 2SP. (0582) 764246, Fax (0582) 467022 Arcam, ATC, Audiolab, Aura, AVI, Bang & Olufsen, Blaupunkt, Bose, B&W, Castle, Chord Co, Denon, Epos, Harbeth, Marantz, Mission, NAD, Naim Audio, Nakamichi, Panasonic, OED, Quad, Roberts Radio. Quiet single speaker dem room. Appts nec. Home trial, free install. Service Dept. Visa, Access & finance terms. Open 9-5.30pm (Mon-Sat).

KENT

ASHFORD SOUNDCRAFT HI-FI, 40 High Street, Ashford. Seeking music lovers, male or female any age to share common interest in musical Pro-aktiv Hi-Fi Systems, Multi Room or Home Cinema, Attractive unusual equipment in unusual setting your place or ours, we quarantee lasting pleasure Open Mon-Sat. Appointment Service or just pop in. Tel: 0233 624441. BADA JOHN MARLEY HI-FI CENTRES, 2 Station Rd, West Canterbury, (0227) 769329, Also at Dover (0304) 207562. Arcam, Aura, B&W, Heybrook, JPW, NAD, Pro-Ac, Pioneer, Rotel, Ruark, Tannoy, TDL, Technics. Dem and home trail facilities Mon-Sat 9-5.30 closed Thurs. Free install. Credit to £1,000. Access, Visa, Credit charge. Service dept

KIMBERLEY HI-FI, 193 Broadway, Bexleyheath, Kent. (081) 304 3272. Pioneer, Technics, Kenwood, Denon, NAD, Aiwa, Tannoy, Mission, Wharfedale, B&W. Separate dem room, no appt nec. Free installation. Service Dept. Instant credit facilities. 9.30-5.30. No early closing.

V J HI-FI, 29 Guildhall St, Folkestone. (0303) 256860. Mission, Kenwood, Tannoy, Marantz, Sony, Rogers, Denon, Musical Fidelity, Quad, Yamaha. Dem and home trial facilities, free local install. No apts necessary, service dept. Amex, Diners, Visa, Access, Int free credit, Instant credit. Mon-Sat 9-6. EADA V J HI-FI, 119 High Street Margate. (0843) 226977. For full details see our above entry. EADA

LANCASHIRE

HELEN KOCZUR, 161 Yorkshire Street, Rochdale, Lancashire. (076) 42107. Harman Kardon, Quad, Revox, Aura, Teac, JBL, Tannoy - including Definition Range - B&W, KEF, Castle, Canon, Bose, Nakamichi, Grundig large screen TVs. Two demo rooms, service dept, home installations and free delivery. Mon-Sat 9-5.30 Closed Tuesdays. Visa, Access, Credit facilities.

NORMAN AUDIO, 131 Friargate, Preston, Lancs PR1 2EE. Tel (0772) 253057. Fx (0772) 562731. Marantz, Pioneer, Yamaha, Audiolab, arcam, Mission, Cyrus, B&W, KEF. Send for catalogue. Home cinema demo room. No appointment nec, home trial facilities, free installation. Instant credit subject to status. Open 9.30-5.30, late night Wed till 8pm.

NORMAN AUDIO, also at 216 Church Street, Blackpool, Tel (253) 295661, Fx (0253) 295722.

LEICESTERSHIRE

LEICESTER HI-FI CO, 6 Silver Walk, St Martins Square, Leicester LE1 5EW. Tel: (0533) 539753. Fax (0533) 626097. Acoustic Energy, Arcam, Marantz, Micromega, Mission/Cyrus, Musical Fidelity, Nakamichi. Exposure, Rogers, Roksan, "and oodles more". 2 Dem rooms, home trial arranged, free install, service dept, Credit facilitiexs, Access, Visa, Diners, Amex, 6 day 9.30-5.30. LISTEN INN, 6 Hotel Street, Leicester. (0533) 623754 (Fax) 0533 623758. Linn, Arcam, Royd, Heybrook, Creek, Neat, Mission, Cyrus, Audiolab, Quad, Denon, etc. 2 Dem Rooms. SOUND ADVICE. The Factory. Duke St.

SOUND ADVICE, The Factory, Duke St, Loughborough LE11 1ED. (0509) 218254.



Shahinian, Rega, Naim, Linn, Royd, Yamaha, Rotel, Arcam, Nakamichi, JPW. 3 demonstration areas, no appts necessary, free installation, service department. Lombard credit charge, Access, Visa. Mon-Fri 9.30-6.00, Sat 9.30-5.30.

STEREO SHACK, 1-3 Guildhall Lane, Leicester. Tel 0533 530330. Aiwa, A.R., Denon, Kenwood, Jamo, Mission, NAD, Phillips, Pioneer, Rotel, A/V Speciality. Free Install Open 9.30 -5.30 6 days. Credit available.

LINCOLNSHIRE

BOSTON HI FI CENTRE, 65a Wide Bargate, John Adams Way, Boston, Lincs PE21 6SG. (0205) 365477. Denon, Quad, Nakamichi, Arcam, Onkyo, Marantz, NAD, Castle, Tannoy, Rogers, etc. Separate demo studio. Home trial. Free installation. Access, Visa. Tues - Sat 9-5 pm.

STAMFORD HI-FI CENTRE, 9 Red Lion Square, Stamford, Lincs PE9 2AJ. (0780) 62128. Pioneer, Technics, Marantz, Cyrus-Mission, Rotel, NAD, Yamaha, Kenwood, Ouad, plus all major speaker manufacturers. Expert advice, comparator demonstrations, on two floors, part exchange Hi-Fi purchased for cash. No appointments necessary, home trial facilities, free installation, service department. Mastercard, Visa & credit charge, finance available. Mon-Sat 9-5.30pm, closed Thursdays.

SUPERFI, 271A High Str, Lincoln LN2 1JG. (0522) 520265. See main entry under Nottinghamshire for full details.

LONDON

BILLY VEE SOUND SYSTEMS, 248 Lee High Road, Lewisham, London SE13 5PL. 081-318 5755/081-318 1321, Arcam, Denon, Marantz Linn, Mission, Cyrus, Naim, Nakamichi, Quad, Rega, etc. 2 domestic style listening lounges. Appts required, service dept, home trial facilities. Int. free credit, instant credit, Access, Visa, Open Mon-Sat 10-6.30. Closed Thurs BADA COBNELAKE SHOP 37 Windmill Street (just off Tottenham Court Road), London W1. Tel 071-631 0472 (all enquiries), Fax 071-436 7165. Open Tues-Sat 10-7pm. Rega, Roksan, Naim, Monitor Audio, Arcam, Nakamichi, ATC, AVI, Rotel, Epos, Meridian and Linn. 3 dem rooms (incl home cinema). Friendly professional service. Home trial facilities. Appointments preferred, full delivery and repair service, multiroom specialists. Access, Visa and Amex.

GRAHAMS HI-FI, Canonbury Yard, 190a New North Rd, London N1. 071-226 5500. Winner Sony/HFN Greater London Dealer Award 1986/89/90."One of the 5 best hi-fi shops in the world". Arcam, Linn, Meridian, Naim, Rega, etc. Systems from £500. FREE PARKING, 4 dem rooms, service dept, open Tues-Sat. RING FOR APPOINT.

HI-FI & COMPONENTS, 84 Battersea Rise, London, SW11 1EH. Tel: 071 2231 110. Denon, Harman Kardon, Tannoy, Kenwood, Rotel, NAD, Wharfedale, Dual, Shure, Ortofon, Celestion, etc. Appts nec, Service Dept. Access, Visa, Diners, Amex, Open 10-6 Closed Wed.

HI-FI EXPERIENCE, Lion House, 227 Tottenham Court Road, London W1P -HX. Tel Help Line 071-580 3535 24 hour, fax 071-436 4733. Agencies include: Arcam, Audiolab, Bang & Olufsen, Castle, Celestion, Chord, Cyrus, Denon, Heybrook, Harman, IMF, KEF, Marantz, Mission, Musical Fidelity, Meridian, Nakamichi, Nad, Pioneer, Quad, Rotel, Shearne, Tannoy, TDL, Yamaha. 8 listening rooms, 3 years guarantee. Free delivery and simple installation (M25 Foreignery), home cinema specialist.

INFIDELITY, 9 High Str, Hampton Wick, Kingston-upon-Thames. (081) 943 3530. For full details see entry under SURREY.

K.J. WEST ONE, 26 New Cavendish St, London, W1M 7LH. (071) 486 8262/63. Fax (071) 487 3452. Most established brands stocked. Two Hi-Fi and one Home Cinema dem' studios Appts nec Home trial. Free installation. Service dept. Major credit cards. Interest free crdeit usually available - ask for details. Mon-Sat 10-6pm. (Late night Thurs till 7pm) KRAFT 1 Montpelier Street, Knightsbridge, London SW7 1EX. Tel: 071-581 8877 Fax: 071-581 9292. Absolutely fabulous hi-fi for absolutely fabulous people. Acoustic Energy, Denon, Linn hi-fi, Linn Knekt systems, Mark Levinson, Martin Logan, Nakamichi, Proceed, Sennheiser 'Orpheus', Terzani lighting, Wilson Audio. Multiroom and home theatre specialists. Custom furniture. Mon-Sat 10 till 7. All major cards, finance facilities.

MUSICAL IMAGES LTD, 173 Station Road, Edgware. 081-952 5535, fax 081-951 5864 & 45 High Street, Hounslow, Middlesex. 081-569 5802, fax 081-569 6353. See under Middlesex for further information. Main authorised dealers for over 100 manufacturers.

SOUND SENSE, 350 Edgeware Road, London W2 1DX. (071) 402 2100. Alphason, B&W, Kenwood, Nakamichi, Celestion, Denon, Monitor Audio, Marantz, NVA, Sony ES, Yamaha. Appts preferred. Installations available. Access, Visa, Standard credit facilities. Mon-Sat 9.30-6.30.

STUDIO 99, 79-81 Fairfax Road, Swiss Cottage, London NW6. 071-624 8855, Fax 071-624 5315. Naim, Meridian, Quad, Mission/Cyrus, Rega, KEF, Arcam, Epos, Acoustic Energy, Yamaha, Nakamichi, NAD, Sonus Faber, B&O etc. Single speaker dem room, AV demos. Multiroom. Service dept. Visa/Access credit facilities. 10-7 Mon-Fri, 10-6 Sat.

UXBRIDGE AUDIO - CHISWICK, 109 Chiswick High Road, Chiswick, W4 2ED (081) 742 3444 Fax (081) 742 3295. 2 Demo Rooms, Installations, 2 Year Guarantee, 7 day exchange. Major credit cards, Tues - Sat 10 - 6, See BADA Middlesex entry for brands stocked. ZEBRA, 18-24 Brighton Road, South Croydon CR2 6AA. 081 688 2093. Audio lab, Arcam, KEF Reference, Marantz, Mission, Micromega, Pioneer, Rotel, Sony, Tannoy, and large range of AV equipment. S2 Air Conditioned Demo Rooms. in a more casual environment. Service department. The UK's leading home cinema centre. Mon-Sat 9.30-6.00. Access, Visa, Switch & instant credit up to £1000 subject to status.

GREATER MANCHESTER

CENTRAL RADIO, 30-32 Shudehill, Manchester M4 1EY. Tel 061 834 6700. Technics, Kenwood, Pioneer, Aiwa, Marantz, Mission, B&W, Wharfedale, JBL, Thorens, Panasonic, etc. TV video, surround sound, AV systems, service dept, free delivery. Access, Visa, Switch finance. Mon-Sat 9-5.30.

THE AUDIO COUNSEL, 12 Shaw Road, Oldham, Manchester OL1 3LQ. (061) 633 2602. Linn, Yamaha, Rega, Rotel, Arcam, Micromega, EPOS, Creek, Nakamichi, Denon. 2 dem rooms. Free install. Visa, Access, Licenced credit brokers up to £1000 instant credit. 10.00-5.30 Tues, Weds, Sat; 10.00-7 Thurs& Fri. Closed Mon. SWIFT OF WILMSLOW, 4-8 St Annes Parade, Wilmslow. (0625) 526213. Aura, B&W, Denon, Kenwood, Marantz, NAD, Pioneer, Rotel, Tannoy, Revolver, JPW. Open 9:30am-6:00pm 2 dem rooms. No pressure!

MIDDLESEX

HARROW AUDIO, 27 Springfield Rd, Harrow. (081) 863 0938. Mon-Sat 9.30-5.30. A&R, Audiolab, Cyrus, Denon, Epos, Monitor Audio, Musical Fidelity, Nakamichi, Quad, Rotel, Tannoy, Thorens, Yamaha. etc.

MUSICAL IMAGES LTD, 45 High Street, Hounslow, Middlesex TW3 1IR. (081) 569 5802. FAX (081) 569 6353. Authorised dealer for over 100 brands. Interest free credit, anywhere in the UK, subject to status. Demo rooms including big screen TVs. Repairs and service. Open all week including Sundays. Home cinema specialist. Mail order world wide. Part exch. Musical Images club.

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RIVERSIDE HI-FI LTD, 422 Richmond Road, East Twickenham, Middlesex TW1 2EB. Tel. (081) 892 7613. Fax (081) 892 7749. A.R., Arcam, Audio Innovations, Castle, Dual, Denon, KEF, Luxman, Michell, Musical Fidelity, Micromega, Marantz, Nakamichi, Rotel, Spendor, Systemdek, Tannoy, Yamaha. One demo room, in-car demo for car hifi systems. Appts not always necessary. Home trial facilities. Free installation, service dept. Lombard Tricity, Access, Visa, Amex, Diners Club. Mon-Sat 9.30-6, Thurs, Fri 9.30-7

MERSEYSIDE

W.A. BRADY & SON, 401 Smithdown Rd, Liverpool L15 3JJ. (051) 733 6859. 'Largest choice of specialist Hi-Fi in N.W. £100-£20K'. All credit cards. 3 dem rooms. Closed Monday.

P & A AUDIO (BIRKDALE) LTD 31 Liverpool Road, Birkdale, Southport (0704) 68373. Arcam, Cambridge, Creek, Denon, Michell, Mission/Cyrus, Mordaunt-Short, NAD, Pink Triangle, QED, Revolver, Rogers, Rotel, Royd, Tannoy. 3 Single speaker demo rooms and Nicam surround sound dem room. Free delivery, installation (Merseyside) Service dept, Mon-Sat 9 - 5.30 Half day Tues, Access, Visa, Lombard.

PETERS HI-FI 11 Werburgh Sq, Grange Precinct, Birkenhead. 051-647 5626. 9-5.30 closed Thurs. See Cheshire entry for full details. PETERS HI-FI, 11 St Werburgh Squ, Birkenhead. Also at 8 High Str, Bromborough. 051-334 1874/2825. Open 9-5.30 6 days a week. See Cheshire entry for details.

WEST MIDLANDS

AMADEUS SOUND & VISION, 10 Boldmere Road, Sutton Coldfield, West Midlands. 021-354 2311. Audio Innovations, aura, B&O, B&W, Castle, Marantz, Micromega, Musical Fidelity, Nakamichi, Harman Kardon, OED. Single speaker demo, appts preferred, service available, installations, B&O link install, home trials. Access, Visa, interest free credit available subject to status. 9,30-6pm, 6 days FRANK HARVEY HI-FI EXCELLENCE, 163 Spon Street Coventry, CILI 3BB, (0203) 525200.

Street, Coventry CU1 3BB. (0203) 525200 Audiolab, Arcam, Bang & Olufson, Mission-Cyrus, Denon, Marantz, Meridian, Nakamichi, NAD, Quad, Rega, Rotel, Yamaha. 3 floors, 3 demonstration rooms, nice staff, nice coffee. Appts nec, service dept, free install, home trial facilities

All credit facilities available. Mon-Sat 9.30-5.30 Wed til 8pm.

GRIFFIN AUDIO LTD, 94 Bristol Street, Birmingham (021) 692 1359/(021) 622 2230. Arcam,Castle, Denon, Linn, Marantz, Naim, Quad, Shahinians, Rega, Rotel. Open Tues-Sat 10-6.

MUSIC MATTERS, 351 Hagley Road, Edgbaston, Birmingham B17 8DL. (021) 429 2811. Rotel, Denon, Lexicon, Tannoy, Ruark, Alchemist, Exposure, Pioneer, Roksan, Nakamichi, Arcam, Audiolab, Musical Fidelity, Mission/Cyrus, Meridian, KEF, Monitor Audio, Pink Triangle. 2 single speaker luxury demo rooms. Appts nec, home trial facilities, free installation, service dept. Access, Visa, instant credit up to £1000, interest free credit available. Tue-Thur 10.30-6, Fri 10.30-8, Sat 10-6. Branches also at: 93-95 Hobs Moat Road, Solihull, W Midlands B92 HJI. 021-742 0254. 156-157 Lower High Str, Stourbridge, W Midlands D18 1TS. (0384) 444184.

NORFOLK

AUDIBLE DIFFERENCE, Near Diss, Norfolk. Tel (0379) 740227. Absolute Sounds, Audion, Art Audio, ATC, Audio Innovations, Audio Note, AVI, DPA, EAR, Impulse, LFD, Pink Triangle, Roksan, SME, Tube Technology. Full demonstration facilities including evenings. Appts required, free installation, home trial facilities. Open Mon-Fri 12-9pm, Sat 9-5pm. AUDIO IMAGES, 7 All Saints Rd, South Lowestoft, Suffolk NR33 ODL. Tel: 0502 582853. For full details see our main entry under Suffolk.

BASICALLY SOUND, The Old School, School Rd, Bracon Ash, Norwich NR14 8HE. (0508) 570829. Audio Alchemy, Arcam, Micromega, Naim, Denon, Spendor, Audiolab, Sound Organisation, Epos, Rotel, Royd, Heybrook, TDL, Nakamichi, etc. 2 comprehensive dem rooms. Home trial. Free installation. Visa, Access, HP facilities. Tues-Sat9.30-1,2-5.30.

NORTHAMPTONSHIRE

AUDIO CRAFT 23-25 Derngate, Northampton, NN1 1TY. Tel: 0604 36291, Bang & Oulfsen, Kenwood, Technics, Marantz, Celestion, Mordaunt-Short. No appts nec, Free Install, Service Dept. Open Mon-Sat 9-5:30pm

CLASSIC HI-FI + VIDEO, School Lane, Kettering, Northants. (0536) 310855. Aura, B&W, Heybrook, Rotel, Yamaha, Onix, Onkyo, LSD, Nad, Pioneer, Marantz, Kenwood, Kef, Shearne, Sugden, Rogers, Metaxas Audio and many more. Home trial, free instal., service dept. Access, Visa, creditfacs. 9.30-5.30pm.

LISTEN INN, 32A Gold Street, Northampton. (0604)37871 (Fax) (0604) 601430. Linn, Naim, Rega, Epos, Royd, Mission, Cyrus, Arcam, Audiolab, Neat, Creek, Quad, Denon etc. 2 Dem Rooms

NOTTINGHAMSHIRE

CHANTRY AUDIO, 16-18a Eldon Street, Tuxford, Nr Newark, Notts NG22 OLH. (0777) 870372. Pink Triangle, DPA, Rotel/Michi, Micromega, NVA, Absolute Sounds, Alema, CR Developments, Michell, Lumley, Ruark, SME and much more! 3 dem rooms. Home trial, free installation, service dept. Access, Visa & credit facilities and mail order. Mon-Sat 9:30-6pm Sun by appt.

DEFINITIVE AUDIO, (0602) 813562. For a carefully considered approach to building a true hi-fidelity audio system with components derived from the following manufacturers; Audio Innovations, Snell, Wadia, Micromega, Deltec, Voyd, Systemdek, SME, Revox, Ortofon, Pioneer Demos by appt. Please phone for further details. Installation free of charge. Mon-Sat 10-7, closed Wed am.

NOTTINGHAM HI-FI CENTRE. 120-122 Alfreton Road, Nottingham. (0602) 786919. Over 25 years experience, superb demo rooms, extensive range, free parking. Mon-Sat 9-5.30. PATA PETER ELLIS AUDIO, 29 Kirkgate Newark, Nottingham, NG24 1AD (0636 704571) Quad, Castle, Arcam, Audio Innovations, JVC, QED, Sugden, Tannoy, TDL, Thorens, Marantz, Denon, Teac. Demo Room, Free Install, Service Department. Home cinema dem room. Home trial facilities. Switch, American Express, Access, Visa, Mon-Sat 9-5:30 Close at 1:00pm on Thursday.

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WESTWOOD AND MASON, 46 George St, Oxford. Tel: (0865) 247783. Aura, Arcam, Denon, Epos, Royd, Marantz, Mission, Monitor Audio, Nakamichi, Naim, Quad, Rotel, Rega, Tannoy, Teac. Open 10-5pm. Dem room. Closed Thur.

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CREATIVE AUDIO, 9 Dogpole, Shrewsbury. (0743) 241924. Arcam, Audiolab, Celestion, Cyrus, Denon, Epos, Kef, Meridian, Mission, Naim, Quad, Rega, Roksan, Rotel, Ruark, Tripod Dem room. Home trial and free installation. One of the best ranges of quality hi-fi outside London. Credit to £1000. Access, Visa. Tues-Sat 9.30-5.30. Service dept.

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SUFFOLK

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ROGERS HI-FI, 13 Bridge Street, Guildford, Surrey, (0483) 61049. Aiwa, Creek, Denon, JPW, Marantz, Micromega, Rogers, TEAC, Pioneer, Systemdek, Tannoy. Demonstration facilities available, no appointment necessary. Free installation. Service department. Access/Visa. Instant credit up to £1,000 subject to status. Monday-Saturday 9.30-6pm, later by appointment.

SPALDINGS HI-FI, 352-4 Lower Addiscombe Rd, Croydon, Surrey CRO 7AF. 081-654 1231/2040. Linn Naim, Quad, Meridian, Audiolab, Mission, Marantz, Denon, Ruark, Tannoy, Arcam. 3 dem rooms including AV room. Service dept, free install, home trial facilities, appointments advisable. Access, Visa, Amex, Interest free credit, instant credit. Mon-Sat 9-5.45. Tues-8. Closed Wed. Service dept.

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ZEBRA 18-24 Brighton Road, South Croydon CR2 6AA. 081 688 2093. See main entry under London.

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V'AUDIO

36 Druid Hill, Stoke Bishop, Bristol BS9 1EJ Telephone: 0272 686005

SYSTEM SNERGY

As I constantly keep mentioning, the vital aspect of getting a system to sound superb is matching the various components. We spend hours checking what works with what, and sometimes the results surprise even us. An interesting case occurred this week while trying out the ISO and Perception phono stages for a customer who used an Ortofon MC3000 II and AVI pre amp and ATC 50's in active form. As it happened, my 50's were in passive mode and my trusty old Denon 103D was in the arm, so I carried out a test and the Perception won. Having then mounted an Ortofon MC3000 and put the ATC's into AC/VE and repeated the test, the ISO won – it was close, but it is so important to evaluate the right system.

Talking about passive **ATC 50's**, these really do sound superb. It's strange that in general everyone only seems to consider them active speakers. I know there are some ATC dealers who have never even listened to a pair of passive 50's, but they should. They are more tolerant than the actives, and if you've got good amplification well worth considering, but anyway work well with AVI or Heybrook amplification, at a similar cost to actives.

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SONY CDP-X339ES CD player, £300. Wharfedale Link 600 active speakers with XLR interconnects, £210. Eastleigh ☎ (0703) 252840

WANTED, wanted, wanted: Rotel RB-850 power amplifier, will travel. Stroud **2** (0453) 755120 or (0533) 709304 (Ian)

MISSION 753 black ash 6 months old mint £500. Sorry no boxes! 🕿 Brian 081-908 4633, 🕿 081-952 2044 (home)

PYE MOZART pre and power amp, very good condition £300 ono. Kenwood DPX9010 CD

Transport, £275. Tyneside 🕿 091-487 7796

PRO LOGIC amplifier urgently wanted, around £250, cash available. Please write Sean, 83 Lord Street, Douglas, Isle of Man

SPENDOR BC1 speakers in teak finish, £150. Gloucester ☎ (0452) 371005

STAX SR Gamma Pro/SRDX-Pro (new versions) best offer over £200 secures, Workington **2** (0900) 67804

TOWNSHEND Rock turntable, Rega RB300 tonearm, Roksan Corus Black cartridge, £400. South Devon **2** (0803) 551045

BOSE Acoustimass AM5 loudspeakers, £250. Mission Cyrus II & PSX, £250. Cyrus tuner, £150. Surrey ☎ (0483) 423990

SPEAKERS BLQ1 Linn Kan kind of sound, £70. Denon 450L tuner, £70. Linn LP12 turntable, £450. Essex 🕿 081-502 3017

PINK TRIANGLE turntable, RB300 arm, Sumiko blue point cartridge, £500. Northumberland **2** (0274) 691115 or **2** (0670) 761247

SE-M100 Technics digital power amp, optical fibre outputs, used twice, as new inc. manual, £299 ono. Rochdale 🕿 (0706) 343777 (Steve) REGA PLANAR 3, A&R cartridge, good condition,

boxed, £150. Lincoln 🕿 (0522) 567321 MUSICAL FIDELITY Preamp 3B, P270 power amplifier, £700. Nakamichi STS7E tuner was £795, £400 ono. Kent 🕿 (0304) 840181

LINN KAN II, black with stands, excellent condition, £250. Oxon. 🕿 (02235) 769622

AUDIO NOTE lo cartridge, 50hrs use, Kondo built (not British), £995. Fisher FM100B valve tuner, £495. Billingham **2** (0642) 559543

MICROMEGA Leader 2 CD player, exc. condition, £380 ono. Sussex 2 Lee (0273) 722954 (after 6PM) WANTED MISSION DAC5. Must be in good condition. Sussex 2 (0903) 814846

LINN LK1/LK275, boxed, mint £495. Epos ES14 incl. stands, £300 ono. Rochdale 🕿 (0706) 713257 MUSICAL FIDELITY MA65 (Class A) power amps & preamp 8.6 months old, as new, £700 ono. Devon 🕿 (0271) 23859

TANNOY M20 Gold Mk2 £120, Yorkshire 1.3, £120. Wanted NAD 4155, Marantz CD60SE. Coventry **2** (0203) 679165

SONY SSJ90AV surround sound speakers, rare models, mint, boxed, 6 months guarantee. Dudley **2** (0384) 235568

MICROMEGA Duo BS2, boxed £260 ono, Rotel 850 preamp, 2x850 power amps 150wps, offers. Birmingham 😰 021-329 2111

WANTED Sony TAE1000ES DSP preamp. Avon **2** (0272) 695936

AUDIO RESEARCH LS1 pre-amp, excellent , boxed. Fife 🕿 (0333) 424642 (after 6PM)

JAMO 100 centre speakers, boxed, good as new. Offers please. Sale due to upgrade. Newcastle **2** (0782) 662475

TANNOY DC2000 speakers, £190 no offers. Buyer collects. Glasgow 2 041-552 0360

EPOS ES11 speakers, complete with stands, perfect condition, £250. Also over 30 metres bi-wired NAC A5 cable, £125. Beaconsfield **2** (0494) 677628 PINK TRIANGLE TOO £350 ono and SME IV £395 ovno, both boxed. Also REGA ELA £250 ono. Kent **2** (0843) 220499

THE VOYD, Helius Orion II silver wired Ortofon Quasar (£3063), £1,290 ovno. Also Radford Renaissance SC25 valve preamp, £450 ono. Leeds **2** Ian (0532) 663533 (Genuine enquiries only) LINN Basik turntable, Akito arm. One year old, still guaranteed, £200. Basingstoke **2** (0256) 475077 WANTED Quad 66 preamp with control panel and Quad 606 MkII amp. Must be in excellent condition plus inst., boxes, leads. Leicester **2** (0509) 813251 MERIDIAN 200 transport, 263 DAC. 12 months old, £950 ono. Bryston 4B power amp, boxed as new, £800. Preston **2** (0772) 421369 (ask for Robert) WANTED LP12 outer platter. Cash waiting. Whitedale DD1 Professional series headphones, £50. **2** [ames (0451) 820419. Eves

WANTED MUSICAL FIDELITY P180 amp and CRPS power supply. Must be good condition. Norfolk **2** (0692) 536613

LUXMAN CL32 valve preamp, 3045 monoblok valve power amps open to offers 🕿 081-297 4931. NAIM NAC A5 Cable 2x9m, £20. Naim NAC A4 2x5m, £7. Naim NACA4 4x2.5m, £6. Ortofon T5 MC transformers, £20 🕿 (0255) 675115 TAPES 7.5 ips pre-recorded 7" stereo RCA Victor Columbia etc. Collectors items. Offers. 🕿 Tunbridge Wells (0892) 530 729 DENON DAP2500 preamp/DAC. Full remote, mint, cost £650. Offers around £250. 🕿 Croydon 081-689 2692

EXPOSURE X amplifier, four years old, £190. Meridian 206 $\Delta \sum$ D/A converter, nine months old, £595. Revolver turntable with Linn Basix LVX arm, £90. **2** 021-382 4969

SONY CDP-X339Es CD player, £350. Denon PMA-350 amp, £80. Pioneer CT447 tape deck, £75. Sony ICF-SW7600 world radio, £110. Tannoy 603 and stands, £100 🕿 (0703) 252840 MICRO MEGA Logic CD player plus Arcam black box DAC. All leads. Boxed and immaculate, £395.

May consider swap. Lancs 🕿 (0253) 838741 CENTRE SPEAKERS by Kenwood model Cs-6. As new, £50. 🕿 081-851 5942 after 7pm. MUSICAL fidelity A100 amplifier, £200. Quad

MOSICAL Interity A100 amplifier, E200. Quad FM4 tuner, E200. Both as new and boxed, Linn K18 II (6 plays), £100. Epping **2** (0992) 576561 ROKSAN XERXES PS2/Tabriz ZI/Rega Elys, excellent condition, boxed. Trefor **2** 081-886 4540 AUDIO INNOVATIONS Series 500 integrated valve amp, 25 W.P.c excellent sound and condition, £500. Elite Rock turntable, Scorpio 3 arm, Goldring cartridge, very little use, £395. No offers. **2** (0532) 733714 (Phil)

MUSICAL FIDELITY A200 amp. 60WPC class A, VGC, £329. Sussex 2 (0403) 250570

JIM ROGERS JR149 speakers early 80s, £120 or swap for NAD 3020 amp in good condition. **2** 081-598 2267

WANTED: JVC turntable QL-G90b or similar. State total price. Miss Bogue, 96 Rosemount Place, Aberdeen, Scotland.

LINN INDEX II speakers and Ku-Stone stands, Pretek preamp, Linn warranty, £250 each 🕿 (0623) 655128

AUDIO RESEARCH SP10 pre-amp (world renowned) with separate power supply. Ceranic gold plated valve seats fitted. New gold plated valves, £1,450. Musical fidelity A370 power amp, £995. Lewes **2** (0273) 477436.

AUDIOLAB 8000DAC in superb condition and upgraded to latest specification, £450 o.n.o. Acoustic Energy AE2 speaker stand, £125. **2** (0502) 724251.

ARCAM Delta 290 amplifier, with remote control, only five months old, five years guarantee, boxed, as new, £350. Peterborough ☎ (0733) 243 129 (eves) Ask for Simon.

KIMBER 8TC speaker cable 3.5M terminated with Kimber UltraPlate spades (one end term for biwire). Cost £300 approx 18 months ago, will accept £175 o.n.o. **2** (0254) 580402

LINN LP12 turntable, Ittok LVII tonearm, £595. Quad 405 power amplifier and Quad 33 Preamp, £250. Heybrook speakers, £150 8 years old. Kent 2 (0689) 855922

MISSION 772 power amplifier £300 ono 🕿 Hamilton (0698) 422590

Name

Place an advert in *Hi-Fi Choice* — FREE!

That's right, you can sell your hi-fi equipment in the *Choice* Reader Classified pages absolutely free. All you have to do is write your 'sales' or 'wants' advert in block capitals on the coupon below, and send it to us at the address shown. The advert will appear for one issue only and must be no more than 30 words long, including your phone number. Remember to include your own name, address and telephone number. Reader classifieds are for the use of private individuals only and adverts from dealers will not be accepted. All Reader Classified adverts will be printed subject to available space, and Dennis Publishing Ltd accepts no liability for the accuracy of the information contained therein, nor consequence arising from it, nor for any minor typographical errors. We reserve the right to amend or refuse adverts at the Editor's discretion.

Please return the completed coupon to: *Hi-Fi Choice*, Reader Classifieds, 19 Bolsover Street, London W1P 7HJ.

HI-FI CHOICE SPECIAL OFFERS Choice accessories

This month we are pleased to be able to offer a selection of cables and interconnects to improve the sound of your system. Although some people consider cables to be a mere accessory, in fact without them you'd get no sound at all from your system! By choosing the very best possible cables you can make the most of the rest of the separates that make up your hi-fi system.

Speaker Cables AudioQuest F-14

No, it's not a fighter plane, its an affordable flat cable that is ideal for audio visual applications where rear channel speaker cable has to be run under carpets or along skirting boards. Don't let the low price tag fool you, though, it's still a vast improvement over bell wire or other non-specialist alternatives. Earning a Recommended tag back in our August issue, AudioQuest F-14, at a mere 2mm thick, could well be the answer to those tricky cabling dilemmas, Available in white.

Order ref	Length	Price
ZLI4WR/I	l metre	£28.90
ZLI4WR/2	2 metre	£32.80
ZLI4WR/3	3 metre	£36.70
ZLI4WR/4	4 metre	£40.60
ZLI4WR/5	5 metre	£44.50

If you require longer lengths, add an additional £3,90 per metre

AudioQuest Type 4

This corking cable uses four solid OFHC conductors wound in a spiralled Hyperlitz configuration. You can either pair up conductors to form a superior single run of cable or the cable can be sent to you pre-terminated for bi-wiring, enabling you to enjoy all the advantages of this method of connection without the mass of spaghetti that normally threatens to take over the living room. A very cost effective up-grade. Order Ref: ZLT43PR - 3 Metre length £57.00 Order Ref: ZLT45PR - 5 Metre length £75.00

AudioQuest Indigo

The obvious next step up from Type 4, Indigo uses ten solid conductors, again in a Hyperlitz array and finished in a tasteful blue satin jacket. When the five red or black conductors are connected together this gives a 2.6 mm2 signal area. Not the cheapest cable on the market, but nonetheless







highly recommended for those wanting to pull the very best from their systems.

Order Ref: ZLI3PR - 3 metre length £75.00 Order Ref: ZLI5PR - 5 metre length £105.00

AudioQuest Crystal

Crystal uses twelve solid conductors, spiralled together in a Hyperlitz array under a slate blue satin jacket. The cable is rather unusual in that it contains a mix of conductors, six conductors are 0.65 mm2 PHFC copper and six are 0.52 mm2 FPC copper. In normal use Crystal is a 3.51 mm2 cable. The FPC copper acts like a bypass, allowing most of the high frequency benefits of this superior material. The less expensive OFHC copper provides bulk so Crystal can provide a powerful full range sound. Together the OFHC and FPC allow Crystal to have extraordinary performance at a reasonable price. Crystal is also an extremely effective single biwire cable, which is best achieved by using the six OFHC conductors for the bass and the six superb FPC conductors for the treble.

Order Ref: ZLCY3SBW - 3 metre £144.00 Order Ref: ZLCY5SBW - 5 metre £200.00

Interconnect cables

Although you could connect your equipment together with a damp piece of string, the chances are the results would be rather disappointing. What is often glossed over is that there are more than one type of interconnect cable on the market and that different cables are needed for different tasks. The first use for interconnects is to enable you to link line level signals between units, for example to wire the analogue output of your CD player to your amplifier, or to use between pre-amp and amplifier. We offer three choices of cable intended for this purpose, AudioQuest Turquoise, Ruby and

Quartz, so there should be one there to suit your budget.

AudioQuest Turquoise

Our cheapest interconnect uses four solid OFHC copper conductors in a novel symmetrical Hyperlitz arrangement. Two of these conductors are insulated and together become the positive conductor. The other two are uninsulated and make contact with the 100% coverage shield, together they become the negative conductor.

Order Ref: ZIUPI - I metre £34.95 Order Ref: ZIUP2 - 2 metre £40.95

AudioQuest Ruby

Ruby is one of the most popular cables in the AudioQuest range, and it's easy to see why. A fully balanced cable featuring Hyperlitz construction. Ruby uses four solid FPC copper conductors, all polypropylene insulated. Two together carry the positive signal and two carry the negative. Excellent value for a high performance cable.

Order Ref: ZIRPI - I metre £69.95

AudioQuest Quartz

Quartz uses the same Hyperlitz balanced construction as Ruby, but with FPC-6 copper (99% purity) The RCA plug is resistance welded to Quartz in a process which actually commingles the molecules of the cable and plug into an alloy. The plug uses an unusual patented design which eliminates extra internal contacts, ensures a large, self-wiping (cleaning) contact area and provides extraordinary strain-relief. The plug is not difficult to push on, but it does make the best contact. Order Ref: ZIQPI - I metre £99.95

Optical cables

Many CD players and transports feature a fibre optic digital output. This allows you to send the digital signal, in the form of light, to a separate digital-to-analogue converter.

The quality of the fibre optic cable used can make nearly as much difference as your choice of CD player. A poor fibre optic cable can totally destroy the value of a separate D/A converter. OptiLink X and OptiLink Z will make sure you get the performance you paid for. Available in 1 metre lengths.

AudioQuest OptiLink X[™] Order ref: ZOXTI-OptiLink X (I metre, Toslink) £49.95







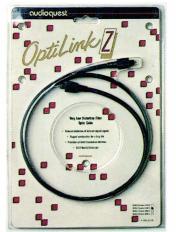
AudioQuest OptiLink ZTM Order ref: ZOZTI-OptiLink Z (I metre, Toslink) £99.95

Digital cables

The characteristics a cable needs to carry a digital signal are very different from those required of an analogue cable and if you want to get the very best from your system then you need a cable designed to do the job. Video cables, which are designed for high frequency signals in the first place, are ideal for carrying digital signals, and they can also be used to give a boost to your A/V system.

Video X is available in 1, 2 and 5m lengths while for those of you with a little more money to spend, we can also supply the superior Video









Hi-Fi Choice Sweatshirts

Hi-Fi Choice sweatshirt is still great value at just £15.00. Sporting the Hi-Fi Choice logo in white and red on navy blue it's an inimitable accessory that will certainly attract admiring glances. Order ref: JE22A/L (Large) Order ref: JE22A/XL

(Extra Large) Price: £15.00

Z, one of the very few digital interconnects to earn a coveted Best Buy rating in our recent market survey. AudioQuest Video X

Order ref: ZIXPI (I metre) £29.95 Order ref: ZIXP2 (2 metre) £36.95 Order ref: ZIXP5 (5 metre) £57.95 AudioQuest Video Z Order ref: ZIZPI (I metre length) £49.95

If you have any technical queries regarding the cables, please call Alisdair Patrick on 0223 440964.

AudioQuest CD Feet

Improve the performance of your CD player or any other vibration sensitive equipment. Sorbothane® CD feet absorb energy, increasing both damping and isolation. Each foot should not support more than 4 pounds (2kg) or about 16 pounds for a set of four.

Order ref: ZAFC4 Price: £29.95

AudioQuest Big Feet

Same as the above only bigger, to support heavier equipment. Order ref: ZAFB4

Order ref: ZAFB Price: £47.95





AudioQuest LaserGuide

The most effective optical disc treatment available. Using LaserGuide improves virtually all aspects of CD and LaserDisc performance. CD's actually sound smoother, clearer and more dynamic.

Order ref: ZBLGB Price: £14.95

Hi-Fi Choice CD Rack

Available as single units, the interlocking Choice CD rack is only $\pounds 1.25$ — a small price to pay for keeping your collection in order. Order ref: JE36A

Price: £1.25

4mm Banana Plugs - Gold Plated

Top quality solderless gold plated banana plugs for use with speaker cables. Simply push the speaker cable into the body of the plug and tighten for a perfect connection. Sold in packs of four.

Order ref: ZCBG Price: £8.95

CD Jewel Case (Five Pack)

Replace broken CD jewel cases and ensure your discs are properly protected. Order ref: JE33A **Price: £5.00** **Back Issues**

Back issues are priced at £4.00 each (UK). £6.95 each (Overseas) inc postage and packing.

June 1994 — Issue 131

SYSTEMS systems and separates tested and rated against each other, 6 Nicam VCRs reviewed and an exclusive look at a second generation MD player. All this and an exhaustive test of interconnect cables in a free booklet.

July 1994 — Issue 132

LOUDSPEAKERS the best floorstanders for around £1,000, CD multiplayers for party animals and a look at receivers. There's also a comprehensive speaker stand supplement. Order ref: AE32B

August 1994 — Issue 133

CD PLAYERS 8 two-box combinations fully tested. Plus a digital head-tohead CD-R vs MD vs Dcc vs Super DAT, headphones and a free loudspeaker cable supplement.

Nagaoka Anti-Static Record Sleeves No 102

Packs of 50 plastic record sleeves that can be used on their own or inserted into an existing card or paper sleeve. The sleeves eliminate static and keep records dust free. Order ref: JEI5A Price: £6.99



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Use the Dennis Direct orderline - **0789 490 215** or just enter your details on the coupon and fax it to us on 0789 490 878 if you're ordering with a credit card or send with the correct payment to DENNIS DIRECT, PO BOX 2505, ALCESTER B50 4JU. Prices shown include VAT and fulfilment in the UK. Please add postage as detailed at the bottom of this form. Be aware that all items on offer are subject to availability and a maximum of 28 days should be allowed for delivery.

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Please add £3.50 to your order total to cover the additional postage. Please note that we can only accept Visa/ MasterCard and Eurocheques in \pounds s sterling and sterling cheques drawn on a London bank.

Important: To prevent any delay with processing your order, please enter the correct codes clearly! If necessary, please use a separate sheet.

Order Ref	Description	Quantity	Price	
			£	
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For UK add a	£2.00 per order for postage	Order total:	£	
For Europe ad for postage	dd £10.00 per order	Order total:	£	
For Rest of W for postage	Vorld add £12.00 per order	Order total:	£	
I enclose a	cheque made payable to De	ennis Direct for	£	
Please char	rge my 🗆 Visa 🔲 MasterCa	rd(Access) for	£	
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Expiry Date	Signature			
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Considerable time and effort has gone into the creation of the Bill Hutchinson Innovation Award Scheme, drawing from more than two decades of experience and expertise.

The Innovation Award is designed to assist you in identifying state of the art equipment that matches your expectations whilst being of a build quality that ensures many years of enjoyment.

A list of priorities have been drawn up in order to establish the framework of the Award Scheme. The main priorities are, sound, value, construction, design, style and originality.



The choice of dealer should be given the same care and attention as is given to your choice of equipment, so that you may receive the kind of quality service and advice that compliments equipment of the same standard. The type of service you ultimately receive will reflect on your overall enjoyment of the product. A long-term association with a professional dealer has real benefits and will serve as your personal contact for information and advice on the Manufacturers latest Innovations

If it is not possible to visit a Bill Hutchinson Hi-Fi AV Centre, simply contact the Manufacturer for details of your nearest authorised stockist. For further information on innovation stockist or simply for help and advice phone

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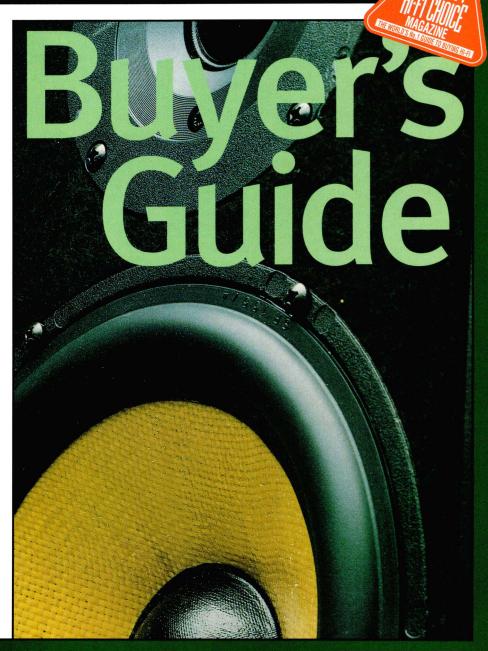
The most comprehensive hi-fi listing in the known universe

THE FINEST HI-FI MAGAZINE IN THE WORLD

Welcome to the *Hi-Fi Choice Buyer's Guide*, the UK's biggest and best guide to choosing hi-fi. Over 2,500 items are listed, with up-to-date prices and specifications. Part two comprises the unique review-based *Directory*, containing our views on over 700 components that have been tested and rated by the *Hi-Fi Choice* experts.

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The Forefront of Technology





Model No: DSPA-2070

- The DSP-A2070 lets you select from among 11 Cinema DSP and 12 HiFi DSP programs. • Cinema DSP multiplies the effects of Dolby Pro Logic Surround
- and Digital Sound Field processing to create sound fields such as the Concert Hall, Church or Movie Theatre.
- Cinema DSP gives you the same dynamic, all enveloping experience that the sound director intended you to have.

Considerable time and effort has gone into the creation of the Bill Hutchinson Innovation Award Scheme, drawing from more than two decades of experience and expertise. The Innovation Award is designed to assist you in identifying state of the art equipment that matches your expectations whilst being of build quality that ensures many years of enjoyment. A long-term association with a professional dealer has real benefits and will serve as your personal contact for information and advice on the Manufacturers latest Innovations.

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Key to amplifiers Price - typical retail, to nearest Pound. ... Power - output power in watts, per channel, RMS. Inputs - MM/MC - phono moving coil and moving magnet, L - line (CD, aux etc), T - tape. A/V - includes Dolby Surround or Pro Logic decoder and amplification. Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Price Typ R

800

350

467

583

280

380

549

699

999

795

995

995

1395

1695

2895

5900

641

673

750

802

889

1126

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2400

5000

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1749

2150

2995

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1697

2299

2395

2657

3399

3469

3817

4639

7690

9968

900

1950

99

3900

1000

6000

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1420

1420

1495

895

1095

1295

1495

1595

1955

1995

2495

3595

3798

3995

3995

N

Key to amplifiers Price - typical retail, to nearest Power - output power in watts, per channel. RMS. Channel, RMS. Inputs - MM/MC - phono moving coil and moving magnet, L - line (CD, aux etc), T - tape. A/V - includes Dolby Surround or Pro Logic decoder and amplification.

MM/MC

MM/MC

4L

5L,1T

7L,1T

MM,4L,1T

MM/MC,3L,1T MM/MC,3L,1T

MM/MC.3L,1T

MM/MC,3L,2T

4I 1T

4L.1T

8L.1T

3L,1T

MM.2L

MM/MC,4L,1T

MM/MC,4L,1T

MM/MC,4L,1T

MM/MC,4L,1T

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MC.4L

MC.4L

AC.41

MM 31 1T

MM.3L.1T

MM.3L,1T

1 1T

4L,2T

MM/MC,3L,1T

MM/MC,4L,2T

MM/MC,4L,2T

48.4 /8.40

MM/MC,3L,1T

5L.1T

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140

150

100

75

MM or MC

MM/MC,3L,1T

Pow Inpu

60

Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

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Headpho Remot Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Special

Single monoblock

Phono preamplifier

Available in chrome

Available in chrome

Available in chrome

2x monoblocks

Tube Class A

Tube, Class A

Tube, Class A

Bridgable

Balanced or

Balanced in/out

Single monoblock

2 outputs, valve

2 outputs, valve

Pair monoblocks

Chrome finish, £50 extra

Chrome finish add £50

Hybrid tube/MOSFET

Hybrid tube/MOSFET

Monoblock, tube, Class A

Phono stepup, bal & unbal

MM or MC, balanced out

Bridgable, bal & unbalanced

2 channels, THX approved

Bridgable, bal & unbalanced

2 channels, THX approved 1 channel, THX approved

4 channels, THX approved

4 channels, bridgeable

4 amps for biamping

Single ended, balanced

Single ended, bal bridgable

Single ended, bal bridgable

Remote option, sep PSU

Remote option, sep PSU

Single ended, bal bridgable

Single ended, bal monoblock

Single ended, bal monoblock

6 tube pre, wood case optio

10 tubes, 2 line out, ext PSU

Line version of PV-10A

Line version of PV-12

Line version of Premier 7B

Poor man's Premier 7B

Ext PSU, twin mains leads

Monoblocks, price per pair

Hybrid tube/transistor

Tube, has vol control

Tube push/pull ultra-linear

Switchable tetrode/triode

Switchable tetrode/triode

Baby Premier 8

Monoblock pair

Tube, soft start

Tube

Tube

Tube

Tube

Mono

Mono

Hybrid

Hybrid

Hybrid

Separate PSU

Separate PSU

Phono stepup

Rated at 4ohms, hybrid

Rated at 4 ohms, hybrid

Remote option

Remote option

Remote option

Remote option

	Price	Туре	A/V	Power	Inputs	Headphones	Remote			
Iodel MPLIFIERS	ce	De	2	er	ts	Sa	te	Size	Special	Model AMPLIFIERS
iwa XA-003	140	Int	Ν	40	MM,2L,1T	Y	Ν	-	2 speaker circuits	Audiolab 8000M
iwa XA-950	230	Int	N	100	MM/MC,2L,2T	Y	Y	-	2 speaker circuits	Audiolab 8000PPA
Ibarry AP3	300	Pre	Ν	-	3L,1T	N	Ν	-		Audiolink Sterling II
Ibarry AP4	350	Pre	Ν	-	MM,4L,1T	Ν	Ν	-		Audiolink P400
Ibarry PPi	400	Int	Ν	45	-	Ν	Ν	-		Audiolink PR401
Ibarry PP1	430	int	Ν	45	MM,4L,2T	Ν	Ν	-		Aura VA80
barry PPI Audiophile	500	Int	Ν	45	MM,MC,4L,1T	N	Ν	-		Aura VA100
barry S508	500	Pwr	-	50	-	-	-	-	0	AVI S2000MA
barry M408	850	Pwr	-	50	•	-	-	-	2x monoblocks	AVI S2000MP
barry M100B	1100	Pwr	-	100	-	-	- N	-	2x monoblocks	AVI S2000MM
parry AP2	1500	Pre	N	-	MM/MC,4L,1T	N	N N	-	Otaiplage steel/gold finish	Beard VM-P
hemist Kraken/pre Ann hemist Kraken/Pwr Ani		Pre Pwr		N 60	MM,3L,2T	N N	N	25,9,25	Stainless steel/gold finish	Beard CA-35 Beard VMI-50
hemist Kraken/Pre	380	Pwr	1	60		IN	IN	32,9,25	Stainless steel/gold finish Bridgable	Beard P-35
hemist Kraken/mono	380	Pwr	N	60		N	N	32,9,25	Dilugable	Beard CA-506
hemist Kraken	395	Pre	N	-	5L,1T	N	N	25,9,25	Bridging circuit built-in	Beard A-70
hemist Kraken/Pwr	399	Int	N	60	3L.2T	N	N	32,9,25	MM £45 option	Beard M-1000
hemist Kraken Anniv	499	Int	N	60	MM,3L,2T	N	N	25.9.25	Stainless steel/gold finish	Bryston .4
hemist Forseti	899	Int	N	100	4L,2T	N	N	47,10,39	otamicaa ateengota mitan	Bryston BP1
hemist Freya	1020	Pre	N	-	6L,1T	N	N	31.7.30		Bryston 2B-LP
hemist Odin	1020	Pwr	-	80	-	-		31,14,30	Stereo	Bryston BP4
hemist Genesis	1525	Pwr		110	-		-	25,14,30		Bryston BP5
IC AV81 Control	289	Pre	Y	-	8L,2T	N	Y	-		Bryston BP20
IC 2445	299	Pwr	-	45	-	-	-	-	4 channels	Bryston 3B-NRB
IC 1030	379	Pre	N	-	MM	N	Ν	-		Bryston THX3B
IC 2030	449	Pwr	-	30	-	-	-	-		Bryston 4B-NRB
IC S84	479	Pre	Y	-	8L	N	Y	-	Multiroom, bal/unbal inputs	Bryston 7B-NRB
IC AV81 H.T. Control	499	Pre	Y	-	8L,2T	N	N	-	As AV81 plus Dolby Pro Logic	Bryston THX4B
IC CVT3030	529	Int	N	30	6L,1T	Y	Ν	-	Tube amp	Bryston THX7B
alogue Saturn	75	Pre	N	-	MM	Ν	Ν	-		Bryston 8B-NRB
alogue Saturn MC	75	Pre	Ν		MC	Ν	Ν	-		Bryston THX8B
alogue Jupitor	330	Int	Ν	30	MM,4L,1T	Ν	Ν	-		CAT SL1 Sig line
am Alpha 5	230	Int	Ν	40	MM,3L,2T	Y	N	43,8,30	Bypassable tone controls	CAT SL1 Sig phono
am Alpha 6	330	Int	N	50	MM,3L,2T	Y	Y	43,8,30	Remote volume facility	CAT JL1
am Delta 290	450	Int	Ν	75	4L,2T	Y	Y	43,9,32	Opt MM/MC phono module	Chord SPM800
am Delta 110S	520	Pre	Ν	41	MM/MC,3L,2T	Y	Y	43,7,30	As Delta 110, w/o DAC	Chord SPM1000
am Delta 120.2	550	Pwr	Ν	100	¥	Y	Y	43,9,30	Bridgeable	Chord SPM1200
am Delta 110	750	Pre	Ν	-	MM/MC,2L,2T	Y	Y	43,7,30	On-board DAC, 2 inputs	Chord SPM3000
on Kes	850	Pwr	Ν	18	-	-	-	-	With volume control	Classe Audio Audio
on Elektra	999	Int	Ν	18	4L,1T	Ν	Ν	-	Class A valve	Classe Audio Audio
on Elektra Ph	1199	Int	Ν	18	MM,3L,1T	Ν	Ν	-	Phono version of Elektra	Classe Audio Audio
: Audio VPL	699	Pre	Ν	-	6L,2T	Ν	Ν	-		Classe Audio Audio
Audio VPA	750	Pre	Ν	-	M/MC,3L,1T	Ν	Ν	-		Classe Audio Audio
Audio VP1	880	Pre	Ν	-	MM,3L,1T	N	Ν	-		Classe Audio Audio
Audio Quintet	1156	Pwr	-	15	-	-	-	-	Class A triode	Classe Audio Audio
Audio Integra	1395	Int	Ν	30	5L,2T	N	Ν	-		Classe Audio Audio
Audio Concerto	1628	Pwr	-	30	-	-	-	-	2x mono Class A triode	Classe Audio Audio
Audio Tempo	1980	Pwr	-	30	-	-	-	-	2x mono Class A triode	Classe Audio Audio
Audio Maestro	2960	Pwr	-	10	-	-	-	-	2x mono Class A triode	Classe Audio Audio
dio Innovation L1	299	Pre	Ν	-	3L,1T	N	N	25,10,30		Classe Audio Audio
dio Innovation Alto	299	Int	N	35	4L,2T	N	N	43,8,30		Classe Audio Audio
dio I Ser 200 Pre	349	Pre	N	-	MM,3L,T	N	N	50,12,30		Concordant Exhilera
dio I Ser 200 Pwr	499	Pwr	N	12	MAA OL 1T	N	N	50,12,30		Concordant Exquisit
dio Innovation Ser 300	499	Int	N	10	MM,3L,1T	N	N	50,12,30	Kit amplifia-	Conrad-Johnson PV
dio I Classic 25 dio Innovation L2	699 699	Int Pre	N	25	4L,1T	N	N N	46,15,34	Kit amplifier	Conrad-Johnson PV
dio Innovation L2	699	Pre	N N	-	4L,1T MM	N N	N	50,12,30 50,12,30	Phono stage	Conrad-Johnson PV Conrad-Johnson PV
dio Innovation P2	699 849	Pre Pwr	N	- 25	IVIIVI	N	N	41,15,34	T HUHU Staye	C-J Premier 11A
dio Innovation Ser 800	849	Pwr Pre	N	-	- MM/MC	N	N	50,12,30	Phono stage	C-J Premier 10
dio Innovation Ser 500	999	Int	N	25	MM,3L,2T	N	N	41,15,34	i nono stago	C-J Evolution 20 SP
dio Innovation Ser 500	999	Int	N	25	4L,1T	N	N	41,15,34		C-J Premier 12
dio Innovation 1000	1499	Pwr	N	50	-	N	N	41,15,34	Monoblocks	C-J Premier 7B
dio I First Audio	1549	Pwr	N	7.5	-	N	N	41,15,34		C-J Premier 8A
dio Innovation 1000SE	2249	Pwr	N	50	-	N	N	41,15,34	Silver circuit board	Copland CSA14
dio I 2nd Audio	2999	Pwr	N	15	-	N	N	41,15,34	Monoblocks	Copland CTA 301
dio Note Ongaku	22411	Int	N	26	6L	N	N	-	Single-ended Class A tube	Copland CTA301
dio Note Oto	1250	Int	N	24	MM/MC,4L,1T	N	N	-		Copland CTA-501
dio Research LS-3	1599	Pre	Ν	-	5L,1T	N	Ν	48,14,26	1 direct input	Copland CTA501
dio Research PH-1	1649	Pre	Ν	-	MM/MC	Ν	Ν	48,14,26	Phono preamp	Copland CTA401
dio Research LS-3b	2250	Pre	Ν	-	5L,1T	Ν	Ν		1 direct input	Copland CTA-504
dio Research LS-2	2796	Pre	Ν	-	5L.1T	Ν	Ν		1 direct input/hybrid	Copland CTA504
dio Research D-200	2800	Pwr	Ν	110	-	-	-	48;14,31		Counterpoint Solid 1
dio Research SP9 II	2850	Pre	Ν	-	MM/MC,4L,2T	Ν	Ν	48,14,26		Counterpoint Solid 8
dio Research PH-2	2895	Pre	Ν	-	MM/MC	Ν	Ν	48,14,26	dance agree to be called the data of the part of the same transmission of the second second second second second	Counterpoint SA-10
dio Research LS-2b	3355	Pre	Ν	-	5L,1T	Ν	Ν	48,14,26		Counterpoint Solid 1
dio Research V35	3355	Pwr	Ν	30	-	-	-	48,18,37		Counterpoint SA100
dio Research V70	4480	Pwr	Ν	60	-	-	•	48,18,40		Counterpoint SA-20
dio Research D-300	4800	Pwr	Ν	160	-	-	-	48,18,33		Counterpoint Solid 2
dio Research LS-5	5290	Pre	N	-	5L,1T	Ν	Ν	48,14,30		Counterpoint SA-300
dio Research D-400II	6200	Pwr	Ν	200	-	-	-	48,23,33		Counterpoint NPS-2
dio Research V140	8960	Pwr	N	120	*	-		48,22,30	Monoblocks, hybrid	Counterpoint SA4
dio Research VT150	14900	Pwr	N	130	-	-	-	37,31,56		Counterpoint SA-500
diolab 8000C	460 480	Pre Int	N N	- 60	MM/MC,1T,3T MM,MC,1T,3T	Y Y	N N	45,8,36 45,8,36	2 pairs of outputs Preout/main in	Counterpoint NPM-E Counterpoint NPS-40
diolab 8000A										

Listings marked in red (as sh vn belov v) are covered in the *Hi-Fi Choice* Directory, see p123 Audiolab 8000A 450 Int N 60 MM MC 1T 3T Y Ν 45.8.36 Preout/main in

The Forefront of Technology



Stable Platter Mechanism
 Twin 1-bit DAC with Legato Link Conversion
 Independent Power Supplies for Analogue and Digital Stages

 Coaxial and optical Digital Outputs
 Display off and Digital Output off

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Model

AMPLIFIERS

C'point Nat Prog Credo PMP003

Credo HMP003

Credo MMP002

Credo IMP702

Credo IMP703

Credo CMP004

Credo CMP005

Credo PMP154

Credo PMP303

Credo PMP102

Credo PMP252

Creek P42

Creek A42

Creek 4240

Crimson 620

Crimson 610

Crimson CS610

Crimson CS610B

Crimson CS620

Croft Micro

Croft Micro

Croft Series 5

Croft Charisma

Croft Integrated

Croft Charisma Croft Series X

Croft Enigma

Croft Enigma

Croft Series 6

Croft Series IIIR

Croft Series III R

Croft Absolut 1

Croft Series IIR Dawn Audio Cmd 2 by 20

Dawn Audio Prelude +50

Denon PMA-250 III

Denon PMA-350 II

Denon PMA-480R

Denon PMA-450

Depon PMA-880F

Denon AVC-1530

Denon AVC-3020

Denon AVC-3530

DNM 3B Primus E

DNM 3B Twin E

DNM PA2BE DNM 3B Six E

DNM PA2BS

DNM PA2BS-1

DPA DSP200S

DPA DPA200S EAR EAR802

EAR EAR802MC

EAR G88 ECA Vista

ECA Lectern

ECA Prisma

Electrocompaniet ECP-1

Electrocompaniet EC-4 L Electrocompaniet EC-3MM

Electrocompaniet EC-3 M

Electro'paniet AW100DM Electrocompaniet EC1-1

Electro'paniet AW250DM

EMF Audio Sequel

Exposure XX

Exposure XiX

Exposure XV

Exposure XIV

Exposure XVIII

Exposure XVII

Exposure IV

Exposure XVIII (pr)

Forte Audio Model 40

Forte Audio Model 5

Forte Audio Model 7

Forte Audio Model 4

Forte Audio Model 6 Fullers Pre 1

Fullers Pre 1+

Fullers A10

DNM 3 Start

DNM 3A Start

DNM PA1

Price Y

388

439

499

538

799

1699

1699

2181

2509

250

250

250

395

395

395

395

395

299

400

549

599

599 700

800

999

1100

1300

1599 1600

1999

890

951

160

220

220

250

300 480

730

1000

850

1200

1450

2050

3050

4050

4450

4800

495

1440

1580

760

760

760

502

1556

1865

2081

4370

349

625

750

1800

1295

1295

1795 1795

599

649

1200

Key to amplifiers Price - typical retail, to nearest Plue typical team, to inserts, per pound. Power - output power in watts, per channel, RMS. Inputs - MM/MC - phono moving coil and moving magnet, L - line (CD, aux etc), T - tape. A/V - includes Dolby Surround or Pro Logic decoder and amplification. Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



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Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

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Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

				He										He			
		P	-	Headphones	Re							-	=	Headphones	Re		
	AN	Power	Inputs	Iones	Remote	Size	Special	Model	Price	Type	N	Power	Inputs	Iones	Remote	Size	Special
		-		0,	(J	5120	Special	AMPLIFIERS		CD .			0,	0,		5120	эреска
wr	- N	150	-	-	- N	- 22,6,24	Mono, hybrid	Fullers Audio A1	1200	Pwr	-	12		- N	-	- 14,14,30	Single ended Class A
re re	N	-		N Y	N	- 22,0,24	Phono amp MM/MC, & PSU Class A headphone amp	Gamma Phonostage Gamma Acoustics ERA	599 1999	Pre Pre	N	-	-	-	N N	44,17,30	Add on for Gamma preamps
re	N	-	-	N	Ν	-	Mic amp, phantom power	Gamma Space Reference	3499	Int	N	18	-	-	N		Line integrated
nt	N	70	6L	-	N	44,6,31		Gamma Acoustics Spage	3499	Pwr	N	18	-	-	N	43,22,31	
nt re	N N	70	MM/MC, 6L 6L	- N	Y N	44,6,31 44,6,31	As above, with remote 3 outputs	Gamma Era Reference Gamma Acoustics Rhythr	3499 1 4999	Pre Pwr	N N	- 25	-	1	N N	44,17,30	Single ended Class A
re	N	-	6L	N	Y	-	Remote controlled pre	Gamma Acoustics Aeon	6999	Pwr	N	30	-	-	N		Single ended Class A, mono
wr	Ν	150	-	-	Ν	44,16,31		Gamma Aeon Signature	8999	Pwr	Ν	30	-	-	Ν	29,21,53	Single ended Class A, mono
wr	N N	30 100			N N	- 44,21,31	Class A power amp	Gamma Era Signature Gamma Space Signature	16000 19999	Pre	N	-	-	-	N N	44,24,39 44,21,53	Single anded Class A mana
wr wr	N	250		-	N	44,21,31	Class A power amp	Grant CD10	482	Pwr Pre	N	18 -	4L	N	N	-	Single ended Class A, mono
re	-	-	4L,2T	Y	-	42,6,20	Plug-in modules available	Grant G100P	764	Pre	Ν	-	MM,2L,1T	Ν	Ν	-	
wr	-	50	-	-	-	42,6,20		Grant G50A	1128	Pwr	-	60	-	-	-	-	Monoblocks
nt wr	N	40 40	3L,1T	Y	N	42,6,20	Optional phono input	Grant G100AMS Grant G350A	1528 3455	Pwr Pwr	1	100 350	-	-	-	-	
re	N	-	MM/MC,2L,1T	N	N	-	Star earth	Grant G200AMS	3760	Pwr	-	200	-	-	-	<u>н</u>	Monoblocks
re	Ν	-	MM/MC,2L,1T	Ν	Ν	9,10,35		Grundig V210	130	Int	Ν	50	MM,5L,1T	Y	Y		Pre-main split
re	N	- 40	MM/MC,3L,1T	N	N	- 9,10,35		Grundig V1	150 170	Int	N N	50 70	MM,5L,1T MM,5L,1T	Y	Y	43,14,30	Tone defeat Pre-main split
wr re	N' N	40	MM,3T,1T	N	N	-		Grundig V310 Grundig V2	200	Int	N	80	MM,5L,1T	Y	Y	36,12,30 43,14,30	Tone defeat
re	N	-	MM,3L,1T	N	N	43,10,36	Tube	Grundig V3	250	Int	Ν	120	MM,5L,1T	Y	Y		Pre-main split
wr	Ν	35	-	Ν	Ν	-	Ultralinear design	GT Audio Pre	1500	Pre	Ν	-	MM,3L,1T	Ν	N	-	Regulated HT/LT PSU
re t	N	35	MM,3T,1T	N N	N	-		GT Audio Pwr	2000	Pwr	N N	30 33	- MM,3L,2T	N N	N N	- 45,11,37	Triode switchable (15w)
re	N	-	MM,3L,1T MM,3L,1T	N	N	43,10,36	Tube	Harman-Kardon HK6250 Harman-Kardon PA2100	279 349	Pwr	-	45	-	-	-	45,11,37	
wr	N	25	-	-	-	43,10,36	OTL amp, triode	Harman-Kardon HK1400	399	Int	Ν	40	MM/MC,3L,2T	Ν	Ν	45,11,37	
re	Ν		MM,3T,1T	Ν	Ν	-		Harman-Kardon HK6350	399	Int	Ν	25	MM,6L,2T	Y	Y	45,11,37	
re	N	-	MM,3L,1T	N	Ν	43,10,36	Tube	Harman-Kardon HK6550 Harman-Kardon AP2500	429	Int	N N	60	MM/MC,3L,2T MM/MC.6L,2T	Y N	N N	45,14,37 45,11,35	
wr wr	N N	120 35	-	N	N	43,10,36	Triode facility OTL, regulated PSU	Harman-Kardon PA2200	499 579	Pire	-	70	-	-	-	45,11,35	
wr	N	45	-	-	-	50,20,25	OTL amp, triode	Harman-Kardon HK6650	749	Int	Y	70	MM/MC.4L,2T	Y	Y	45,14,37	Video circuitry
re	Ν		MM,3T,1T	Ν	Ν	17		Harman-Kardon HK6850	899	Int	Y	85	MM/MC,4L,2T	Y	Ν	45,16,40	Video circuitry
wr	N	100	-	N N	N N	- 38,11,26	Monoblock OTL Single monoblock	Harman-Kardon PA2400 Harman-Kardon HK6950	899 1299	Pwr	- V	120 120	- MM/MC5L,2T	- V	Y	45,16,41 45,16,40	Video circuitry
wr re	N	200	MM/MC,2L,2T	N	N	38,9,26	Pre out line driver	Heybrook Integra	550	Int	N	70	4L,1T	Y	N	-	VIDED CITCULTY
nt	N	30	MM,3L,1T	Y	Ν	44,10,28	UK design	Inca Tech Oberon Pre	350	Pre	Ν	-	MM/MC,6L,2T	Ν	Ν	43,8,22	CD direct & Two outputs
nt	Ν	50	MM,3L,2T	Y	Ν	44,12,28	UK design	Inca Tech Oberon Pwr	400	Pwr	-	70		Y	N	43,8,22	Two inputs
it .+	N	50 60	MM,3L,2T MM,3L,2T	Y	Y N	44,12,29 44,14,36	UK design	Inca Tech Oberon Jadis DEFY-P60	450 3774	Int	N N	-	MM/MC,6L,2T MM/MC,4L,1T	Y	N	43,8,22 43,17,30	Preout, biwire Tube
nt It	N	75	MM,3L,2T	Y	Y	44,14,30	UK design	Jadis JPL	4720	Pre Pre	N	1	5L,1T	-	-	43,17,30	Tube
nt	Y	70	MM,2L,2T	Y	Y	44,14,34		Jadis JPP-200	4778	Pre	Ν	-	4L,1T	-	-	-	
nt	Y	80	MM,4L,4T	Y	Y	44,16,43	Learning remote	Jadis DEFY-7	5290	Pwr	Ξ.	100	*	-	-	49,23,63	Tube
nt re	Y N	110	MM,4L,4T MM/MC,2L,1T	YN	Y N	44,16,43 27,13,16	Learning remote	Jadis JA30 Jadis JP-30MC	5760 6444	Pwr Pre	- N	30	- MM/MC.4L.1T	-	-	21,21,46	Tube, 1x monoblock
re	N	-	MM/MC,2L,1T	N	N	27,13,16		Jadis JP-S2	7900	Pre	N	-	6,1T	-	-		
wr	Ν	45	-		-	27,13,18	Triwire output	Jadis JA80	9912	Pwr	-	60	-	- 1	-	23,26,58	Tube, 1x monoblock
re	N	-	MM/MC,4L,1T	Ν	Ν	27,13,16		Jadis JP-80MC	11250	Pre	Ν	-	MM/MC,4L,1T	•	-	-	
re wr	N N	- 90	MM/MC,4L,1T	N	N	27,13,16	Triwire output	Jadis JA-200 Jadis JP-200MC	15518 19000	Pwr Pre	- N	160	- MM/MC.5L.1T	-		26,23,58	Tube, monoblock (four boxes)
re	N	-	MM/MC,4L,1T	N	N	27,13,16	mwire output	Jadis JA-500	21900	Pwr	-	400	-	-	-	28,36,79	Tube, monoblock (four boxes)
wr	Ν	90	-	-	-		Triwire output	JVC AX-A472BK	250	Int	Ν	65	MM,3L,2T	Y	Ν	44,15,36	
wr	N	90	-	-	-	27,13,18	Triwire output	JVC AX-R562BK	250	Int	N	80	MM,3L,2T	Y	Y	44,15,31	
re wr	N -	- 60	5L,1T	N	N	-	Bridgable	JVC AX-A662BK JVC AX-Z1010TN	330 650	Int	N N	90 100	MM/MC,3L,2T MM/MC,3L,2T	Y	N	44,13,31 44,13,46	
re	Ν	-	MM,2L,2T	N	N	-	Tube	KAL Magician	550	Pre	N	-	3L,1T	Y	N	-	Tube
re	Ν		MC,2L,2T	N	Ν	-	Tube	KAL Harlequin	750	Pre	Ν	-	MM/MC,2L,1T	Y	Ν	-	Tube
re	N N		MM/MC,3L,2T	N N	N	- 39,10,39	Phase coherent design	KAL Empress KAL Emperor	3660 4375	Pre	N	-	MM//MC,2L,1T	Y	Ν	-	Tube Single anded tube Class A
re wr	-	- 50	4L,1T -	-	N -	39,10,39	Phase coherent design	KAL Conqueror	12500	Int	N	30	MM/MC,3L,1T	N	N	-	Single ended tube Class A
re	-	-	MM,MC	-	-	39,10,23	Phono stepup	Kenwood KA-1030	140	Int	Ν	65	MM,3L,2T	Y	N	44 wide	
	N	-	MM/MC	-	-	24,7,16	Adjustable MC input	Kenwood KA-2060R	170	Int	N	65	MM,3L,2T	Y	Y N	44	System control
re re	N N		5L,2T MM,4L,2T			48,9,23 48,9,23		Kenwood KA-3020 Kenwood KA-3020SE	170 200	Int Int	N N	45 50	MM,3L,2T MM,3L,2T	Y	N N	44 wide 44 wide	UK Special Edition
re	N	-	MC,4L,2T	-	-	48,9,23		Kenwood KA-3060R	230	Int	N	45	MM,3L,2T	Y	Y	44 wide	System control
wr	N	100	-	-	-	48,13,36	High current (80A)	Kenwood KA-5020	230	Int	N	80	MM,3L,2T	Y	N	44 wide	
it Mr	N	100 250	5L,2T	-		45,13,36	High current (80A)	Kenwood KA-4050R	280 300	Int Int	N	70	MM,3L,2T	Y	Y	44 wide	System control
it.	N N	250 50	- MM,4L,1T	Y	N	48,22,45 43,65,28	High current (100A)	Kenwood KA-V3700 Kenwood KA-5050R	300	Int	N	100 95	MM,4L,2T MM,3L,2T	Y	Y	44 wide 44 wide	System control System control
it	N	40	4L,2T	N	N	43,85,35		Kenwood KA-7050R	500	Int	N	100	MM,3L,2T	Y	Y	44 wide	System control
re	N	-	5L	N	N	43,85,35		Kenwood KA-V7700	600	Int	Y	45	MM,11L,1T	Y	Y	44 wide	5 pre-outs, learning remote
it ro	N N	40	MM,MC,3L,2T MM,MC,3L,2T	N N	N N	43,85,35 48,8,30	Digital in	Kenwood KA-V8500 Krell KSL-2	700 3000	Int	Y N	55	MM,11L,1T 4L,1T	Y N	Y N	44 wide 48,7,36	5 pre-outs, learning remote Opt. MM/MC stage
re wr	N	- 60	-	N	N	48,8,30	Digital in	Krell KSL-2 Krell KSA-50s	3000	Pre Pwr	-	- 50	-	-	-		Sustained Plateau Bias
re	N	-	MM,MC,3L,2T	Ν	Ν	43,85,35		Krell KRC-2s	3980	Pre	Ν	-	6L,1T	'N	Y	48,7,36	Opt MM/MC stage
wr	N	60	-	N	N	43,85,35	2x mono monoblock	Krell KSA-100s	5290	Pwr	N	100	-	-	-		Sustained Plateau Bia
wr re	N N	80	- MM/MC/2L,2T	N N	N N	48,13,35		Krell KRCs Krell KSA-200s	6777 7450	Pre Pwr	N N	- 200	6L,1T	N	Y	48,7,36 48,22,54	Opt MM/MC stage Sustained Plateau Bias
wr	-	100	-	-	-	-		Krell KSA-200s	8900	Pwr	N	300	-	-	-		Sustained Plateau Bias
wr	-	75	-	-	-	-	Class A monoblock	Krell K.A.S.	29500	Pwr	Ν	350	-	-	-		Monoblocks
wr	-	60		-	÷	-	Class A	Lecson 380X	255	Int	N	35	MM/MC,6L	N	N	44,6,27	
wr re	N	150	- MM/5L,1T	- N	- N	- 48.9.30	Optional MC stage	Lecson Stereo 383X Lecson Quattra	295 420	Int Int	N N	60 30	MM/MC,6L MM/MC + N/A	Y N	N N	44,6,27 44,6,27	Pre out/main in
re	N	-	6L,2T	N	N	48,9,30	No phono option - hard wired	Lecson Quattra Plus	655	Int	N	50	MM/MC + N/A	N	N	44,6,27	Separate PSU
wr	-	10	-	-	-	48,13,30	Single ended Class A	LFD Phonostage MMO	369	Pre	Ν	-	MM, MC	Ν	Ν	30,6,37	Switchable MM/MC
vn h	elow	arec	overed in the Hi-	-Fi C	hoice	Directory	see n123	Listings marked in red	d (as sh	own	helov	v) are	covered in the H	i-Fi C	nice	Directory	see n123

Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see p123 450 Int MANA MAC M 60

The Forefront of Technology



Model No: ADF-450

Dolby B & C • Dolby HX-Pro • Feather touch IC Logic Control
 Amorphous alloy head • Record Mute

Anti-Modulation Tape Stabiliser (AMTS) • Fine Bias adjustment

• System remote capable • 8 point LED Level Indicator • Music Sensor

• Timer Operation • Auto tape selector • PC.OCC Wire

Considerable time and effort has gone into the creation of the Bill Hutchinson Innovation Award Scheme, drawing from more than two decades of experience and expertise. The Innovation Award is designed to assist you in identifying state of the art equipment that matches your expectations whilst being of build quality that ensures many years of enjoyment. A long-term association with a professional dealer has real benefits and will serve as your personal contact for information and advice on the Manufacturers latest Innovations.

If it is not possible to visit a Bill Hutchinson Hi-Fi AV Centre, simply contact the Manufacturer for details of your nearest authorised stockist.

Bill Hutchinson

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 MANCHESTER 50/52 Deansgate. Tel: 061-832 1600



Key to amplifiers Price - typical retail, to nearest pound. Price - typical retail, to nearest pound. Power - output power in watts, per channel, RMS. Inputs - MM/MC - phono moving coil and moving magnet, L - line (CD, aux etc), T - tape. A/V - inclues Dolby Surround or Pro Logic decoder and amplification.

> E I

 Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Nodel AMPLIFIERS

Michell Iso

Michell Argo

Michell Iso HR

Michell Argo HR

Michi RHC-10

Michi RHQ-10

Michi RHA-10

Michi RHB-10

Mission Cyrus III

Moth 30 Passive

Moth 30 Series Power

Moth 30 RIAA 100VA

Mus-Fid The Preamp

Musical Fidelity A1.3

Musical Fidelity A120

Musical Fidelity MA65

Musical Fidelity A1000

Musical Fidelity F22 Musical Fidelity FX

Musical Fidelity F15

Musical Fidelity F18

NAD Monitor 2100

NAD Monitor 1000S NAD 306

NAD Monitor 2700

NAD Monitor 208

Naim NAP90/3

Naim NAC92

Naim NAC72

Naim NAP140

Naim NAP180

Naim NAP135 Naim NAP250

Naim NAC82

Naim NAC52

Nakamichi IA3

Nakamichi IA2

Nakamichi IA1

NVA AP-20CD

NVA TSS (Pre)

NVA AP-35CD

NVA AP-20

NVA P-90

NVA A60

NVA A70

NVA AP-35

NVA A80

NVA T1S

NVA TCS

NVA TDS

Onix OA30

Onix OA24

Onix OA401

Onix 0A21S

Onix OA31

Onix OA601

Onix OA801

Onkyo A801

Onkyo A803

Onkyo A-911

Onkyo A850

Orelle SC-200

Orelle SP-150

Papworth PPA6 Papworth PPA6/F

Papworth TVA50 Papworth M100

Papworth M200

Philips FA930

Pioneer A-102

Orelle SA-020.3

NVA TSS (Power) NVA TUS

NVA P-50

NAD 302 NAD Monitor 1000

NAD 304

Mus-Fid Preamp 8

Mus-Fid Typhoon

Moth 30 Active 100VA

Moth 30 RIAA

Moth 30 Active

Michell Alecto Stereo

Michell Alecto Mono

Price Typ R

393

689

850

1300

1879

795

995

995

500

149

199

239

249

299

349

349

349

549

950

999

1099

1399

1899

169

199

229

299

319

329

450

799

405

622

634

898

1424

1424

1880

4741

350

600

750

260

290

340

340

420

450

470

500

760

1100

2100

2600

300

400

400

430

480

699

849

200

260

350

400

499

499

2645

3825

200

130

Key to amplifiers Price - typical retail, to nearest pound. Power - output power in watts, per channel, RMS. Inputs - MM/MC - phono moving coil and moving magnet, L - line (CD, aux etc), T - tape. A/V - includes Dolby Surround or Pro Logic decoder and amplification.

MM or MC

MM or MC

31.11

3L.1T

MM.MC

MM,5L,1T

MM/MC.

1I 1T

MM/MC

4L.1T

4I 2T

5L,1T

90

50

150

45

40

80

30

70

40

MM,MC,3L,1T

MM/MC,3L,1T

MM/MC,3L,2T

MM/MC,3L,1T

MM, 3L, 2T

MM,4L,2T

MM,4L,2T

5 (L or T)

6 (L or T)

3L.2T

3L.1T

5L.1T

5L.1T

6 (see note)

MM/MC.3L.21

MM/MC,3L,2T

MM/MC,3L,1T

MM/MC,3L,1T

MM/MC,2L,2T

MM/MC.3L.1T

2MM/MC, L,2T

MM/MC,3L,2T

MM/MC.3L.2T

Powe Inpu Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

HI-FI CHOICE BUYER'S GUIDE 93

Remote

N 36,8,22

N 32,20,3

Ν

N

N

Ν

Ν

Ν

Ν

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N

Ν

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Ν

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N

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N

N

N

N N

N

N

Size

small

small

33,7,19

32,20,30

47,8,34

47.8.34

47.8.34

47,19,37

22,8,36

41.6.25

41,6,25

44,8,32

44,10,3

41,6,25

49.12.3

49 12 38

49.13.36

49.19.38

49,19,67

32,56,30

44,56,3

21,76,30

21,76,3

43,76,30

43,76,3

43,76,3

43.76.30

43.76.30

43,7,32

43,12,3

43,12,3

43,77,33

75 23 3

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Special

Pair monoblocks

phono stage

2 pairs outputs

2 pairs outputs

Phono equaliser

PSX-R outboard PSU option

XLR, opt phono/digital board

Near Class A, tape monitor

XLR in, bridgeable

Ball/unbalanced in

Separate PSU

THX approved

THX approved

Latest style, Suits 92 Latest style. Suits 90/3

Optional phono board

Mono

Mono

Mono

1x Monoblock

nternally switchable MM/MC

With internal supply for OA24

Ugradable with PSU, MC I/P

Class A

Class A

Tape monitor, chrome finish

Optional phono/digital boards

Bal/unbalanced in/hybrid

Bal/unbalanced in/hybrid

Passive

Active

hono stage

						Headp	R		
Model	Price	Туре	AN	Powe	Inputs	Headphones	Remote	Size	Special
AMPLIFIERS	u l	t.							
LFD Linestage LSO	469	Pre	Ν	-	5L,1T	Ν	Ν	30,6,37	Zero feedback
LFD Powerstage PAO	469 479	Pwr Int	N N	50 50	- 5L.1T	N N	N N	30,6,37 30,6,37	Stereo MOSFET Hand made, custom parts
LFD Integrated Zero LFD Int Zero (Ph)	479 650	Int	N	50	MM/MC,5L,1T	N	N	30,6,37	Phono stepup, zero feedback
LFD MC1 Phonostage	699	Pre	N	-	MC	N	N	30,7,36	Discrete circuit
LFD LS1 Linestage	749	Pre	N		4L,1T	N	N	48,7,33	Zero feedback
LFD PA1 Powerstage	749	Pwr	N	60	-	N	N	48,7,33	MOSFETs, custom parts
LFD PPS	899	Pre	N	-	2L,1T	N	N	13.6.27	Switched attenuator, passive
LFD Integrated 1	999	Int	N	65	MM/MC.4L,1T	N	N	48,7,37	More powerful Int Zero
LFD Phonostage MC2	1099	Pre	Ν	-	MC	Ν	Ν	30,7,36	Hand tuned MC1
LFD Linestage LS2	1250	Pre	Ν	-	4L,1T	Ν	Ν	48,7,37	Hand tuned LS1
LFD Powerstage PA2	1250	Pwr	Ν	75	-	Ν	Ν	48,7,33	Hand tuned PA1
LFD Linestage LS2P	1499	Pre	Ν	-	MM/MC,4L,1T	Ν	Ν	48,7,37	As LS2 with phono stage
LFD Linestage LSB	1750	Pre	Ν	-	4L,1T	Ν	Ν	48,7,37	Balanced LS2
LFD Powerstage PA2M	1750	Pwr	Ν	100		Ν	N	30,7,37	Mono PA2
LFD Disc Preamp	3999	Pre	N	-	MC	N	N	30,5.36	Battery powered
Linn Majik-1 (Line)	524	Int Pwr	N	33	4L,2T	Y	Ν	32,8,33 32,8,33	Works as pre/int amp, tuner Stereo
Linn LK100	549 593	Int	N	50 33	- MM,MC,3L,2T	Y	N	32,8,33	As line Majik
Linn Majik-1 (Phono) Linn Kairn Pro	998	Pre	N N	33	4L, 2T	r N	N	32,8,33	Multi-room compatible
Linn Kaim Pro	1398	Pre	N	-	4L, 21 MM, MC 3L,2T	N	N	32,8,33	Multi-room compatible
Linn Klout	1895	Pwr	IN	80	WIW, WIG SE,21	TN .	IN	32,8,33	Stereo, tri-wire connectors
Lumley Reference PP70	325	Pre	N	-	- 6L,1T		N	36,46,6	Passive, for ST40 or ST70
Lumlev Reference PP40	325	Pre	N	-	6L,1T	-	N	29,40,6	Bolts onto ST40 or ST70
Lumley Reference PP40	325	Pre	N	-	6L.1T	-		29,40,0	Passive
Lumley Reference LV1	1000	Pre	N	-	6L,1T	N	N	29,44,6	Active valve circuit
Lumley Reference ST40	1250	Pwr	N	40	30,40,17	N	N	-	Pentode, 6 ohms optimised
Lumley Reference PV1	1500	Pre	N	-	MM,5L,1T	Ν	Ν	-	Phono version of LV1
Lumley Reference ST70	1950	Pwr	Ν	70	-	Ν	Ν	36,46,18	
Lumley Reference M120	3200	Pwr	Ν	120	-	-	-	29,44,18	monoblocks, triode/pentode
Lumley Reference M500	12000	Pwr	Ν	-	-	-	Ν	35,80,30	monoblocks, triode/pentode
Luxman L570	3750	Int	Ν	50	MM/MC,4L,3T	Ν	N	44,18,47	Class A
Lynwood Opal	685	Int	Ν	80	7L,1T	Ν	Ν	-	
Lynwood Ruby	985	Pwr	-	120	-	-	-	-	
Magnum IA120	249	Int	N	50	MM,5L,2T	Y	N	-	
Magnum Quartet	329	Int	Ν	36	MM,3L,2T	Y	Ν		Manaklasha
Magnum MF125	515 595	Pwr Pwr	-	140 180		-	1.		Monoblocks Monoblocks
Magnum MF300 Magnum Class A	595	Int	N	60	MM/MC,3L,1T	N	N	-	MONODIOCKS
Magnum MA500	1295	Pwr	-	280	-	-	-	-	Monoblocks
Marantz PM-32	140	Int	N	40	MM,3L,1T	Y	N	42,14,28	
Marantz PM-44SE	180	Int	N	45	MM,3L,2T	Y	N	42,14,28	Audiophile components
Marantz PM44SEII	200	Int	Ν	45	MM,3L,2T	Y	Ν	42,14,28	
Marantz PM-43	200	Int	Ν	55	MM,3L,2T	Y	Ν	42,14,30	
Marantz MA-500	250	Pwr	Ν	125	-	-	-	9,15,45	D-bus, monoblocks, bridgable
Marantz PM-53	250	Int	N	65	MM,3L,2T	Y	Y	42,14,30	
Marantz PM-52SE	300	Int	N	70	MM/MC,3L,2T	Y	N	42,16,34	Audiophile components
Marantz PM-54SE	300	Int	N	65	MM/MC,3L,2T	Y Y	N Y	42,16,34	Audiophile components
Marantz PM-63 Marantz PM-700AV	300 450	Int Int	N	70 45	MM,3L,2T MM,5L,2T	T V	Y		Dolby Pro Logic
Marantz PM-80 II	480	Int	N	100	MM/MC,4L,2T	Y	N	42,17,34	DOIDY FTO LOGIC
Marantz AV-500	550	Pre	Y	-	MM,7L,2T	N	Y		Dolby Pro Logic
Marantz PM-80SE	650	Int	N	110	MM/MC,3L,3T	Y	N		Audiophile components
Mark Levinson No 25	2950	Pre	N	-	MM,3L,2T	N	Ν	-	
Mark Levinson 29	3450	Pwr	-	50	-	-	-	-	
Mark Levinson 27.5	5399	Pwr	-	100	-	-	-	~	
Mark Levinson No 26	5450	Pre	Ν	-	MM,3L,2T	Ν	Ν	-	
Mark Levinson 23.5	7399	Pwr	-	200	-	-	-	-	
Mark Levinson 20.6	15790	Pwr	-	100	-	-	-	-	Monoblocks, Class A
Matisse Fantasy	2300 3500	Pre	Y	-	6L,2T MM/MC,5L,2T	N	N N		Line stage
Matisse Reference		Pre	Y NI	-	MM/M0,5L,21	Ν	N		
McIntosh MC7100 McIntosh C712	959 1249	Pwr Pre	N N	100	- 6L, 2T	Y	Y	-	
McIntosh C38	1995	Pre	N		MM, 5L,3T	Y	Y	-	Multi-room, balanced out
McIntosh MC7150	2159	Pwr	N	150	-	N	N	-	and the state of t
McIntosh C40	2695	Pre	N	-	MM, 6L, 3T	Y	N	-	Balanced in/out
McIntosh C39	2795	Pre	Y	-	MM, 10L (6 Vid)	Y	Y	-	Two zone, THX compatable
McIntosh MC7106	2895	Pwr	Y	100	÷	Ν	Ν	-	Six channel THX amp
McIntosh MC7300	2995	Pwr	Ν	300	-	Ν	Ν	-	
McIntosh MC275	3595	Pwr	N	75	-	N	N	-	Classic valve amp
McIntosh MC2600	5195	Pwr	N	600		N	N	-	Manablaska
McIntosh MC1000	8995	Pwr	N	100	-	N	N	-	Monoblocks
Meridian 501 Meridian 555	595	Pre Pwr	N	-	MM,4L,T	Y N	N N	33,9,34 33,9,32	MC option, system handset Stereo
Meridian 555 Meridian 562	595 625	Pwr Pre	- N	60	- MM,8L,T,6D	N	N	33,9,32	Digital main out. MC option
Meridian 551	023	Int	N	- 55	MM,4L.T	IN .	N	33,9,34	MC option
Meridian 501V	605			-	MM,4L,T	Y	N	33,9,34	As 501, plus video switching
Meridian 562V	695 745		Y			N	N	33,9,34	As 562, plus video switching
the state of the	745	Pre Pre	Y Y	-	MM.8L.T.6D				
Meridian 601		Pre	Y Y N	-	MM,8L,T,6D MM,4L,T	Y	Y	-	DSP tone control, MC option
Meridian 601 Metaxas Ikarus II	745 825	Pre Pre		- - 40				- 40,7,40	
	745 825 2750	Pre Pre Pre	Ν	- - 40 -	MM,4L,T	Y	Y	-	
Metaxas Ikarus II	745 825 2750 1350	Pre Pre Pre Int	N N	- - 40 - 50	MM,4L,T MM/MC,3L,1T	Y	Y N	- 40,7,40	DSP tone control, MC option
Metaxas Ikarus II Metaxas Charisma Metaxas Iraklis Metaxas Marquis	745 825 2750 1350 1525 1625 2250	Pre Pre Int Pre Pwr Pre	N N N N	- 50 -	MM,4L,T MM/MC,3L,1T	Y	Y N	- 40,7,40 36,6,29 43,18,37 29,7,45	DSP tone control, MC option
Metaxas Ikarus II Metaxas Charisma Metaxas Iraklis Metaxas Marquis Metaxas Solitaire	745 825 2750 1350 1525 1625 2250 2350	Pre Pre Int Pre Pwr Pre Pwr	N N N N N	-	MM,4L,T MM/MC,3L,1T MM/MC,3L,2T - MM/MC,3L,2T -	Y	Y N - N -	- 40,7,40 36,6,29 43,18,37 29,7,45 52,19,42	DSP tone control, MC option Separate PSU Separate PSU
Metaxas Ikarus II Metaxas Charisma Metaxas Iraklis Metaxas Marquis	745 825 2750 1350 1525 1625 2250	Pre Pre Int Pre Pwr Pre	N N N N	- 50 -	MM,4L,T MM/MC,3L,1T MM/MC,3L,2T -	Y	Y N N	- 40,7,40 36,6,29 43,18,37 29,7,45	DSP tone control, MC option Separate PSU

Audiolab 8000A 450 Int N 60 MM MC 1T 3T v N 45.8.36 Preout/main in

Audiolab 8000A 450 Int N 60 MM.MC.1T.3T

Ν MM/MC,4L,1T 43.77.3 N 75,46,36 Regulated PSU 75,46,3 190 2x monoblocks, massive PS MM,3L,2T Ν 46,12,3 40 60 MM/MC,3L,21 46,12,33 MM,3L,2 Mini component, 40hm ratin 46,15,35 MM/MC.3L.21 N MM/MC option 6L,1T N 44,7,28 MM/MC option, MOSFET 60 N 44,7,28 6L,1T Ν 44,7,28 MOSFET, vdH wiring 25,13,33 Bi-mono valve MM,MC,6L 25,13,33 Bi-mono valve 43,19,33 Tube stereo 100 25 17 38 Tube monoblock 46.20.31 Tube monoblock MM.2L.3T 44.14.30 MM.21.2 Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see p123 45.8.36 Preout/main

The Forefront of Technology



Model No: UX-C7



- Components: 2 units
 Power Rating (RMS): 2xW
 Bass Enhancement :Active Hyper
 Timer: 2 way
 Digital Tuner Pre-sets: 30
 Dolby noise reduction: B
 Auto reverse
 2 way bass reflex speaker system

Considerable time and effort has gone into the creation of the Bill Hutchinson Innovation Award Scheme, drawing from more than two decades of experience and expertise. The Innovation Award is designed to assist you in identifying state of the art equipment that matches your expectations whilst being of build quality that ensures many years of enjoyment. A long-term association with a professional dealer has real benefits and will serve as your personal contact for information and advice on the Manufacturers latest Innovations.

If it is not possible to visit a Bill Hutchinson Hi-Fi AV Centre, simply contact the Manufacturer for details of your nearest authorised stockist. JVC 081-450 3282



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LEEDS 26-28 Woodhouse Lane. Tel: 0532 427777 • NEWCASTLE 87A Clayton Street. Tel: 091-230 3600 MANCHESTER 50/52 Deansgate. Tel: 061-832 1600



Key to amplifiers Price - typical retail, to nearest Price - typical retail, to nearest pound. Power - output power in watts, per channel, RMS. Inputs - MM/MC - phono moving coil and moving magnet, L - line (CD, aux etc), T - tape. A/V - includes Dolby Surround or Pro Logic decoder and amplification. Type: Int - integrated, Pre - preampli-fier, Pwr - power amplifier. Headphone - Y - yes, N - no. Remote - Y - yes, N - no. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Model

AMPLIFIERS Teac A-X5030

Technics SU-VZ220 Technics SU-VZ320

Technics SU-A600

Technics SU-A700

Technics SU-A800

Technics SU-A900

Technics SU-C2000

Technics SE-A2000

Tesserac TAADA

Tesserac TALA

Tesserac TAHA

Tesserac TAP-A

Thule IA50

Thule IA100

TOCA 'A'22 TOCA 'A' 1

TOCA 'A'50

Triangle TE60 Triangle Nemo Allion 02

Tube Tech Seer Line

TT Unisis Power Amp

Tube Tech Prophet

TT Unisis Super Line

Tube Tech Unisis

Tube Tech Genesis

Tube Tech Synergy Woodside SC27 Line

Woodside SC27 MM

Woodside ISA230 Disc

Woodside ISA230 Line Woodside ISA 2.40

Woodside SC27 MC

Woodside STA35 Woodside SC25 Line

Yamaha AX-470

YBA Integre Line

YBA 3 Power

YBA Integre

YBA 2 Power

YBA 2 Power

YBA 1 Power

YBA 3

YBA 2

YBA 1

Model

CASSETTE DECKS Aiwa AD-WX727

Aiwa AD-WX828

Aiwa AD-WX929

Aiwa XK-S7000

Aiwa XK-S9000

Arcam Delta 100

Denon DRM-540

Denon DRS-610 Denon DRW-760

Denon DRM-710

Denon DRS-810

Dual CC8000 RS

Grundig CCF210

Grundia CCF310

Harman-Kardon TD4400

Harman-Kardon TD4500

Grundig CCF2

Grundig CCF3

Grundig CF4

Goodmans Delta 700 Goodmans GSW650

Aiwa AD-F850

Woodside MA50 Class A

Woodside SC26 Phono

Tube Tech Seer Phono

Tesserac TAMP-60

Price Туре R

150

190

200

330

400

700

1050

1500

1500

1800

5300

599

899

1500

2000

2500

549

1550

649

1199

1399

1399

2599

3900

705

881

899

899

949

999

1224

1420

1931

200

999

1199

1199

1250

1699

2150

2150

3750

Price Тур R

200

230

550

700

850

160

200

250

260

300

200

100

130

150 ΔF

190 AF

200

250

349

499

HI-FI CHOICE BUYER'S GUIDE 95

Size

43,13,

43,13,3

43.13.3

43.14.3

43,14,37

45,13,3

45,19,44

42,15,18

42,15,18

35.8.25

35.8.25

35.17.2

35,17,2

35,17,2

35,15,2

47,18,47

43 9 33

43.9.33

43.9.33 Ν

43,9,33

43,9,33

43.9.33

43 14 3

Special

Auto-reverse

Super DX head

Drawer loading

Dual capstan

Dolby S

Twin auto reverse, remote

Twin record, quick auto revers

6N head coils, built in DAC

6N head coils, built in DAC

Remote through 9000RS

AMS, CD copy, hi speed dub AMS, system R/C, display of

Elapsed time, CD copy, AMS

Elapsed time, display switch

Manual bias, AMS, monitor

Both auto-reverse

42,8,24

N 43.13.3

N

N

N

Ν

N

N 35.8.25

Ν

Ν

Ν

N

N

Ν

N 43,9,33 43,9,33

Key to cassette decks Price - typical retail, to nearest pound. Type - T - twin transports, allowing tape to tape dubbing, sequential play etc; S - Single transport, AR - auto-reverse. Dolbu: B (and B noise reduction) C

reverse. Dolby - B (10dB noise reduction), C (20dB), S (24dB). B is standard for prerecorded material.

IC MM

MC/MM 31 2T

MC/MM 3L 2T

MC/MM 3L 2T

MC/MM.3L.2T

MC/MM, 3L, 2T

MM/MC

5L,1T

4L.1T

4L,1T

5L,1T

5L,2T

5I 1T MM 41 1T

4L.1T

4L.1T

5L,1T

0 1T MM 2L 1T

4L,2T

2L,2T

4L.1T

MM/MC,3L,2T

MM,MC,3L,21

MM.4L.1T

MM, 3L, 1T

MM, 3L, 1T

MC,4L,1T

Heads

Size

43,12,34

44,13,28

44.13.31

44.13.28

44.13.28

44.13.32

36.12.30

44,13,30

36.12.30

44,13,30

44,13,30

45,13,35

45,13,35

44

Dolby HX Pro

Ν

N

N

N

Dolby

RC

B.C

B.C

MM,2L,1T

MC,2L,1T

MM, 3L, 1T

MM/MC.4L,2T

MM 3L 2T

Power Inpu

90

100

80

30

30

40

45

Headphor Remot Heads - 2 - combination record/play heads; 3 - independent record/play heads, allowing real time off tape monitoring. Size - width x height x depth in cm.

Products highlighted in red have beer tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Special

A/B speaker select

Meters, R-Core, MOS AA

Fully balanced operation

Fully balanced operation

Power amp to match Unisys

Two box pre, separate PSU

Line level version of Unisys

2x monoblocks

1 channel monoblock

2x Monoblocks

Class A

Class A

				_					
Madal	Price	Туре	A/V	Powe	Inputs	Headphones	Remote	Size	Canadial
Model AMPLIFIERS	æ	3	<	7	0	S I	0	Size	Special
Pioneer A-202	170	Int	Ν	35	MM,2L,2T	Υ	Ν	42,11,29	
Pioneer A-302R	200	Int	Ν	30	MM,3L,2T	Y	Y	42,13,34	
Pioneer A-300X	230	Int	N	30	MM,4L,2T	Y	N	42,13,36	
Pioneer A-400	280	Int	N N	50 50	MM/MC	Y Y	N N	42,13,36 42,13,36	
Pioneer A-400X	300 300	Int Int	N	55	MM/MC4,2 MM,3L,2T	Y	Y	42,13,36	
Pioneer A-502R Pioneer A-502R-G	310	Int	N	55	MM,3L,2T	Y	Y	42,13,36	Satin gold A-502R
Pioneer A-602	350	Int	N	70	MM/MC	Y	N	42,17,44	baan gold A bozh
Pioneer VSA-701S	500	Int	Y	55	MM.2L,2T,5V	Ý	Y	42,17,42	Dolby Pro Logic
Pioneer C-73	550	Pre	N	-	MM/MC,3L,1T	Y	Ν	46,17,42	, ,
Pioneer VSA-D802S	600	Int	Y	55	MM.2L,2T,5V	Y	Y	42,17,42	Dolby Pro Logic
Pioneer M-73	750	Pwr	Ν	110	-	Y	N	46,17,43	Class A/B switchable
PS Audio 6.1	799	Pre	Ν	-	4L,1T	Ν	Ν	43,6,19	Outboard PSU
PS Audio Phono Link	799	Pre	Ν	-	MM/MC	Ν	N	43,6,19	Outboard PSU
PS Audio 5.6	1090	Pre	Ν	-	MM/MC,3L,2T	N	Ν	43,6,19	Outboard PSU
PS Audio 100 Delta	1499	Pwr	-	120		·		42,15,35	
PS Audio 200 Delta	2279	Pwr	-	200	-			42,15,45	
PS Audio 200b Delta PS Audio 250 Delta	2490 2980	Pwr Pwr	-	200 250	-		-	42,15,45 42,15,45	Monoblocks
QED Vector One	250	Pre	N	200	4L,1T	N	N	42,10,40	WOHDDIUCKS
QED C-300CD	259	Pre	N	-	MM/MC,4L,1T	N	N	-	
QED C-300PA	329	Pre	N	-	MM/MC,4L,1T	N	N	-	
QED A270CD	369	Int	N	55	MM,MC,3L,1T	Y	N	-	
QED Vector Reference	399	Pre	Ν.	-	5L,1T	N	Ν	-	
QED A270PA	429	Int	Ν	55	MM/MC,4L,1T	Ν	Ν	-	
Quad 306	350	Pwr	Ν	70	-	Ν	Ν	33,7,21	Stereo power amp
Quad 34	398	Pre	N	-	MM,2L,T	N	N	33,7,21	Optional MC phono input
Quad 606	690	Pwr	Ν	140	-	-	N	33,14,24	Stereo power amp
Quad 66	863	Pre	N	35	MM,4L,2T	N	Y	33,8,26	Variable inputs, inc R/C
R Developments Kalypso	499 998	Int Int	N N	15 35	5L 5L	-	-	-	
R Developments Romulus Rega Brio	198	Int	N	30	OL MM,3L,1T	N	N	43,7,15	
Rega Elex	359	Int	N	50	MM,3L,1T	N	N	43,7,25	
Rega Elicit	730	Int	N	70	MM,MC,3L,1T	N	N	43,7,25	
Roksan ROK-L2	995	Pre	N	-	4L.1T	N	N	-	
Roksan ROK-S1	1495	Pwr	Ν	-	-	Ν	Ν	-	
Roksan ROK-L1	2250	Pre	Ν	-	4L,1T	N.	N	-	
Roksan ROK-M1	4500	Pwr	Ν	-	-	N	Ν	Ψ	Pair monoblocks
Rose RV-23	450	Pre	Ν	- 11	MM,2L,1T	Ν	Ν	33,9,26	Tube, zero feedback
Rose RV-23S	525	Pre	Ν	-	MM/MC,2L,2T	N	Ν	33,9,26	Tube, separate PSU
Rose RP-190 (Dual Mode)		Pwr	N	75	-	-	1	33,9,30	Low feedback monoblock (x2
Rotel RC970BX Rotel RA930AX	150 175	Pre Int	N N	30	3L,2T MM,3L1T	Y Y	N N	44,8,29 44,9,31	
Rotel RA935BX	225	Int	N	50	3L,2T	V	N	44,9,31	Separate listen/rec selectors
Rotel RB970BX	225	Pwr	N	60	01,21		14	44,10,33	Separate insteriored selectors
Rotel RA960BX2	325	Int	N	60	MM/MC,3L,2T	Y	N	44,9,35	Separate listen/rec selectors
Rotel RC980BX	350	Pre	Ν	-	MM/MC,3L,2T	Y	Ν	44,7,33	
Rotel RA980BX	425	Int	Ν	100	MM/MC,3L,2T	Y	Ν	44,12,34	Separate listen/rec selectors
Rotel RB980BX	450	Pwr	Ν	120	-	-	-	44,12,33	
Rotel RC990BX	500	Pre	Ν	-	MM/MC,3L,2T	Y	Y	44,7,33	
Rotel RB990BX	750	Pwr	Ν	200	-	-		44,12,38	
Sansui AU-X117	170	Int	N	30	MM,3L,1T	Y	N	-	
Sansui AU-X3172.	275	Int	N	40	MM,3L,1T	Y	N	2 2	
Sansui AU-X417R Sansui AU-X517R	280 450	Int Int	N N	45 60	MM,3L,2T MM/MC,3L,2T	Y Y	N Y	-	
Sansui AU-Alpha 607	1300	Int	N	90	MM/MC,2L,1T	Y	Y	-	
Sansui AU-Alpha707	1500	Int	N	90	MM/MC, 4L3T	Y	Y	-	Built in BS DAC
Sentec PP9 RIAA MM	500	Pre	Ν	-	MM	N	N	5,12,23	Phono step-up - MM
Sentec PP9 RIAA MC	600	Pre	Ν	-	MC	Ň	N	5,12,23	Phono step-up - MC
Sentec SC9	800	Pre	Ν	-	4L,2T	Y	Ν	34,7,15	
Sentec PA9	1000	Pwr	Ν	60	-	-	-	20,8,30	Monoblocks
Shearne Phase II	549	Int	N	50	4L,2T	N	N	-	
Shearne Phase 1 Pre	1099	Pre	N	-	MM/MC/4L,2T	N	N	-	Dual mone
Shearne Phase 1 Power Sherwood AI 2210	1199 60	Pwr Int	- N	80 30	MM,3L,1T	Y	N	-	Dual mono
Sherwood Al 1110	100	Int	N	30 55	MM,4L,1T	Y Y	N	-	
Sherwood AI 2010	120	Int	N	30	MM,4L,2T	Y	N	-	
Sherwood Al 3010	140	Int	N	40	MM,4L,2T	Y	N		
Sherwood AI 5010	170	Int	N	70	MM,3L,2T	Ŷ	N		
Sherwood AM/AVP8500	800	-	Y	230	-	Y	Y	-	A/V Pre/power amp
Sirius Control Unit	720	Pre	Ν	-	6L,2T	Ν	Ν	23,5,19	Passive preamp
Sirius 7B	2492	Pwr	N	200	-	N	Ν	30,23,19	1x monoblock
Sonic Link DM20	349	Int	N	25	MM,3L,1T	Y	N	23,8,43	
Sonic Link DM20 Gold	598	Int	N	30	MM/MC,3L,1T	Y	N	23,8,43	
Sonic Link DM30 Sony TAF211B	725 150	Int Int	N N	25 30	MM/MC,3L,1T MM/2L	N Y	N N	23,8,43 43,14,31	Source direct
Sony TAF211B Sony TAF242B	200	Int	N N	30 60	MM/2L MM/2L	Y	N	43,14,31 43,14.31	Source unect
Sony TAF444E	250	Int	N	40	MM,3L,2T	Y	N	43,14.31	MOSFET power stage
Sony TAF542E	300	Int	N	90	MM/MC,3L,2T	Ŷ	N	43,15,38	UK optimised sound
Sony TA-AV570B	400	Int	Y	70	MM,4L,5T	Y	N	43,15,36	Dolby Pro Logic
Stemfoort Audio SF60	549	Int	N	60	4L,1T	Ν	Ν	43,8,35	Passive line amplifier
Stemfoort Audio SF100	849	Int	N	100	4L,1T	Ν	Ν	43,8,40	Passive line amplifier
Synergy 3080	0	N	15	MM,	N	N	-		
Teac A-X1030	180	Int	N	40	MM,3L,2T	Y	N	44,13,36	CONTRACTOR OF THE OWNER OF THE OWNER OF THE OWNER
Teac A-X3030 *	220	Int	N	60	MM,3L,2T	Y	N	44,13,36	Mic input
Listings marked in red	las ch	own I	alow	are o	overed in the Hi	Ei C	hoice	Directory	caa n122

Listings marked in red	(as shown	below) are	e covered in the	Hi-Fi Choid	ce Directory,	see p123
	The Barries State 17	Wat when	In the second second second second	200 - C	The shares	

Harman-Kardon DC5300 499 N 45,13,35 Harman-Kardon DC5500 599 45 13 35 45.13.35 Harman-Kardon TD4600 699 B.C.S Harman-Kardon DC5700 699 45.13.35 Both transports record 45,13,35 Harman-Kardon TD4800 1299 B.C.S 44,13,24 JVC TD-W106BK Twin, one recording deck JVC TD-X352BI 150 44.13.33 Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see page 123 320 B.C

PIONEER

BEST PRICES GUARANTEED



ALL BILL HUTCHINSON HI-FI SHOPS ARE DEDICATED AUDIO VISUAL CENTRES





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ensure you obtain an excellent deal. My staff and I look forward to being of service to you.

PRICE PLEDGE

Should you find any local dealer offering a better price for goods currently in stock at Bill Hutchinson and the alternative quoting retailer, we will better that deal.

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YAMAHA DSP-2070	- AV AMPLIFIER	- INNOVATION WINNER '94	Ĺ
KENWOOD KRV 6060	- AV RECEIVER	- INNOVATION WINNER '94	Ĺ
PIONEER PDS-703	- CD PLAYER	- INNOVATION WINNER '94	Ĺ
MARANTZ 1020	- LYFE STYLE SYSTEM	- INNOVATION WINNER '94	Ĺ
AIWA AD-450	- CASSETTE DECK	- INNOVATION WINNER '94	Ĺ
KEF 100	- CENTRE SPEAKERS	- INNOVATION WINNER '94	Ĺ
JVC UX-C7	- AV AMPLIFIER	- INNOVATION WINNER '94	Ĺ



HI-FI CHOICE BUYER'S GUIDE 97



Key to cassette decks Price - typical retail, to nearest pound, Type T - twin transports, allowing tape to tape dubbing, sequential play etc; S - Single transport, AR - autoreverse. Dolby - B (todB noise reduction), C (2odB), S (24dB). B is standard for prerecorded material.

Heads - 2 - combination record/play heads; 3 - independent record/play heads, allowing real time off tape monitoring. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to compact disc players, transports and DACs Price - typical retail, to nearest pound. DAC Type - MB - multibit, 1 bit - single bit, BS - Bitstream, DS - Delta Sigma, M - MASH, Hybrid - combines multibit and single bit. Outputs Digital: Opt - optical (usually Toslink), EI - electrical (usually coaxial S/PDIF).

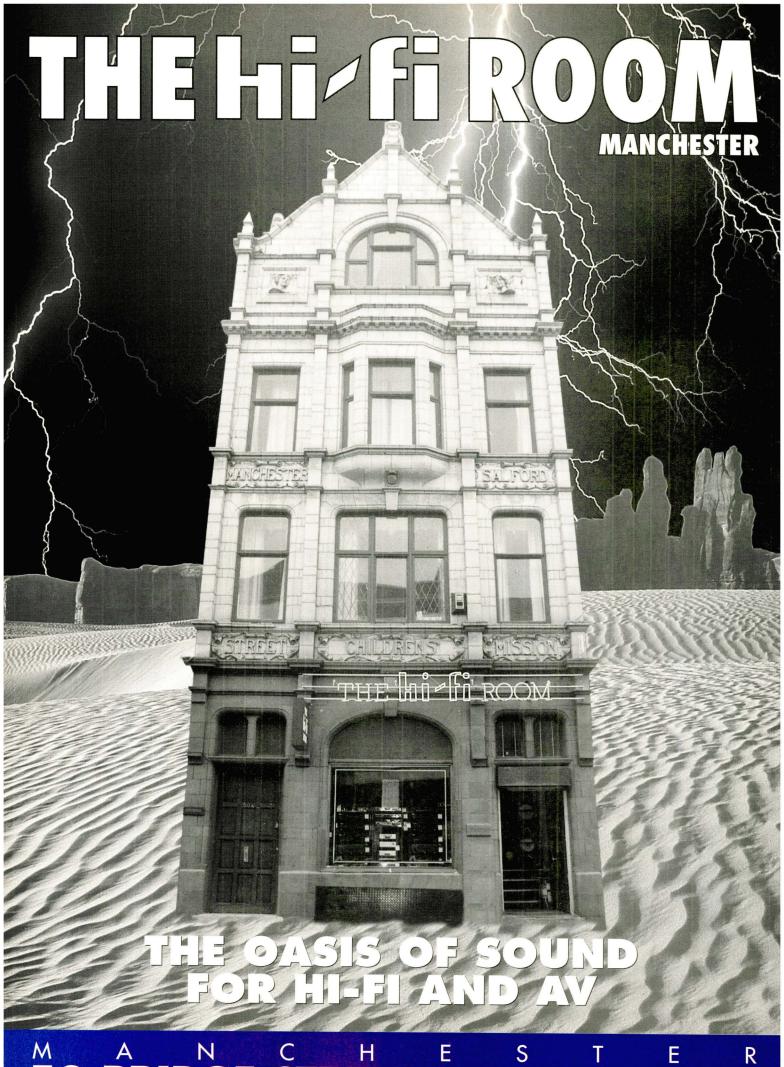
Remote Control - Y - yes, N - No. Size - width x height x depth in cm. Products highlighted in red have beer

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Model	Price	Туре	Dolby NR	Dolby HX Pro	Heads	Size	Special
CASSETTE DECKS	e	e	R	0	S	SIZE	Special
JVC TD-W208BK	170	Τ	B,C	Y	2	44,13,33	Twin, one recording deck
JVC TD-W308BK	200	T,AR	B,C	Y	2	44,13,33	Twin, one recording deck
JVC TD-V562BK	220	S	B,C	Y	3	44,13,33	Cassette stabiliser
JVC TD-W708BK	250	T,AR	B,C	Y	2	44,13,33	Twin record/play
JVC TD-V662BK	270	S	B,C	Y	3	44,13,33	Dual capstan
Kenwood KX-3050	170	S	B.C	Y	2	44,12,37	Tape path stabiliser
Kenwood KX-W4060	180	Т	B.C	Y	2	44,13,30	Computer controlled recording
Kenwood KX-W6060	200	Т	B.C	Y	2	44,13,30	Auto bias
Kenwood KX-5530	220	S,AR	B.C	Y		44,12,30	Auto bias
Kenwood KX-5050	230	S	B.C	Y	2	44,12,30	Auto bias
Kenwood KX-W8060	260	Т	B.C	Y	2	44,13,30	Auto bias
Kenwood KX-7050	330	S	B.C	Y	3	44,13,30	Auto tape calibration
Kenwood KX-7050S	400	S	B.C	Y	3	44,13,30	Auto tape calibration
Kenwood KX-9050S	550	S	B.C	Y	3	44,13,30	Auto tape calibration
Marantz SD-53	200	S	B,C	Y	2	43,14,30	D-bus
Marantz SD-415 II	210	T	B,C	Y	2	43,14,30	D-bus, mic mixing
Marantz SD-63	250	S	B,C	Y	3	43,14,30	D-bus
NAD 602	200	S	B,C	Y	2	-	Play Trim
NAD Monitor 6100	299	S	B,C	Y	2	-	Play Trim, remote cntrl, Dyneq
Nakamichi DR-3	400	S	B,C	Ν	2	43,10,32	
Nakamichi DR-2	600	S	B,C	Ν	3	43,10,32	Diffused resonance transport
Nakamichi DR-1	850	S	B,C	Ν	3	43,10,32	Manual azimuth calibration
Nakamichi CR-7E	1995	S	B,C	Ν	3	44,14,30	Auto tape calibration, R/C
Nakamichi Dragon	2350	AR	B,C	Ν	3	45,14,30	Auto azimuth correct
Onkyo TA201	200	S	B,C	Y	2	46,12,13	
Onkyo TA-RW313	250	T	B,C	Ŷ	2	46,12,31	
Onkyo KR-609	350	AR	B,C	Y	-	-	Mini component
Onkyo TA250	350	S	B,C	Y	3	46,12,31	
Onkyo K-W606	370	T.AR	B,C	Y	2	28,12,32	Mini component
Onkyo K-611	430	AR	B,C	Y	-	3	Mini component
Pioneer CT-S220	170	S	B,C	Y	2	42,13,28	System remote sockets
Pioneer CT-W420R	200	T,AR	B,C	Y		42,13,25	Logic, double auto reverse
Pioneer CT-S320	200	S	B,C	Y	2	42,13,28	Auto tape setup
Pioneer CT-W620R	250	T,AR	B,C	Y	2	42,13,25	Auto tape setup
Pioneer CT-S420	250	S	B,C	Y	3	42,13,28	Auto tape setup, CD synch
Pioneer CT-S520	280	S	B,C	Y	3	42,13,28	Remote control CT-S420
Pioneer CT-W820R	300	T,AR	B,C	Y	2	42,14,25	Remote control, parallel recor
Pioneer CT-S620	330	S	B,C	Y	3	42,14,38	Slant Z-mechanism
Pioneer CT-S620-G	340	S	B.C	Y	3	42,14,38	Satin gold CT-S620
Pioneer CT-M601R	380	AR	B,C	Y	2	42,14,38	Five tape continuous record/pl
Pioneer CT-920S	680	S	B,C,S	Y	3	42,14,38	Slant Z-mechanism
Pioneer CT-95	1000	S	B,C,S	Y	3	44,15,38	Copper plated chassis
Sansui D-X117HX	220	S	B.C .	Y	2	-	
Sherwood DS1150	80	S	B,C	N	2	-	
Sherwood DS1010C	100	S	B,C	Y	2	-	Mic input
Sherwood DD1030C	100	Т	В	N	2	-	
Sherwood DS3010C	120	S	B,C	Y	2	-	
Sherwood DD3010C	150	Т	B,C	Y		-	
Sherwood DS5010DC	170	S	B,C	Y	2	-	
Sony TCFX211B	100	S	B,C	Ν	2	43,12,29	
Sony TCK 215B	130	S	B,C	Y	2	43,12,31	Tape calibration
Sony TCK311B	130	S	B,C	Y	2	43,12,31	Auto calibration
Sony TCW445B	150	Т	B,C	Y	2	43,12,31	Full logic control
Sony TCK415B	180	S	B,C	Y	3	43,12,31	UK optimised sound
Sony TCWR545B	200		B,C	Y		43,12,29	Auto calibration
Sony TCWR645S	250	-	B,C,S	Y	2	43,12,31	UK optimised sound
Sony TCK511S	250	-	B,C,S	Y	3	43,12,31	UK optimised sound
Sony TCK611S	300		B,C,S	Y	3	43,12,30	UK optimised sound
Teac V-600	150		B,C	Y	2		Fine bias
Teac W-700R	220	-	B,C	Y	2	44,15,29	
Teac V-1010	250		B,C	Y	2 2 3	44,15,29	Fine bias
Teac V-3010	350	S	B,C	Y	3	44,15,36	Copper chassis, remote
Teac V-2020S	380	1.2	B,C	Y	3	44,15,29	Tape calibration
Teac W-6000R	450		B,C	Y		44,15,33	Pitch control, remote
Teac R-9000S	500		B,C	Y	2	49,15,36	Remote control
Teac V-8000S	700		B,C,S	Y	3	48,15,36	Direct drive, tape cal, remote
Technics RS-TR232	180		B,C	Y		43,14,29	Play transport unidirectional
Technics RS-BX404	180		B,C	Y	2	43,13,29	Mic inputs, auto tape cal
Technics RS-TR333	200		B,C	Y	2	43,14,29	
Technics RS-BX646	230		B,C	Y	3	43,13,30	Auto tape cal, remote ready
Technics RS-TR515	250		B,C	Y	2	43,14,29	Optical quick reverse
Technics RS-BX747	300		B,C	Y	2	43,13,30	Fine bias adj, THC lo-red base
Technics RS-TR979	380	-	B,C	Y	2	43,13,28	Both decks record, quick rev
Yamaha KX-650	260	S	B/C	Y	3	-	
Yamaha KX-W952	500	Т	B,C	Y	2	-	
		-		-	-		

Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see page 123

			Out			
	Price	Dac Type	Outputs Dig	Remote		
	се	pe	ig	te	Size	Special
CD PLAYERS Aiwa XC-300	150	1bit	0	Y		
Aiwa DX-M100	150	1bit	-	Y		Midi size
Aiwa XC-750	200	1bit	-	Y	-	Peak search. record calibratio
Aiwa XC-950	250	1bit	-	Y	-	Peak search. record calibratio
AMC CD6	349	BS	E,0	Y	-	
Arcam Alpha 5	450	MB	E		43,8,27	
Arcam Delta 270	800	Hybrid	2E		43,9,28	
Audiomeca Kreatura	1199	MB	E	Y	25,14,39	Heavily modified CDM
Aura CD50	400	BS	E	Y	43,7,34	Ohmenne finish
Aura CD50CHR AVI S2000MC	450 999	BS MB	E	Y Y	43,7,34	Chrome finish
Cambs CD200 Mk II	150	1bit	E	Y	42,9,29	
Cambridge Audio CD200	150	MB	N	Y	42,9,29	Can play in reverse order
Denon DCD-595	180	MB		Y	44,11,29	Digital attenuator
Denon DCD-695	200	MB	E	Y	44,11,28	
Denon DCD-890	270	MB	E	Y	44,12,29	UK specified components
Denon DCD-1290	330	MB	0	Y	44,13,32	UK specified components
Denon DCD-2560	600	MB	E,0	Y	44,13,35	5-fold PSU
Eclipse CD101	80	MB	-	Y	36,8,29	
Eclipse CD420	100	MB	-	Y	42,8,29	
Eclipse CD720	120	MB	-	Y	42,8,29	
Goodmans Delta 700	110	MB	N	Y	-	
Goodmans GCD360R	120	MB	N	Y	-	20
Grundig CD210	120	BS	E	Y	36,8,30	30 mem, random repeat
Grundig CD1	140	BS	E	Y Y	44,9,30	
Grundig CD2 Grundig CD3	190 240	BS BS	E	Y Y	44,9,30 44,9,30	FTS, display off, fade, DAC7
Grundig CD3 Harman-Kardon HD7325	240	BS	E E.O	Y	44,9,30	TO, Gopiay VII, Idue, DAG7
Harman-Kardon HD7325 Harman-Kardon HD7425	349	MB	E,U E	Y	45,10,33	
Harman-Kardon HD7525	449	MB	E	Y	45,10,33	
Harman-Kardon HD7625	549	MB	E	Ŷ	45,10,33	
Harman-Kardon HD7725	799	MB	E,0	Y	45,10,33	
Jadis JS-1	8068	MB	-	-	-	
JVC XL-V174BX	140	1bit	-	Y	44,10,28	
JVC XL-V274BK	160	1bit	-	Y	44,10,28	
JVC XL-M408BK	300	1bit	-	Y	44,13,32	Six disc
JVC XL-Z1050TN	500	1bit	E	Y	45,11,34	
Kenwood DP-2050	170	1bit	-	Y	44,10,26	Central mechanism
Kenwood DP-R4060	200	1bit	-	Y	44,12,38	Five disc carousel
Kenwood DP-3050	200 270	1bit 1bit	-	Y Y	44,10,26	High precision master clock Multiplay CD 6+1 disc
Kenwood DP-M6060 Kenwood DP-5050	270	1bit	-	Y	44,12,36 44,12,31	High rigidity chassis
Kenwood DP-7050	350	1bit	0	Y	44,12,31	High rigidity chassis
Krell CD DSPII 5000	5000	MB	2E	Y	42,13,28	Has digital in, balanced out
Linn Mimik	798	DS	E	Y	32,8,33	BNC digital
Linn Karik	1497	DS	E,0	Y	32,8,33	BNC digital
Luxman D500X's	3750	MB	0	Y	44,12,39	Top loading
Marantz CD-53	200	BS	E	Y	43,9,30	New transport, DAC, circuit
Marantz CD-52 II	230	BS	E	Y	42,12,30	Selected passive components
Marantz CD-63	250	BS	E,0	Y	42,9,30	As CD-53
Marantz CD-52 II SE	300	BS	E	Y	42,12,28	Selected passive components
Marantz CD-72SE	600	BS	E,0	Y	42,12,28	As CD-52, 4V output
Marantz CD-10	1200	BS	E,0	Y	46,14,36	Twin DAC-7, heavy build
McIntosh MCD7008 Meridian 506	1895 795	MB DS	E E,O	Y N	- 33.9.34	Seven disc multiplayer
Meridian 506 Meridian 606	1350	1bit	E,0 3E,0	N		
Meridian 606 Meridian 508	1350	DS	3E,0 E,0	N	33.9.34	
Metaxas PHOS	1750	BS	E,0	Y	42,16,42	
Micro-Seiki CD-M2DC	3695	MB	E	Y	-	
Micro-Seiki CDM2000X	4689	MB	E	Y	-	
Micromega Stage 1	450	BS	E	Y	43,28,88	Upgradable
Micromega Stage 2	600	BS	E	Y	43,28,88	Upgradable
Micromega Stage 3	800	BS	E	Y	43,28,88	Upgradable
Micromega Trio	6000	BS	E	Y	34,48,31	AES/Toslink digital output
Mission DAD5	300	BS	E	Y	37,11,29	Integrated CD player
Mission DAD7	900 1900	MB MB	E	Y Y	22,8,36 22,8,36	Two box player
Mission Discmaster Musical Fidelity CDT	519	MB	E N	Y N	41,7,25	Tube output stage, top loading
Musical Fidelity FCD	1499	BS	2E,0	Y	49,12,33	XLR balanced out, tube o/p sta
NAD 501	180	BS	-	N	-	
NAD 502	220	М	E	Y	-	
NAD Monitor 5000	309	М	E	Y	-	
Naim CD3	898	MB		Y	32,6,30	1 box
Naim CDI	1677	MB	- 1	Y	43,16,30	One box, no digital output, to
Naim CD5	3254	MB	-	Y	43,16,30	Two box, no digital output, to
Nakamichi MB-4S	299	MB	-	Y	43,10,27	Multi-CD, 16 x 4 oversampling
Nakamichi CD4	380	MB	E	Y	43,10,32	
Nakamichi MB3	650	MB	-	Y	43,10,38	Multi CD, 18x8 oversampling
Nakamichi MB2	850	MB	E	Y	43,10,38	Multi-CD, 20x8 oversampling
NVA TES	1500 999	BS BS	E	Y	- 43,8,33	DAC7
Onix CD33 Onkyo DX710	200	BS 1bit	-	Y	43,8,33 46,11,31	
		1 bit	0	Y	46,11,31	
	240					
Onkyo DX703	240 290	1bit	0	Y	-	Mini component
	240 290 350				-	Mini component



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Key to compact disc players, trans-ports and DACs Price - typical retail, to nearest pound. DAC Type - MB - multibit, 1 bit - single bit, BS - Bitstream, DS - Delta Sigma, M - MASH, Hybrid - combines multibit and single bit. Outputs Digital: Opt - optical (usually ros(ink), EI - electrical (usually coaxi-al S/PDIF).

Remote Control - Y - yes, N - No. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to compact disc players, trans-ports and DACs Price - typical retail, to nearest pound. DAC Type - MB - multibit, 1 bit - single bit, BS - Bitstream, DS - Delta Sigma, M - MASH, Hybrid - combines multibit and single bit. OutputS Digital: Opt - optical (usually Toslink), EI - electrical (usually coaxi-al S/PDIF).

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Remote Control - Y - yes, N - No. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

\sim						
Model	Price	Dac Type	Outputs Dig	Remote	Size	Special
CD PLAYERS				1.0	0120	apasia.
Onkyo DX750	350	1bit	0	Y	46,11,31	
Orelle CD480	400	MB	E	Y	44,10,28	DC coupled
Drelle CD160	750	MB	E	Y	44,7,32	Passive filtering, DC coupled
Drelle CD260 II	900	MB	E	Y	44,7,32	Audiophile components, DC cpld
Philips CD732	140	BS	E	Y	44,11,30	
Philips CD920	160	BS	E	Y	44,11,30	
		BS	E	Y		
Philips CD930	200				44,13,30	
Philips CDC935	230	BS	E	Y	44,13,38	Five disc CD player
Pioneer PD-102	150	1-bit	-	Ν	42,11,28	Display off
Pioneer PD-202	170	1-bit	-	Y	42,11,28	As 101, variable output & remo
Pioneer PD-S502	230	1-bit	-	Y	42,11,29	Stable Platter Mechanism
Pioneer PD-S602	270	1-bit	0	Y	42,11,29	SPM, optical out
Pioneer PD-M602	270	1-bit	-	Y	42,11,30	Six disc
Pioneer PD-S702	300	1-bit	0	Y	42,13,27	SPM, Legato Link filter
Pioneer PD-M701	330	1-bit	1.0	Y	42,13,30	Six disc
Pioneer PD-S802	350	1-bit	E.0	Y	42,14,27	SPM, Legato Link filter
and the second se			2,0	Y		-
Pioneer PD-M901	450	1-bit	-		42,13,33	Six disc, DSP soundfield contr
Pioneer PD-DM802	450	1-bit		Y	42,14,31	Dual magazine 12-disc
Pioneer PD-S901	499	1-bit	E,0	Y	42,13,33	SPM, Legato Link, Twin DAC
Pioneer PD-TM3	500	1-bit	1	Y	42,18,35	Triple magazine, 18-disc
Pioneer PD-77	1100	1-bit	E,0	Y	44,13,33	Satin gold finish
Pioneer PD-95	2500	1-bit	E,0	Y	44,16,34	Balanced out, Legato, SPM
luad CD67	825	DS	E	Y	33.8.26	For use with 66 system
Roksan ATT-DP2P	1495	DS	E	Y	46,12,35	Player, four level isolation
Rotel RCD-945AX	230	BS	E	Y	40,12,33	
and the second						Audiophilo composeste
Rotel RCD-965BX	300	BS	E	Y	44,10,32	Audiophile components
Rotel RCD-965BX D	375	BS	E	Y	44,10,32	Discrete output
Rotel RCD-965BX LED	425	BS	E	Y	44,10,32	Discrete & slit foil caps
Sansui CD-270	180	BS	Ν	Ν	-	
Sansui CD-117K II	200	MB	Ν	Ν	-	
Sansui CD-X217i	200	MB	E	Ν	-	
Sansui CD-X317	250	BS	E.0	Y	-	
Sansui CD-X617	350	BS	E.0	Y		
Sentec Diana	1100	MB	E,0	N	12,5,23	20 bit
		and the second s	Y Y	- Andrews	12,3,23	20 Dit
Sherwood CD3020R	130	BS		N	-	
herwood CD5010R	160	BS	Y	N		
Sherwood CDC5030	200	1bit	N	Y	44,10,38	Five disc carousel
Sony CDP-M302	130	1bit	Ν	Y	36,10,33	Midi-size, full remote control
Sony CDP-312	150	1bit	-	Y	43,10,29	Digital servo
Sony CDP-C325M	230	1bit	. N	Y	36,10,39	Midi size, 5-disc player
Sony CDP-C345	230	1bit	-	Y	43,13,39	Five disc player
Sony CDP-715E	250	1bit	0	Ŷ	43,11,30	UK optimised sound
Sony CDP-915E	300	1bit	0	Y	43,11,36	UK optimised sound
			and the second se			
Sony CDP-CX100	800	1bit	0	-	43,13,38	100 disc autochanger
Feac CD-P3500	200	BS	E	Y	44,12,28	
Teac CD-P4500	280	BS	E	Y	44,12,29	Digital attenuator
eac VRDS-7	600	BS	E,0	Y	45,15,34	Twin BS
eac VRDS-10	770	BS	E,0	Y	45,15,34,	Twin DAC7, balanced output
eac VRDS-20	1300	BS	E.0	-	50.15.34	Twin DAC7, balanced output
eac X-1	2500	MB		Y	46.14.40	Balanced out, 4x20bit
eac X-1S	3500	MB	0	v	46,14,40	Balanced out, 4x 20bit
				1 v		
Technics SL-PG360A	140	M	N	1 V	43,10,29	Remote control capable
echnics SL-PG440A	170	M	N	Y	43,10,29	4-DAC
echnics SL-PG560A	180	M	0	Y	43,11,30	Selected audio parts
Fechnics SL-PS620A	200	М	0	Y	43,12,29	
Fechnics SL-PS740A	250	М	0	Y	43,13,29	Centre tray
Fechnics SL-PS840	420	М	0	Y	43,13,34	Advanced MASH converter
Technics SL-P2000	1000	М	0	Y	45,13,33	THCB base, R-Core transformer
Vadia 6 Player	3995	MB	E,O	Y	35,14,41	Digital volume, AT&T, balanced
amaha CDX-670	290	BS	E,O	Y		J
amaha CDC-635	300	BS	2,0	Y		
amaha CDC-635 amaha CDX870		a second s		Y	-	
CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR	330	BS .	0	-	-	
	599	BS	E,O	Y	-	O the sector sec
The second state of the se		MB	E,0	Y	43,10,33	Outboard power supply
and the state of t	2999					
Yamaha CDX-1000 YBA 2		Dac Type	Outputs Dig	Remot	Size	Stanial
/BA 2 Model	Price	Dac Type	Outputs Dig	Remote	Size	Special
/BA 2 Model CD TRANSPORTS	Price	Dac Type		Remote		
/BA 2 Nodel CD TRANSPORTS Arcam Delta 250	Price 750	Dac Type	2E, 0		43,9,28	BNC out. Has sync lock input
/BA 2 Model CD TRANSPORTS vrcam Delta 250 vudiolab 8000CDM	Price 750 1250	Dac Type	2E, 0 E,0	Y	43,9,28 45,8,36	BNC out. Has sync lock input Precision master clock
BA 2 Nodel CD TRANSPORTS Ivrcam Delta 250 uudiolab 8000CDM uudiomeca Kreatura	Price 750 1250 999	Dac Type	2E, 0	Y Y	43,9,28 45,8,36 25,14,39	BNC out. Has sync lock input Precision master clock Heavily modified CDM
BA 2 Nodel CD TRANSPORTS wadiolab 8000CDM wudiolab 8000CDM wudiomeca Kreatura wudiomeca Mephisto	Price 750 1250 999 1999	Dac Type	2E, O E,O E,O	Y Y Y	43,9,28 45,8,36	BNC out. Has sync lock input Precision master clock
/BA 2 Model CD TRANSPORTS Arcam Delta 250 Audiolab 8000CDM Audiomeca Kreatura Audiomeca Mephisto	Price 750 1250 999	Dac Type	2E, 0 E,0	Y Y Y Y	43,9,28 45,8,36 25,14,39	BNC out. Has sync lock input Precision master clock Heavily modified CDM
BA 2 Model ID TRANSPORTS vicam Defa 250 wudiolab 8000CDM wudiomeca Kreatura wudiomeca Kreatura wudiomeca Mephisto Counterpoint DA-11E	Price 750 1250 999 1999	Dac Type	2E, O E,O E,O	Y Y Y	43,9,28 45,8,36 25,14,39	BNC out. Has sync lock input Precision master clock Heavily modified CDM
Addel Addel ADTRANSPORTS wudiolab 8000CDM wudiomeca Kreatura wudiomeca Kreatura Sunterpoint DA-11E DPA 11 Transport	Price 750 1250 999 1999 1495	Dac Type	2E, O E,O E,O	Y Y Y Y	43,9,28 45,8,36 25,14,39	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen
BA 2 Todel CD TRANSPORTS Incarn Delta 250 uudiolab 8000CDM uudiomeca Kreatura uudiomeca Mephisto isounterpoint DA-11E isounterpoint DA-11E MPA T1 Transport adis JCDT	Price 750 1250 999 1999 1495 895 8000	Dac Type	2E, 0 E,0 E,0 - -	Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - -	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load
BA 2 Todel D TRANSPORTS urcam Delta 250 uudioah 8000CDM uudioahe 8000CDM uudioaneca Kreatura uudioaneca Kre	Price 750 1250 999 1999 1495 895 8000 4999	Dac Type	2E, 0 E,0 E,0 - - E,20	Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - - - 42,13,28	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with
BA 2 TOTRANSPORTS roam Delta 250 wdiolab 8000CDM wdiomeca Kreatura wdiomeca Kreatura wdiomeca Kreatura tomterpoint DA-11E IPA 11 Transport adis JCDT rell MD-20 trans rell MD-10 trans	Price 750 1250 999 1999 1495 895 8000 4999 7990	Dac Type	2E, 0 E,0 E,0 - - E,20 2E,0	Y Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - - 42,13,28 42,13,28	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load Top load, AT&T optical out
BA 2 fodel control and the second s	750 1250 999 1999 1495 895 8000 4999 7990 9090	Dac Type	2E, 0 E,0 E,0 - - E,0 2E,0 2E,0 2E,0	Y Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - - 42,13,28 42,13,28 42,13,28	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load
Addel Addel CD TRANSPORTS Arcam Delta 250 Audiomeca Kreatura Audiomeca Kreatura Audiomeca Kreatura Audiomeca Mephisto Counterpoint DA-11E PAT 1T rransport Iadis JCDT Grell MD-20 trans Grell MD-10 trans Grell MD-10 trans Grell MD-10 trans Meridian 200	750 1250 999 1999 1495 895 8000 4999 7990 9090 895	Dac Type	2E, 0 E,0 E,0 - - E,20 2E,0 2E,0 E,0	Y Y Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - - 42,13,28 42,13,28 42,13,28 42,13,28 32,32,10	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load Top load, AT&T optical out
VBA 2 Model CD TRANSPORTS Arcam Delta 250 Audioabe 8000CDM Audiomeca Kreatura Audiomeca Mephisto Counterpoint DA-11E DPA T1 Transport Jadis JCDT Krell MD-20 trans Krell MD-10 trans Krell MD-10 trans Weridian 200 Meridian 500	750 1250 999 1999 1495 895 8000 4999 7990 9090 895 975	Dac Type	2E, 0 E,0 E,0 - - E,20 2E,0 2E,0 E,0 E,0	Y Y Y Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - 42,13,28 42,13,28 42,13,28 42,13,28 32,32,10 32,33,9	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load Top load, AT&T optical out
Videal CD TRAINSPORTS Arcam Delta 250 Audiolab 8000CDM Audiomeca Kreatura Audiomeca Mephisto Sounterpoint DA-11E DPA T1 Transport Jadis JCDT Krell MD-10 trans Krell MD-10 trans Krell MD-10 trans Krell MD-10 trans Meridian 200 Meridian 500 Meridian 602	Price 750 1250 999 1999 1495 895 8000 4999 7990 9090 9090 895 975 1750	Dac Type	2E, 0 E,0 E,0 - E,20 2E,0 2E,0 E,0 E,0 E,0 E,0	Y Y Y Y Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - - 42,13,28 42,13,28 42,13,28 32,32,10 32,33,9 32,33,10	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load Top load, AT&T optical out Front loader
Contraction of the second s	750 1250 999 1999 1495 895 8000 4999 7990 9090 895 975	Dac Type	2E, 0 E,0 E,0 - - E,20 2E,0 2E,0 E,0 E,0	Y Y Y Y Y Y Y Y Y Y	43,9,28 45,8,36 25,14,39 43,15,33 - - 42,13,28 42,13,28 42,13,28 42,13,28 32,32,10 32,33,9	BNC out. Has sync lock input Precision master clock Heavily modified CDM Integral platter, layer suspen 'Deltran' clock locking (with Top load Top load, AT&T optical out

Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see page 123.

		al S/PDIF).									
		Dac	Outputs	Re							
Model	Price	Dac Type	ts Dig	Remote	Size	Special					
CD TRANSPORTS	æ	CD .		CD I	3120	Sheciai					
Micromega T-Drive	1200	-	E	Y	22,28,88	Tray loading, AES/EBU out					
Micromega Duo CD3-1	1350	-	E,0	Y	34,9,31	Top loading, AES/EBU out					
Micromega Duo CD2-1 Orelle CD10-T	2500 799		E,O E	Y Y	34,9,31 44,10,32	Top loading, AES/EBU out Isolated PSU, silver wiring					
PS Audio Lambda tr	1990	-	E	Y	38,8,34	AT&T, AES/EBU optional					
Roksan ATT-DP2	1295	-	E	Y	46,12,35	Four level isolation					
Roksan ATT-DP2A	1490	÷	2	Y	46,12,35	AT&T optical					
Teac P-700	900	-	E,0	Y	23,14,40	Half width, anti-resonance cha					
Teac P-2	3500	-	E,0	Y Y	23,14,49	Cald plate size it beards					
Teac P-2S Theta Data Basic	4300 1990		O,E E	Y	23,14,49 42,8,34	Gold plate circuit boards AT&T, AES/EBU option					
Theta Data II NTSC	3290	-	E	Y	42,12,40	AT&T, AES/EBU option					
Wadia 8	3195	-	-	Y	35,16,41						
Wadia 7	9995	-		Y	35,16,46						
		Da)utputs	-							
	3	Dac Type	uts	Remote							
Model	Price	pe	Dig	ote	Size	Special					
D/A CONVERTERS					10						
Arcam Black Box 50	450	Hybrid	E,0		43,7,28	Two inputs, sync lock					
Audio A DAC-in-the-box Audio Alchemy DDEv1.0	200 420	MB BS	E E,O		-	Upradable external PSU					
Audio Alchemy DDEVT.0 Audio Note DAC1	600	MB	E,0 E,0	Y	+	opisoable external 1.00					
Audio Note DAC3	1650	MB	E/0	Y							
Audio Research DAC2	3940	MB	*	-	48,14,26	20bit, 8x o/s					
Audiolab 8000DAC	750	BS	•		45,8,36	Balanced AES/EBU input					
AVI S2000MD	549 999	MB	- E,O	Y	-	Hybrid tube					
Beard DAP-2 DAC Beard DAP-1	1250	BS MB	-	-	-	nyona tabe					
Counterpoint AD20	255	MB		-	н.	DACCard for DA-10E					
Counterpoint CS18	355	MB	÷	4	4	DACCard for DA-10E					
Counterpoint BB69	595	MB	-	(e	-	DACCard for DA-10E					
Counterpoint UA20	995	MB	-	-	-	DACCard for DA-10E					
Counterpoint DA-11E	1495 1675		E,0 E,0	Y Y	49,6,27	Optional AT&T & AES/UBU balanc Interchangeable DACs, optional					
Counterpoint DA-10E DPA Little Bit II.	450	BS	E,0	-	-	interchangeable DACS, optional					
DPA Bigger Bit	695	BS	E,0	-							
DPA PDM256	2995	-		-	-	Unique DPA DX64 DAC					
DPA PDM10924	5995	-		-	-	Unique DPA DX128 DAC					
EMF Audio Crystal	500	BS	*	-	-	ATOTIC					
Krell Studio 2 Krell Studio	3198 4450	MB MB	-		42,13,27 42,6,32	AT&T in AT&T in					
Krell Reference 64	14300	MB	4		42,13,39	AT&T in					
Linn Numerik	1075	MB	*	-	32,8,33						
Meridian 563	695	DS	3E,0	Ν	33,9,34						
Metaxas Mas DAC	2800	MB	E,O	Y	26,15,45	External PSU, 20 bit					
Micromega Microdac	349	BS BS	E,0	-	22,5,15 43,28,88	Coax/optical AES/EBU input					
Micromega DAC Micromega Duo BS2	600 600	BS		-	8,28,9	AES input					
Micromega T-DAC	800	BS	-	-	22,28,88	Four inputs					
Micromega Duo Pro 2	1350	BS	-	-	34,48,31	AES input					
Mission DAC5	300	BS	-	-	7,11,29	Outboard DAC, matches DAD5					
Musical Fidelity Tubalog	499 1010	MB BS	E,O E	N N	44,8,32	Tube o/p					
Orelle DA-180	599	MB	E	N	- 44,7,28	2 outputs, twin transformers					
Perception DAC	695	MB	+	-	-						
Pink Triangle Ordinal	790	BS	E,0		23,8,35	Interchangable DAC & filter					
Pink Triangle DaCapo	1450	BS	E,0	-	46,8,35	Interchangable DAC & filter an					
Pink Triangle DC	1500	- MB	-	-	46,8,35	Massive battery PSU for DaCapo					
PS Audio DigiLink II PS Audio SuperLink 2	688 1230	MB			38,8,16 38,8,16						
PS Audio UltraLink	2390	MB	*	-	38,6,20	AT&T input option					
PS Audio Reference L	5490	MB	-	-	38,8,36	AT&T input					
Roksan ATT-DA2	549	DS	-	Ν	22,8,33	DAC 4 inputs, optional AT&T					
Sentec Diana	993	MB	E,0	-	-	Matabaa B. 700, 4v20bit					
Teac D-700 Teac D-2	600 2500	MB MB	E,0	-	23,14,40 23,14,49	Matches P-700, 4x20bit 18 bit, balanced output					
Theta Pro-Prime	1449	BS	-	-	42,5,23						
Theta Probasic II	2299	MB	-	-	42,5,29						
Theta Pro Gen III	4600	MB	+	-	42,8,34	AT&T input option					
Wadia 12	1530	MB	E,0	N	-	Balanced and AT&T outputs					
Wadia 15	3790	MB	E,0	Y	35,9,41	Software upgradable					
Wadia 64.4 Wadia 9	4750 12790	MB MB	E,0 E,0	N Y	35,8,28 44,9,36	Balanced output Digital volume, separate PSU					
Woodside DAC2	509	MB	E,0	-	-	Signal foromo, soparato 1.00					
Woodside DAC1	909	MB	E,0	-	÷						

Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see page 123.

100 HI-FI CHOICE BUYER'S GUIDE



Key to digital recorders Price - typical retail, to nearest pound. Type - MD - MiniDisc - DCC - Digital Compact Cassette, DAT - Digital Audio Cassettes. Digital In & Out - E - Electrical (usual-ly coaxial S/PDF), O - optical, (usual-ly Toslink).

DAC Type - MB - multibit, 1 bit - single bit, BS - Bitstream, DS - Delta Sigma. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to headphones Price - typical retail, to nearest pound. Type - Opn - open back, vented or velocity type; gives less environmen-tal isolation, but is usually more nat-ural feeling in extended use. Sld -sealed - the headphones form an air seal around the ears, helping reduce sound leakage. IR - Infra red cordless. Ear - in- ear model.

Weight - without cable. Impedance - in ohms.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

					Ear - in- ear mo	del.		
	Size	Special	Model	Price	Туре	Weight	Impedance	Special
	SIZE	Special	HEADPHONES			-		Special
	18,5,13		Kenwood KH-1000	20	Opn	30	32	2m OFC lead
/BS	42,15,34	DAC7 output	Kenwood KH-959	25	Ear		32	3.5mm plug
'BS	46,15,34	DAC7, zinc side panels	Kenwood KH-2020	40	Sld	210	32	2.5m OFC lead
in/	-		Kenwood KH-5000	70	SId	280	32	2.5m OFC lead
in/	-		Koss TD60	29	Sld	150	27	
in/	36,11,30		Koss TD65	45	Sld	150	100	
in/	44,12,30		Koss MAC5	45	Opn	100	60 150	
in/	44,14,30	Martilla anallast MD player	Koss TD75 Koss Porta Pro Jnr	59 59	Sld Opn	330 65	60	
	3,9,11 3,10,11	World's smallest MD player	Koss Porta Pro 1	65	Opn	65	60	
1	43,11,35	UK sound, SCMS	Koss MAC7	65	Sid	160	60	
-	23,8,29	Title display, full remote	Koss Pro 480	115	Cld	250	100	
	-	Sample rate cpnverter	Koss Pro 4AA	129	SId	425	230	
		SBM	Koss JCK200	195	SId	240	100	Cordless infra-red
	43,12,35		Koss JCK300	350	SId	240	100	Cordless infra red
			Koss ESP950	1995	Opn	350	-	Electrostatic
			Maxell HP100	4	Ear	3	32	Replacable pads, 1m lead
			Maxell HP200	5	Opn	30	32 32	Replacable pads, 1m lead
	0		Maxell HP-400 Maxell HP300	8	Ear Opn	4	32	With pouch, 6/3/3.5mm fit 6.3/3.5mm fit
_	Special		Maxell HP-350	9	Eiar	5	32	Winder case, fold plug,
	Bass resonato	or ducts	Maxell HP-500	13	Opn	45	22	2.7m lead, 6.3/3.5mm fit
	Banded, 3.5/6		Maxell HP1000	15	Opn	95	32	2.7m lead, digital ready
	Vertical ear fit		Maxell HP-4000	20	Ear	5	16	Volume control, winder case
	Bass resonato		Maxell HP2000	20	Opn	140	32	Volume control digital ready
		resonator ducts	Maxell HP-3000	30	Sed	120	32	Volume control digital ready
	Carrying case		Nakamichi SP7	70	Opn	150	45	
	Bass resonato	or ducts	Pioneer SE-5	16	Opn	-	30	2m cable
	Dual plug		Pioneer SE-15	20	Opn		30	2m cable Litz cable
	3m lead, dual	resonator ducts	Pioneer SE-32 Pioneer SE-52	23 25			40 32	Litz cable
	In-line control		Pioneer SE-15V	30	Opn	-	30	5m cable
	Dual plug, 2m		Pioneer SE-330D	35	Sld	-	35	3m cable, bass boost duct
	Mini		Pioneer SE-400D	37	SId	(e)	35	3m cable
			Pioneer SE-500D	48	SId	-	35	3m cable
			Pioneer SE-700D	60	SId	-	35	3m cable
			Ross RE-233	5	Opn	25	8	Micro
			Ross RIH-150	6	Ear	5	16	Inner ear headphone
			Ross RE-235 Ross RE-234	6	Opn Opn	5 5	16 16	Personal stereo Personal stereo
			Ross RE-234	6	Opn	35	8	Folding
			Ross RE-2030	6	Opn	5	8	Personal stereo
			Ross RMH-300	7	Opn	51	8	Lightweight
			Ross RE-280	7	Ear	10	16	Vertical inner ear
			Ross RE-246	7	Opn	5	16	Micro stereo phones
			Ross RE-223	7	Sld	155	8	Stereo/mono
			Ross RMH-500CD	9	Opn	48	16	Lightweight
			Ross RIH-360CD	9	Ear	16 5	16 16	Vertical inner ear Inner ear headphone
			Ross RE-2060CD Ross RMH-310TV	10	Opn Opn	51	8	For video and TV
			Ross RIH-550	10	Ear	5	16	Inner ear, with volume control
			Ross RIH-460CD	12	Ear	16	16	Vertical inner ear, volume pot
			Ross RDH-200CD	13	Sld	150	8	Closed back
			Ross RDH-100CD	15	SId	144	8	CD headphone
			Ross RDH-300CD	17	Sld	155	8	CD headphone
			Ross RDH-400CD	22	SId	186	8	Digital headphone
			Sennheiser HD16	8	Opn Opn	45	32 32	Mini, 1.2m lead, dual plug Mini, 1.2m lead, dual plug
			Sennheiser HD36 Sennheiser HD56	11 13	Opn Opn	62 72	32	Mini, 1.2m lead, dual plug Mini, 1.2m lead, dual plug
			Sennheiser Vegas	25	Opn	118	32	3m lead, 3.5/6.3mm
			Sennheiser Manhattan	25	Opn	118	32	3m lead, 3.5/6.3mm
			Sennheiser HD60TV	35	Opn	118	32	6.8m lead (inc vol control)
	Cordless infra	-red	Sennheiser HD440 II	35	Opn	125	60	3m lead, 3.5/6.3mm
			Sennheiser HD320	40	Opn	120	60	3m lead, 3.5/6.3mm
			Sennheiser HD330	55	Opn	120	100	3m lead, 3.5/6.3mm
			Sennheiser HD340	65	Opn	120	100	3m lead, 3.5/6.3mm
			Sennheiser HD25 SP Sennheiser HD520 II	80 90	Sld Opn	115 210	85 300	3m lead, 6.3mm plug 3m lead, 3.5/6.3mm
			Sennheiser HD530 II	100	Opn	210	300	3m lead, 3.5/6.3mm
	Electrostatic		Sennheiser HD540 II	120	Opn	195	300	3m lead, 3.5/6.3mm
	1.2m dual plu	ig lead	Sennheiser Set 90/UK	130	Ear	40	-	Infra-red cordless
		5/6.3mm plug	Sennheiser HD560 Ovatio		Opn	210	300	3m lead, 3.5/6.3mm
	2m dual plug		Sennheiser HD25	140	SId	140	70	1.5m lead, 3.5/6.3mm
	2m, 3.5/6.3m		Sennheiser S450	150	Opn	160	-	Infra-red cordless - hi-fi
	2m dual plug		Sennheiser Set 180/UK	150	Ear	43		Infra-red cordless
		5/6.3mm plug	Sennheiser IS550	180	Opn	170 260	- 300	Infra-red cordless 3m lead, 3.5/6.3mm
	2m dual plug 3m, 6.3/3.5m		Sennheiser HD 580 Sennheiser Charleston	190 224	Opn Opn	260	140	3m lead, 3.5/6.3mm 3m lead, dual plug, leather tr
	3m, 6.3/3.5m		Sennheiser HE60/HEV70	998	Opn	260	-	Electrostatic with energiser
	3m, 6.3/3.5m		Sennheiser Orpheus	9652	Opn	365	-	Electrostatic, valve energiser
	3m, 6.3/3.5m		Sony MDR-E515EX	8	Ear	5	-	1m lead, mini plug
	3m, 6.3/3.5m	njacks	Sony MDR-007 Mk II	8	Opn	36	-	2m, 3.5/6.3mm plug
	5m, 6.3/3.5m	njacks	Sony MDR-009	10	Opn	40	-	2m, 3.5/6.3mm plug
	3.5mm plug		Sony MDR-W07L	11	Ear	13	-	1m mini plug
	3.5mm plug		Sony MDR-E505	12	Ear		-	
Hi-Fi (Choice Direct	ory, see page 123.	Listings marked in re	d (as sh	own below) are	e covere	d in the Hi-Fi	Choice Directory, see page 12

DAC Type Dig. Out Dig. In Price I VD Model DIGITAL RECORDERS JVC XM-D1BK 900 Marantz DD-82 399 Marantz DD-92 800 MB Meridian CDR 4500 MB E,0 Nakamichi 10007 13000 E,0 BS in BS in BS in Philips DCC300 250 Philips DCC600 300 Philips DCC900 350 E,0 Sharp MD-D10E 400 449 Sharp MD-M11E 1E 1bit 1bit 600 E,0 Sony DTC690 Sony MDS101 700 Sony MBS501 800 Sony DTC60ES 800 BS Technics RS-DC8 700 į z

	Price	Type	Weight	dance	
Model	ce	pe	ht	ce	Special
HEADPHONES	7	For	5	16	Page reconstor ducto
Aiwa HP-V141 Aiwa HP-A160	7	Ear Opn	5 45	32	Bass resonator ducts Banded, 3.5/6.3mm
Aiwa HP-JB33	8	Opn	18	16	Vertical ear fit, ultra light
Aiwa HP-V143	9	Ear	5	16	Bass resonator ducts
Aiwa HP-A260	9	Opn	54	32	Banded, bass resonator ducts
Aiwa HP-V145	10	Ear	5	16	Carrying case included
Aiwa HP-V147	10	Ear	5	16	Bass resonator ducts
Aiwa HP-X201	13	Sld	230	-	Dual plug
Aiwa HP-A360	13	Opn	65	40	Banded, bass resonator ducts
Aiwa HP-X301	20	Sld	230	-	3m lead, dual plug
Aiwa HP-VX303	25	Sld	230	-	In-line controls, dual plugs
Aiwa HP-X705	40	Sld	130	-	Dual plug, 2m ext cable
AKG K2	23	Opn	70	200	Mini
AKG K33	25 42	Opn	90 90	50 50	
AKG K44 AKG K135	42	Opn	160	150	
AKG K141	74	Opn Opn	225	600	
AKG K240 Monitor	82	Opn	240	600	
AKG K270	112	Sld	250	75	
AKG K280 Parabolic	117	Opn	250	75	
AKG K400	118	Opn	250	120	
AKG K270 Studio	121	SId	250	75	
AKG K500	138	Opn	250	120	
AKG K340	191	Opn	380	400	
AKG K1000	646	Opn	270	120	
Audio Technica ATH-309	36	Opn	140	30	
Audio Technica ATH-M4X	39	Opn	140	30	
Audio Technica ATH-909	60	Opn	200	600	
Audio Technica ATH-01	80	Opn	200	600	
Audio Technica ATH-910	90	Sld	200	600	
Audio Technica ATH-9000	245	Opn	240 120	32 40	
Beyer DT311 Beyer DT331	45 49	Opn Opn	120	250	
Bever DT411	59	Opn	120	250	
Beyer DT431	69	Opn	250	250	
Beyer DT-511	85	Opn	200	40	
Beyer DT990	119	Opn	200	600	
Beyer DT801	129	Sld	250	250	
Beyer DT100	135	Sld	350	600	
Beyer DT770 Pro	140	Sld	250	600	
Beyer DT811	159	Opn	245	250	
Beyer IRS790	165	Opn	120	-	Cordless infra-red
Beyer DT990 Pro	169	Opn	250	600	
Beyer DT-901	179	Sld	280	250	
Beyer IRS890	199	Opn	120 275	600	
Beyer DT911 Jecklin Float Model 1	199 75	Opn Opn	400	€50 200	
Jecklin Float Model 2	99	Opn	400	200	
Jecklin Float ELS	399	Opn	600	8	Electrostatic
JVC HA-M3	6	Sld	33	32	1.2m dual plug lead
JVC HA-F15	9	Opn	6	16	Mini 1.2m, 3.5/6.3mm plug
JVC HA-X55	12	Sld	45	32	2m dual plug lead
JVC HA-D410	15	SId	90	32	2m, 3.5/6.3mm plug
JVC HA-X77	16	SId	40	32	2m dual plug lead
JVC HA-F35	16	Opn	6	32	Mini 1.2m, 3.5/6.3mm plug
JVC HA-X99	17	SId	50	32	2m dual plug lead
JVC HA-D510	20	Sld	110	32	3m, 6.3/3.5mjacks
JVC HA-D610	25	SId	120	32	3m, 6.3/3.5mjacks 3m, 6.3/3.5mjacks
JVC HA-D690 JVC HA-D710	40 55	Sid Sid	220 210	32 32	3m, 6.3/3.5mjacks 3m, 6.3/3.5mjacks
JVC HA-D710 JVC HA-D910	65	Sid	220	32	3m, 6.3/3.5mjacks
JVC HA-D1000	250	Sid	340	32	5m, 6.3/3.5mjacks
Kenwood KH-535	15	Ear	-	32	3.5mm plug
Kenwood KH-757	20	Ear	-	32	3.5mm plug
			-		Chaine Directory see page 123

Listings marked in red (as shown below) are covered in the Hi-Fi Choice Directory, see page 123.



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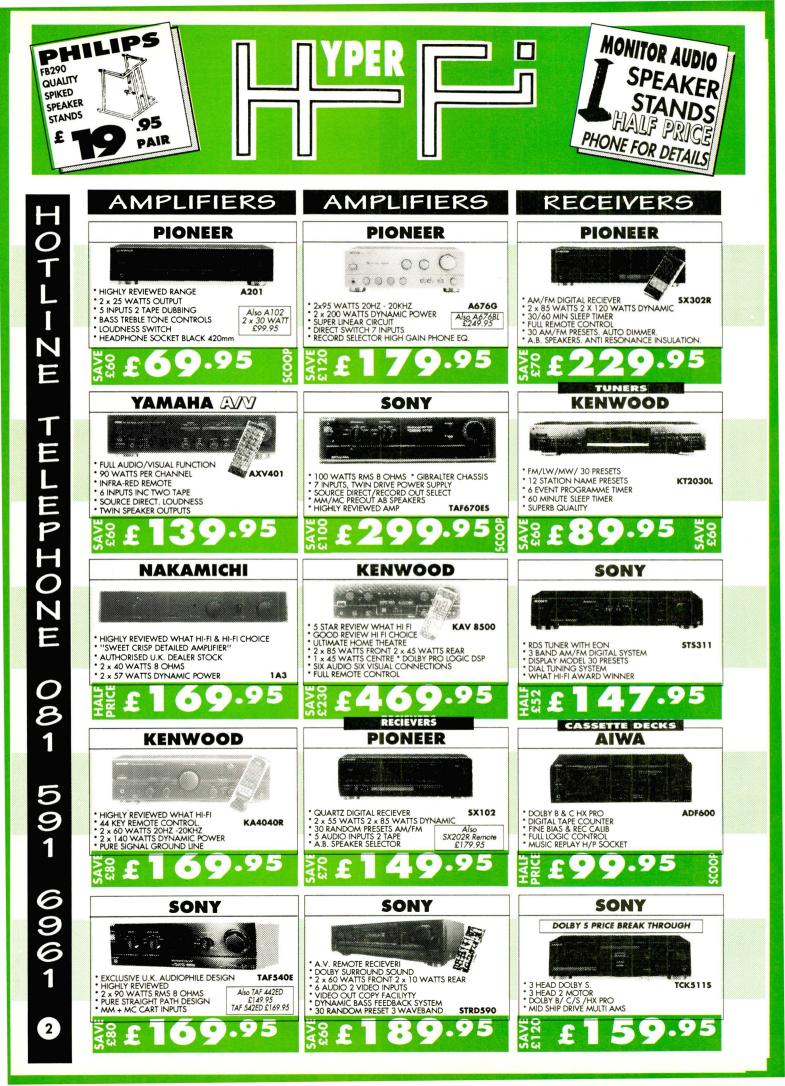
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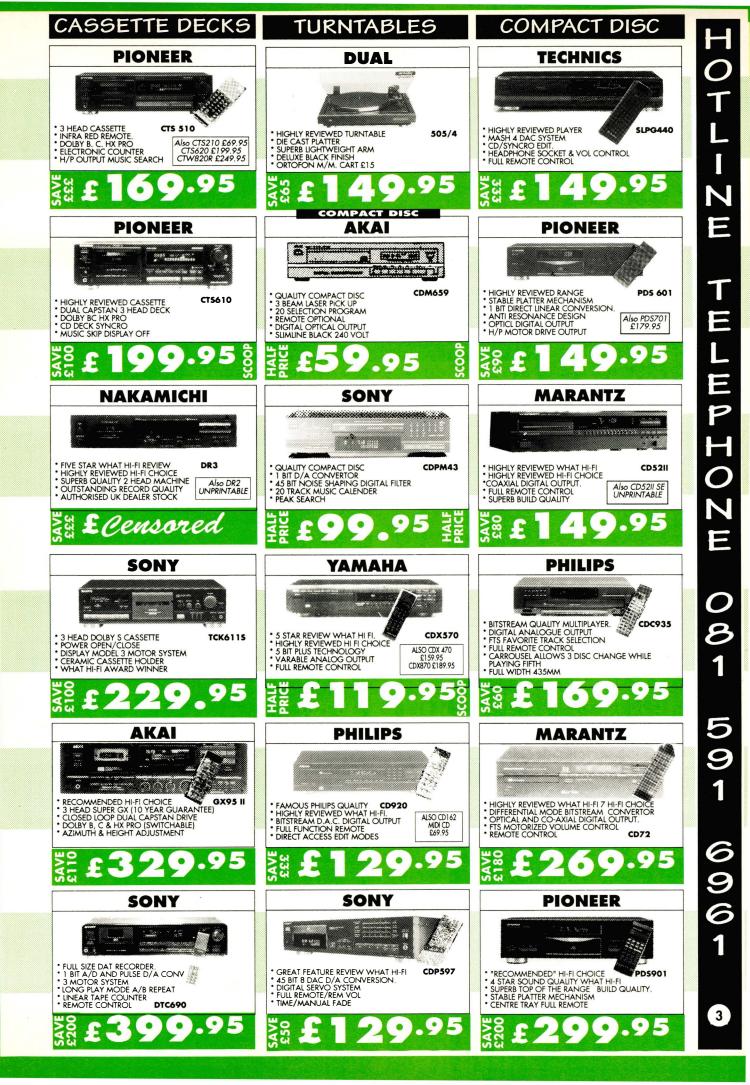
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PMA880R £299.95 AVC3020ED £499.95	FULL RANGE P.O.A. PIONEER	JVC	TCK370 TCWR435	£119.95 £129.95	MA1800 RC	£699.95		P.O.A.	J500M		PD201 PD202	£99.95 £119.95
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KA3020ED £139.95	VSA740 £349.95	KRA5040 £149.95 KRV6050 £289.95	TCWR535B TCK511S	£169.95 £159.95	MS5.10.SBL MS10	P.O.A	ADA S3 ADA S4	£349.95 £349.95	C209 C195	£299.95 £339.95	PDS601 PDS502	£149.95 £149.95
KA3050R £169.95 KA4040R £169.95	VSAD802S P.O.A.	KRV6060 £299.95 KRV7050ED £349.95	TCC5 TCK611S	£229.95 P.O.A	MS5.10 BL MS20	£99.95 P.O.A	ADAS30 ADAC33	£379.95 £399.95 £399.95	C159 C259	£399.95 £339.95	PDM602ED PDS701	£169.95 £179.95
KA5040R £169.95 KA3020SE £169.95	CLD1850 P.O.A.	MARANTZ	TCWR635S DTC690		M\$30	£169.95 £329.95	ADA S6 ADAS50 ADAS50R	£377.75 £419.95 £449.95	C290 C295	£349.95 £399.95	PDS702 PDS801ED	£179.95 £199.95
KA5050RED £249.95 KAV8500 £469.95		SR53 £169.95. NAD	TECHN	VICS	MS5.50BL MS40	£349.95 P.O.A	ADAC55 ADAS60R	£529.95 £529.95	C359	£399.95	PDS802	£269.95
KAV7700 £489.95 MARANTZ	RB956AX £324.95	701/705 £249.95.	RSBX404ED RSTR232KED	£139.95	M\$50	P.O.A	ADA G7 ADA G9	£699.95 £899.95	C490 C559	£449.95 £449.95	PDS901 CLD2700	£299.95 £299.95
PM42 £99.95 PM32 £139.95	SONT	PIONEER \$X102 £149.95	RSTR333KED RSBX646KED		801	P.O.A.	UD301		TECHI CDX120	P.O.A.	ROT RCD945AX*	
PM52 £149.95 SP50 ED £149.95	STRD590 £189.95 STRD511ED £189.95	SX202R £179.95 SX302R £229.95	RSTR515KED RSBX747KED		802ED 804ED	£169.95 £289.95	UD302 UD351M	£349.95 £389.95	CDX320 CDX520	P.O.A. P.O.A.	RCD965	£299.95
PM44SE £179.95 PM52SE £299.95	STRD790 £199.95 STRD611 P.O.A. TAAV570B P.O.A.	SONY STRD390 £149.95	YAM KX260		SOI SSA109	£49.95	UD501 UD551M	£399.95 £539.95	COMPAC		CDPM33	£69.95
PM54SE £299.95 PM700ED £349.95	TAAV670 £329.95	STRD311 £179.95 STRD590 £189.95	KXW162 KXW262	£149.95 £149.95	SSS70ES	£199.95 £319.95	UD701 UD751M UD901	£599,95 £649.95 £649.95	AIV XC300*	£89.95	CDPM43 CDP497	£99.95 £99.95
NAD 302ED £129.95	TANNOY FULL RANGE P.O.A.	STRD511ED £189.95 STRD790 £199.95	KX360 KX650	£159.95 £229.95	603.2ED	10Y £99.95	UD951M PION	£749.95	XC750* XC950	£99.95 £109.95	CDPM54 CDP597	£99.95 £129.95
304ED £169.95 306 P.O.A.		STRD711 P.O.A.	TURNTA		605.2ED 607.2ED	£129.95 £149.95	N33 N50W	£199.95 £299.95	DCD690*		CDP797 CDP311ED	£129.95 £129.95
1A3 £169.95	SAGX550LK P.O.A. YAMAHA	TECHNICS SAGX530LK P.O.A.	DUA		609.2ED 611.2ED	£169.95 £349.95	N70W N70WM	£349.95 £399.95	DCD595* DCD695	£129.95 £199.95	CDP411ED	£139.95
1A2 P.O.A.	DSPA500 P.O.A. DSPA1000 P.O.A.	SAGX130DLK £149.95 SAGX230DLK £179.95	CS435ED CS503/2ED		613.2ED 615.2ED	£499.95 £599.95	N100W N100WM	£429.95 £499.95	DCD890* DCD890* DCD1290*	£199.95 £229.95 £199.95	CDP711ED CDP791	£169.95 £199.95
1A1 P.O.A. PHILIPS	DSPA2070 P.O.A. DSPE200 P.O.A.	SAGLX550LK P.O.A. SAGX350LK £329.95	CS505/4 SON		WHARF	EDALE	N93T IMP3	£699.95 £749.95	DCM340*	£349.95	CDP911ED CDPX303ES	£229.95 £329.95
FA920 £119.95 FA930 £149.95	DSPE1000 P.O.A. RXV470 P.O.A.	YAMAHA	PSLX100B PSLX150B PSLX431B	£54.95 £99.95	Delta 30 II Diamond 5	£49.95 £59.95	N93M IMP7	£799.95 £899.95	DCD2560*		CDP3500	
PIONEER A201 £69.95	DSPA970 P.O.A. NSE80 P.O.A.	RX550 £149.95 RXV470 P.O.A.	PSLX431B TECHN		CRS3ED CRS5	£59.95 £129.95	SOI MHC450 MHC510	£269.95	DP5040 DP2050	£129.95 £149.95	VRDS10	£699.95
A102 £99.95 A351R £149.95		RX360 £359.95	SLDB22K SL1200 SL1210	P.O.A. P.O.A. P.O.A.	425 CRS7	£129.95 £199.95	MHC550 MHC710	£269.95 £299.95 £329.95	DP3050 DP5050	£179.95 £229.95	TECHI SLPJ38	£79.95
A400 P.O.A.	TUNERS	CASSETTE DECKS	SL1210 SPEAK		CRS9	£299.95	MHC650 MHC2800	£329.95 £339.95 £389.95	DPM6650 DP7050ED	£239.95 £249.95	SLPG340ED* SLPG440ED*	
A676G £179.95 A400X P.O.A.	AIWA XT003 £69.95	DX57 £199.95 GX95 II £329.95			EQUAL		MHCC50 MHC2900	£449,95 £449.95	MARA CD53		SLPG540AK* SLPS740AK*	£199.95
A602 £249.95 A676BL £249.95	XT950 £89.95 DENON	AIWA ADF410 £79.95	DM610IMP	P.O.A.	GE 4030 GE 7030ED	£149.95	MHC3800 MHCC70 MHC4900	£499.95 £539.95	CD42II CD52II	£99.95 £149.95	SLPS840AK* SLP2000	£419.95
ROTEL RA920AX £89.95 RA935ED £169.95	TU560L £99.95 TU260L £119.95	ADF450ED £99.95	CELEST		SEQ411		MHC5900	£699.95 £879.95	CD63 CD52 IISED	P.O.A. £199.95	YAMA	
SONY	TU580 £119.95	ADWX727ED £149.95 ADF810 £149.95	CEL1 CEL 3	P.O.A. P.O.A.	TECHI SHGE70EK		MHC/900 TECHI SCCH550	£1299.95 NICS £399.95	CD72 CD72 CD10	£199.95 £269.95 P.O.A.	CDX660 CDX570	£99.95 £129.95
TAF211ED £99.95 TAF242ED £119.95	KENWOOD	ADWX828ED£169.95 ADWX929ED£199.95	3RD DIM CEL 5	£99.95 £129.95	SHGE90K	P.O.A	SCCH404 SCCH650	£449.95 £449.95	501ED NA	£149.95	CDX470 CDC635	£159.95 £169.95
TAF319R £129.95 TAF442ED £149.95		ADF850ED £199.95 XKS7000 £299.95	DITTON 1 DITTON 2BL	£139.95 £149.95	MICRO S		SCCH655 SCCH505	£499.95 £529.95	502ED	£179.95	CDX860	£169.95
TAF244E P.O.A. TAF540E £169.95	MARANTZ	XKS900 £399.95 DENON	CEL 7	£169.95 £169.95		£219.95 £219.95	SCCH515 SCCH750	£579.95 £699.95	CD4	£239.95	CDX870 CDX670	£189.95 £229.95
TAF542ED £169.95 TAF670ES £299.95	ST50L £139.95	DRM510 £99.95 DRM540 £159.95	CEL 9BL CEL 9 OAK	£169.95	LCX60 LCX65	£269.95	SCCH950 SCCH909D	£799.95 £899.95	HALFE			
TAAV57OB P.O.A. TAAV670 £329.95	NAD	DRM610 £169.95 DRS810 P.O.A.	CEL 15BL	£249.95	LCX9 LCX70M	£299.95 £329.95 £349.95	CC70W		HAICE	11	• 1 7	
SUVZ220ED £99.95	402ED £149.95 PHILIPS FT910 £79.95	DRM710ED £219.95 DRW760 £249.95	CEL 15OAK 5000	£399.95	UXT1 J.V.	C .	MIDI SY	AI	Nº CO	DV C		INID
SUVZ320 £139.95 SUA600K P.O.A.	FT930 £99.95	KENWOOD	CERWIN AT40	£249.95	UXA4 UXC7	£269.95 £299.95 £309.95	M48 AIV	£289.95		INID (URROL SPEAKI	
SUVX600 £149.95 SUA700K P.O.A.	PIONEER F201L £79.95	KX3050 P.O.A. KX5050 P.O.A.	AT60 AT80	£299.95 £399.95	UXA55R KENW	£319.95	Z720 Z650	£299.95 £339.95	300	SO W	ATTS	51/9
SUA800K £329.95 SUA900K P.O.A.	F202L £99.95 F676 £119.95	KX5030 £129.95 KXW8040 £149.95	VS10 VS12	P.O.A. P.O.A.	MSA7 SOI	£329.95 NY £269.95	ZD5000M Z1700	£399.95 £449.95	2 1	RON	ATTS	AR
YAMAHA AX350 £99.95	F00100C 01 (0 0C	KX9050S P.O.A. MARANTZ	AT100 VSI515	£499.95 P.O.A.	MINI SY		ZD3100M ZD7000M	£499.95 £499.95		1 CE	NTRE	
AX470 P.O.A. AXV401 £139.95	F301RDS £149.95 F502RDS P.O.A. ROTEL	SD52 £139.95 SD53ED £169.95	JPV MINIM WL	V £49.95	AK	AI	ZD7100M ZD9100	£599.95 £799.95	£		9.9	
AX570 P.O.A.	RT930AX £159.95	SD63ED £199.95	MINIM BL SUBWOOFER	P.O.A. P.O.A.	MX92 MX95	£249.95	JV W37CD	£299.95	FC	DR A	LL FIV	E
AUDIO VISUAL	SONY STS211LB P.O.A. STS170 £119.95	DR3 P.O.A.	SONATA WL SONATA BL		MX570 MX670	£299.95 £349.95	W58CD W78CD	£399.95 £499.95	OF	ENIN	G TIME	S
CELESTION FULL RANGE P.O.A.	STS311LB P.O.A.	DR2 PHILIPS DCC900 £249.95	PI AP2	P.O.A. P.O.A.		£399.95	1010ED 1020ED	£699.95 £799.95			pm FRIDA	
DENON	STS570ES £199.95 STS505ES P.O.A. STS770 ES £199.95	PIONEER CTS210 £69.95	AP3 MISSI	P.O.A.	NSX270 NSX360G	£199.95 £239.95 £249.95	KENW	£399.95			URSDAYS	
AVC1530ED £399.95 AVC3020ED £499.95	TECHNICS	CTS310 £89.95 CTW420R P.O.A	760i 760iSE	£109.95	NSX340 NSX400 NSX500	£269.95 £269.95 £279.95	M28 M47	£449.95 £449.95				
AVR1000 P.O.A.	STG630RDS P.O.A. STGT550 P.O.A.	CTS410 £149.95	761i	£129.95 £179.95	NSX430 NSX520	£299.95 £299.95	M56 M76	£499.95 £499.95	USE	SIX	n to cl	
AVC 3530 P.O.A. JPW	ST610L £109.95 STG90LKED £199.95	CTS320 £149.95 CTW620R P.O.A CTS520 £169.95	780SE 762i	£239.95 £249.95 £249.95	NSX540 NSXD636	£349.95 £399.95	M57 M77	£699.95 £799.95			DISCS	
FULL RANGE P.O.A		CT\$510 £169.95	781 763	£379.95	NSXD707	£399.95	M97	£949.95		VITH AI	L STAR +	
ALL PRICE	ES SPECIAL TO	HI FI CHOICE I	E PRICES SI	S, USE	COUPC		QUALI	FY	and the second se		C.D. PLAY	EK2
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106 HI-FI CHOICE BUYER'S GUIDE



Key to headphones Price - typical retail, to nearest pound. Type - Opn - open back, vented or velocity type; gives less environmen-tal isolation, but is usually more nat-ural feeling in extended use. Sld -sealed - the headphones form an air seal around the ears, helping reduce sound leakage. IR - Infra red cordless. Ear - in-ear model.

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Weight - without cable. Impedance - in ohms.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to loudspeakers Price - typical retail, to nearest pound. Type - 2x, 3x etc - number of indepen-dent drive units, Pt - ported, IB -sealed, Active - dedicated active crossover, needs amps for each dri-ver, ABR - auxiliary bass radiator, Sub - subwoofer, Uni-Q - KEF prop. coaxial drive unit, Horn - horn loading, MC -moving coil, ESL - electrostatic, CC -coupled cavity, Hybrid - dynamic

bass/ESL or ribbon top. Sens - output at given power input level. Impedance - in ohms. Power - maxi-mum recommended amplifier output. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

	_		We	npedance	
Model	Price	Type	Weight	nç	Special
HEADPHONES	10	CD	-	CD	Special
Sony MDR-A009	12	Opn	-	-	· · · · · · · · · · · · · · · · · · ·
Sony MDR-E515V	12	Far	5	-	1 m lead, mini plug
Sony MDR-V50	13	Sid	-	-	-
Sony MDR-E525	15	Ear	5	-	1 m lead, mini plug
Sony MDR-24	15	Opn	-	-	7m, 3.5/6.3mm plug
Sony MDR-W12L	16	Ear	-	-	1.2m mini plug
Sony MDR-008TV	17	Opn	-	-	5m, 3.5/6.3mm plug
Sony MDR-E535	18	Far	5	-	1.2m lead, mini plug
Sony MDR-44	18	Opn	-	-	7m, 3.5/6.3mm plug
Sony MDR-009TV	19	Opn	-	-	5m, 3.5/6.3mm plug
Sony MDR-CD30	20	Sld	-		2m, 3.5/6.3mm plug
Sony MDR-E747MP	20	Ear	6		1.2m lead, mini plug
Sony MDR-CD50	20	Sld	180	24	2m, 3.5/6.3mm plug
Sony MDR-5747	20	Far	6	-	1.2m lead, mini plug
Sony MDR-P1TV	22	Sid	-	-	5m, 3.5/6.3mm plug
Sony MDR-A22L	22	Ear	-	-	1.2m mini plug
Sony MDR-CD250EX	28	Sld		-	3m, 3.5/6.3mm lead
Sony MDR-CD450	45	Sld	260	24	3m, 3.5/6.3mm plug
Sony MDR-CD550	60	Sld	270	45	3m, 3.5/6.3mm plug
Sony MDR-D33	70	Sld	120	45	1.5m, 3.5/6.3mm plug
Sony MDR-IF210K	80	IR	170	-	Seven meter range infra red
Sony MDR-D55	90	Sld	120	45	1.5m, 3.5/6.3mm plug
Sony MDR-CD750	90	Sld	290	45	3m, 3.5/6.3mm plug
Sony MDR-D77	120	Sld	140	45	1.5m, 3.5/6.3mm plug
Sony MDR-610k	190	IB	470	-	Seven meter range infra-red
Sony MDR-CD1000	200	SId	330	45	1.5m, 3.5/6.3mm plug
Stax SR34	169	Opn	170	-	noni, olo olonini pidg
Stax SR Gamma	239	Opn	300	-	
Stax SR84	259	Opn	160	-	
Stax SR Lambda	349	Opn	325	-	
Stax Gamma Pro	399	Opn	300	-	
Stax Lambda Pro	449	Opn	325	-	
Stax Lambda Sig	549	Opn	325	2	
Technics RP-HT77	30	Sld	150	32	3m lead
Technics RP-HT86	40	SId	150	35	3m lead
Technics RP-HT116	60	SId	190	35	3m lead
Technics RP-F10	100	SId	300	32	3m lead
Technics RP-F30	180	Sld	340	32	3m lead
Vivanco SR35 Micro	12	Ear	4	18	For personal stereos
Vivanco SR65 Mini	13	Opn	30	32	For portable CD players
Vivanco SR25 Micro	14	Ear	4	18	Includes case
Vivanco SR45 Micro	15	Ear	4	18	Including volume control
Vivanco SR474	32	Opn	110	36	Soft ear cushions
Vivanco SR606	40	Opn	225	32	3.5/6.3mm plug
Vivanco SR808	55	Opn	250	30	3.5/6.3mm plug
Vivanco SR909	70	Opn	285	600	Remote control lead, all plugs
Vivanco IR900	70	Opn	235	-	Infra-red cordless
Vivanco SR10001/1	110	Opn	265	100	In-front localisation
Vivanco SR9001s	120	Opn	280	-	Infra-red cordless

	2	3	s	Impedance	Power	e	
Model	Price	Туре	Sens	ICe	ver	Size	Special
LOUDSPEAKERS	155	0.01		0	150	01.00.00	Chard and at stated
Acoustic Energy Aegis 1	452	2x Pt	86	8	150	21,39,26	Stand mount, metal cone
Acoustic Energy Aegis 2	799	2x Pt	86	8	200	33,106,26	Floor, reflex, metal cone
Acoustic Energy AE1	950	2x Pt	88	8	200	26,30,18	Metal dome/cone, solid enc
Acoustic Energy AE2	1175	2x Pt	91	6	200	24,40,32	Twin bass, metal cone
Acoustic Energy AE3	1650	3x Pt	87	4	250	37,27,63	Simplified metal dome/cone
Advent Mini	99	-	88	8	120	16,28,14	Bookshelf/stand mount
Advent Baby 2	149	2x	89	8	75	26,39,15	Bookshelf/stand mount
Advent Graduate	219	2x	89	8	210	28,44,17	Bookshelf/stand mount
Advent Prodigy	299		89	8	300	24,68,20	Floor standing, free space
Advent Legacy 2	349	-	90	8	500	38,67,22	Floor standing, free space
Advent Laureate	499	-	90	8	500	21,80,29	Floor standing, free space
Advent Heritage	579	-	90	8	600	25,89,31	Floor standing, free space
Allison AL100	100	2x	90	4	150	33,24,19	Boundary, stand mount
Allison AL105	170	2x	90	4	150	24,37,21	Boundary, stand mount
Allison MS200	220	-	90	4	75	13,25,14	Boundary, stand mount
Allison AL110	220	-	90	4	150	24,40,23	Floor standing, free space
Allison AL115	280	-	90	4	150	28,51,26	Boundary, stand mount
Allison CD6	300	-	90	4	150	29,29,29	Cuboid, wall mount
Allison CD7	380	-	90	4	150	24,70,24	Floor standing, free space
Allison AL120	420	+	90	4	200	28,61,29	Floor standing, free space
Allison CD8	550	-	90	4	200	27,73,27	Floor standing, free space
Allison AL125	650	-	90	4	200	28,78,29	Open space, free standing
Allison AL130	800	-	90	4	200	32,95,34	Open space, free standing
Allison I.C. 10	2500	-	87	6	200	48,102,27	Floor standing, free space
Allison I.C. 20	5500	-	87	6	400	53,122,31	Floor standing, free space
AMC WM50	120	-	86	8	60	19,28,7	Ceiling mount
AMC WM75	160	-	86	8	80	22,30,9	Ceiling mount
AMC WM100	210	-	86	8	100	26,36,10	Ceiling mount
Apogee Grand	0	Ribbon	86	-	-	71,194,86	Three way ribbon, active sub
Apogee Centaur Minor	1345	Hybrid	88	4	100	30,88,20	Ribbon/dynamic
	d (as sh	own bel	low) are	cove	ered in the	e Hi-Fi Choi	ce Directory, see page 123.

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Model	Price	Туре	Sens	Impedance	Power	Size	Special	
LOUDSPEAKERS								
Apogee Ribbon Wall	1690	Hybrid	89	-	-	27,120,7	Ribbon/dynamic	
Apogee Centaur	2300	Hybrid	88	4	150	33,102,25	Ribbon/dynamic	
Apogee CDD Subwoofer	3490	Hybrid	87	-		63,38,55	Active moving coil sub	
Apogee Stage Sub	3645	MC	86	-	-	58,25,42	Active moving coil sub	
Apogee Caliper Sig	3995	Ribbon	87	-		58,127	Two way	
Apogee Stage	4000	Ribbon	86	-	-	55,82,5	Two way	
Apogee Centaur Major	4980	Hybrid	88	4	200	40,141,27	Ribbon/dynamic	
Apogee Studio Grand	14900	Hybrid	87	-	-	63,160,55	Three way ribbon, active sub	
AR M.5	139	2x	88	6	-	18,21,15	Boundary, bookshelf mount	
AR Pi One	149	-	90	8	60	19,32,17	Stand mount, boundary siting	
AR Fun Partner	170	-	90	6	75	27,15,20	Utility model	
AR PI Two	199	-	90	8	100 100	27,44,2	Stand mount, boundary siting	
AR M1	199 219	*	88		100	28,27,20	Boundary, bookshelf mount	
AR Pi Three		Activo	89	8	100	21,51,22	Stand mount, boundary siting	
AR Active Partner	230	Active	-	-	-	19,27,15	Utility model	
AR Rock Partner	240	-	90	8	100	24,37,22	Utility powered (active)	
AR M2	299	-	90	8	125	24,42,36	Boundary, bookshelf mount	
AR Subwoofer 1MS	300	-	90	4	180	30,21,48	Compact subwoofer	
AR M3	349	Achi	90	8	125	24,55,40	Boundary, bookshelf mount	
AR Powered Partner	350	Active	- 00	-	15	19,27,15	Stand mount, free space	
AR Pi Four	399		88	8	125	25,57,27	Stand mount, free space	
AR M4 AR M5	429		88	8	150	20,72,40	Floor standing, free space	
AR M5 AR M6	799 899		90 90	8 8	175 200	22,92,27	Floor standing, free space	
Arcam Delta 2	300	- 2x Pt	88	8	75	22,106,27 22,38,28	Floor standing, free space Stand mount	
Arcam Delta 2 ATC SCM10	995	2x Pt 2x IB	88	8	300	18,38,28	Mnimum 100wpc, non-boundary	
ATC SCM10 ATC SCM20	1461	2x IB	80	8	300	31,72,34	Minimum 100wpc, non-boundary Minimum 100wpc, non-boundary	
ATC SCM20 Tower	1999	2x IB	83	8	300	24,103,34	Floor standing SCM20	
ATC SCM20 Tower	3218	3x Pt	85	8	150	24,103,34 31,72,43	To special order only	
ATC SCM100	3218	3x Pt 3x Pt	88	8	100	40,84,53	To special order only	
ATC SCM50A	4497	Active	00	8	350	31,72,48	With crossover and amplifiers	
ATC SCM100A	5006	Active	-	8	350	40,84,59	With crossover and amplifiers	
ATC SCM200A	11499	Active	91	-	850	40,04,35	75 kilo	
ATC SCM300A	12499	Active	94		850		75 kilo	
Audio Note AN-KB	499	ACTIVE	90	8	100	28,46,23	Free space, stand mount	
Audio Note AN-K/SP	699		90	6	100	28,46,23	Free space, stand mount	
udio Note AN-J/B	799		93	8	150	38,58,25	Free space, stand mount	
udio Note AN-J/SP	999	-	93	8	150	38,58,25	Free space, stand mount	
udio Note AN-E/B	1299	-	94	8	150	36,84,28	Free space, stand mount	
Audio Note AN-E/SP	1599		94	8	150	26,84,28	Free space, stand mount	
Aura SP-50	400	Pt	87	4	120	21,40,24	Carbon fibre bass unit	
3&0 Beovox RL1000	215	3x	86	8	60	32,40,13	Simplified RL6000	
3&O Beovox CX50	285	2x IB	89	6	100	12,21,21		
3&O Beovox CX100	395	2x IB	89	6	200	12,32,21		
3&0 Beovox RL6000	435	3x	87	8	100	41,54,18	Simplified RL7000	
3&0 Beovox 4500	450	2x Pt	87	8	90	45,38,8		
3&0 Beovox RL7000	665	Зх	88	8	200	50,70,24	Twin bass	
3&0 Beolab 4500	1125	Active		- :	45	45,38,8	Attaches to wall, display	
3&0 Beolab 6000	1350	Active	-		80	20,110,21	Column, two amps, shielded	
3&0 Beolab 8000	2025	Active	-	-	100	15,132,15	Column, two built in amps	
3&O Beolab Penta 3	2375	Active	-		150	22,165,34	Line array column, three-way	
3&W 2001	120	Pt	87	4	80	18,28,20	Budget hi-fi range, black ash	
3&W Solid Team	140	Pt	87	4	75	14,20,14	White & black finish	
3&W CWM5	150	2x	89	8	70	16,22,7	In wall	
3&W Solid Team Bass	160	Sub	91	4	100	20,45,34	White & black finish	
3&W 2002	160	Pt	87	4	80	18,35,20	Budget hi-fi range, black ash	
3&W DM600i	190	2x IB	87	4	100	21,36,25	Stand/shelf mount	
3&W 2003	190	Pt	89	4	100	20,43,24	Budget hi-fi range, black ash	
3&W CWM6	220	2x	89	8	70	23,32,8	In wall	
3&W Solid Twin Bass	230	Sub	91	4	150	45,20,60	White & black finish	
3&W Solid Monitor	250	Pt	90	8	150	17,24,15	Various colours	
3&W DM610i	250	2x IB	89	4	150	24,49,31	Stand/shelf mount	
3&W CWM8	250	2x	90	4	100	28,38,9	In wall	
3&W 2004	250	Pt	91	4	120	20,65,24	Budget hi-fi range, black ash	
3&W Solid Ovale	300	Sat/sub	88	4	100	-	Lifestyle speaker, 3 boxes	
3&W Solid Verticale	400	Sat/sub	88	4	100	-	Lifestyle, 3 boxes	
3&W DM620i	430	2x ABR	90	4	150	24,75,31	Floor standing	
I&W DM630i	700	3x Pt	91	4	200	24,85,41	Floor standing	
&W Matrix 805 V/H	895	Pt	87	8	120	33,33,21	Outboard tweeter (vert/horiz)	
88W DM640i	900	3x Pt	91	4	200	24,97,41	Floor standing	
&W Matrix 804	1495	Pt	89	8	200	26,92,26	Matrix enclosure	
&W Matrix 803 S2	1945	Pt	90	8	250	26,101,34	Matrix enclosure	
&W Matrix 802 S3	2445	Pt	90	8	500	30,104,37	Matrix enclosure	
&W Matrix 801 S3	3500	Pt	87	8	600	44,100,56	Floor, studio monitor	
&W Silver Signature	4500	Pt	88	8	120	25,45,24	External crossover	
ose XL1000	115	Pt	and the second	8	50	29,19,17		
lose XL2000	160	Pt		8	70	36,23,18		
Bose XL3000	180	Pt	-	8	90	47,29,23		
lose 101 M'ble Monitor	190	-	-	4	60	13,23,15	Black finish	
lose XL4000	220	Pt		8	100	57,32,30		
Bose VS100	250	-	-	8		23,15,15		
Bose 151 Environmental	270	-	-	6	60	24,14,16	Waterproof/suitable for extrem	
Bose 161 Freestyle	275	·	-	6	60	25,14,16		
Bose 201 Ser III	290	i	-	8	60	38,20,25	Direct/reflecting technology	
Bose C'puter RoomMate	300	Active	-	-	60	24,14,16	Self powered AC/shielded, vol	

Model LOUDSPEAKERS Bose Video RoomMate

Bose Roomate II

Bose SE-5 Ser II Syste

Bose A'mass AM511

Boston Acoustics HD5

Boston Acoustics 325 Boston Runabout

Boston Acoustics HD7

Boston Satellites Boston Acoustics 350 Boston Acoustics 335 **Boston Acoustics HD8**

Boston 360 Ser II

Boston Acoustics HD9 Boston Acoustics 380

Boston Acoustics Voyage

Boston Acoustics SW10

Boston SubSat Six

Boston Lynfield 300L

Boston Lynfield 500L

Boston SubSat 7

Canon S-30 Canon V-100 Canon V-SB100

Canon S-50

Canon S-70

Castle Trent II

Castle Chester

Castle Howard

Celestion 1

Celestion CSC

Celestion 3 MKII

Celestion CS135

Celestion CS2

Celestion CS4 Celestion 5 Mkll

Celestion 9

Celestion 15

Celestion SL6S Celestion CS6

Celestion CS8

Celestion 100 Celestion SL12si

Celestion 300

Celestion 700SE

Cerwin Vega L-7

Cerwin Vega VS8

Cerwin Vega SAT-6 Cerwin Vega VS10

Cerwin Vega VS12 Cerwin Vega DC10

Cerwin Vega DC12

Cerwin Vega VS15

Cerwin Vega DC15

Cerwin Vega 1515

Clements 300si

Clements 600si

Dali Skyline 1000

Dali Skyline 2000 Dawn Audio Chorus BS

Denon SCM2

ECA SERV A.2

Epos ES11

Epos ES14

Faraday FS

Dawn Audio Chorus FS

Dawn Audio Symphony

Listings marked in red (as shown l

Dali 102 Dali 104

Dali 400

Chord Sys Audio 905

Clements Reference 1

Clements Reference 7

Celestion SL600si

Castle Winchester

Castle Durham II

Castle Durham 900 Castle York

Bose A'mass AM7

Bose 601 MKIII

Bose 901 V1

s AM3 II

Bose 301 VM

Bose 305

Bose A'ma

Bose 401

Price

30

300 380

430

500

500

760

760

830

880

1650

139 139

169

169

199

249

249

299 449

450 Sat

540 1499

4449

180

250

350

695

189

249

349

649

999

1499 109

129

129

139

149 169

169

269 389

429

449

499

629 820

1099

1435

150 250

300

350

550 Sx P

650 700

850

1300

249

645

995

1695

3750

400

700

1600

482 2x IE

698

1995 3x IE

1850 2x P

395

595

80

Bx F

ut

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Key to loudspeakers Price - typical retail, to nearest

Price + typical fetali, to nearest pound. Type - 2x, 3x etc - number of indepen-dent drive units, Pt - ported, IB -sealed, Active - dedicated active crossover, needs amps for each dri-ver, ABR - auxiliary bass radiator, Sub - subwoofer, Uni-Q - KEF prop. coaxial drive unit, Horn - horn loading, MC -moving coil, ESL - electrostatic, CC -coupled cavity, Hybrid - dynamic

bass/ESL or ribbon top. Sens level. Impe output at given power input level. Impedance - in ohms. Power - maxi-mum recommended amplifier output. Size - width x height x depth in cm.

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Key to loudspeakers Price - typical retail, to nearest

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bass/ESL or ribbon top. Sens - output at given power input level. Impedance - in ohms. Power - maxi-mum recommended amplifier output. Size - width x height x depth in cm.

HI-FI CHOICE BUYER'S GUIDE 107

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

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		=								=			
		Ipe								Tpe			
	Sens	Impedance	Power				Price	J	Sens	Impedance	Power		
	ns	ce	Ier	Size	Special	Model	ce	Туре	SU	Ce	ier	Size	Special
			1.1.1	1.2.2.11		LOUDSPEAKERS							and the second second second
tive		-	60	24,14,16	Self powered AC/shielded, vol	Faraday SG	345	-	89	4	75	27,26,25	
tive	-	-	60	24,14,16	Self powered AC/12V DC	Faraday FS5	575	-	90	4	80	27,46,25	
		8	75	24,43,27	Direct/reflecting technology	Fullers Sultan	399	2xPt	91	8	50	24,51,30	3 finishes
	-	8	100	23,45,28	Tall stand mount, boundary	Fullers Sultan H.E.	439	2xPt	98	8	90	24,51,30	High sensitivity, 3 finishes
	-	4-8	3 50	36,20,20	Acoustimass technology	Fullers Pharaoh 1	649	2xPt	88	8	60	20,30,20	Curved sides, various finishes
_	*	4	100	30,30,76	Direct/reflecting technology	Fullers Audio Pharoah 1	649	-	88	8	70	20,30,20	
	-	4-8	3 100	90,100,18		Fullers Sphinx	839	Зx	89	8	70	25,91,30	Floor standing, var finishes
_	-	4-8	3 200	49,35,19	Acoustimass direct/reflecting	Fullers A Sphinx	999	-	89	8	70	25,91,30	
	-	4-8	3 100	35,49,19	Acoustimass direct/reflecting	Fullers Pharaoh 2	1200	3xPt	88	8	80	39,100,31	Pharaoh 1 with added bass encl
		8	200	32,31,76	Direct/reflecting technology	Fullers A Pharoah 2	1200	-	88	8	80	39,100,31	
	-	8	-	33,53,32	Direct/reflecting technology	Fullers Pharaoh 3	2499	4xPt	88	8	150	46,118,45	Pharaoh + bass & subbass encls
_	89	8	50	25,16,18	Bookshelf, black	Fullers A Pharoah 3	2499		88		-	46,118,45	
	90	4	50	17,17,5	Wall/ceiling white flush mount	Gamma Acoustics Epoch	1499	-		-	-	27,95,36	
	89	8	50	22,15,16	White indoor/outdoor system	Genelec 1019A	1572	Active	-	-	28	23,31,25	
-	90	8	75	36,23,18	Bookshelf, black	Genelec Blamp 1031A	2068	Active	-	-	104	25,39,29	
	89	8	-	-	Satellite speakers	Genelec Triamp S30	3055	Active		-	108	32,50,32	
-	-	4	50	24,17,6	Wall/ceiling white flush mount	Genelec Triamp 1037A	4982	Active	-	-	191	40,68,30	
	90	8	50	18,9	Wall mount, round	Genexxa GX330	80	-	-	6	50	35,21,24	
	90	8	75	46,29,20	Stand/shelf, black	Genexxa GX650	140		90	8	60	23,76,26	
	89	8	60	22.15,7	Wall/ceiling, white, flush mou	GLL Arena	89	-	87	6	70	26,23,14	
ABR	90	8	100	62,32,25	Stand/shelf mount	GLL Maxim	119	-	86	6	100	10,26,17	
	90	8	75	31,24,8	Wall/ceiling white flush mount	GLL Mezzo	159	*	88	6	100	21,36,25	
	89	8	60	26,16,17	White indoor/outdoor, metal	GLL Magnum	199	-	86	6	100	25,42,29	
D	-	-	100	34,17,42	Powered subwoofer	Goodmans Active 75	65	Active	-	-	80	-	
t/sub	89	8	100	•	Passive subs and two satellite	Goodmans M100	80	2x	86	8	75	17,26,20	Bookshelf, close to wall
	89	8	125	-	PAssive sub & 2 satellites	Goodmans HT100	100	-	86	8	60	25,53,20	
	83	8	250	23,34,28	Stand mount, black	Goodmans HT170	150	-	92	8	100	25,70,22	0.44
	85	5	350	122,23,47	Free stand, separate bass/top	Grundig MBX310	80	3xPt		4	70	18,42,29	3 drivers, 2 way
Pt	90	6	75	25,31,28	Wide imaging stereo	Grundig BX1	150	2x Pt	-	4	60	23,40,30	16 litre
Pt	90	4	75	25,325,17	Corner mount	Grundig BX2	230	3x Pt		4	80	24,49,33	22 litre
b	88	6	150	37,34,21	Subwoofer for V100	Grundig BX3	350	2x Pt	-	4	120	24,107,34	53 litre, 3 drivers, 2 way
Pt	89	8	100	25,31,25	Wide imaging stereo	Harbeth HL-P3	479	IB	83	4	100	19,31,17	Free standing, shielded, biwir
Pt	89	6	150	25,780,25	Wide imaging stereo	Harbeth BBC LS3/5A	539	IB	82	10	75	19,31,19	Free standing
	89	8	60	20,34,18	Shelf/stand, nine finishes	Harbeth HL-5	999	Pt	86	8	100	63,33,32	Free standing
	89	8	75	22,40,23	Shelf/stand, nine finishes	Harbeth BBC LS5/12A	999	Pt	82	8	120	60,19,22	Free standing, biwire, shielde
	90	8	85	22,40,23	Shelf/stand, nine finishes	Harman-Kardon LS0200	149	-	87	8	50	21,35,30	
	89	8	100	26,43,22	Shelf/stand, nine finishes	Harman-Kardon LS0300	199	-	88	8	75	21,38,80	
	90	8	100	23,91,25	Free standing, nine finishes	Helius Syrius IV	830	-	90	4	200	23,61,28	
	90	8	125	26,104,41	Free standing, nine finishes	Helius Syrius III	1330	Pt	90	8	250	31,97,16	
	90	8	150	42,108,23	Free standing, quarter wave	Helius Syrius II	1975	Pt	95	4	300	36,107,16	
	86	8	50	16,27,21		Helius Syrius I	2500	Pt	93	4	500	36,107,16	Floor standing, biwire
	89	6	75	33,13,15		Heybrook Prima	130	Pt	87	6	60	20,29,18	Bookshelf or stands
	88	8	75	21,31,18	Integrated LF/baffle moulding	Heybrook Solo	189	2x	89	6	75	23,36,23	Boundary design, stands requir
	86	8	90	52,19,34		Heybrook HB1	259	2x	90	8	75	29,47,23	Boundary, stands required
	86	8	60	16,29,22		Heybrook Trio	359	2x	89	8	75	24,47,25	
	87	8	75	18,33,23		Heybrook Quartet	555	1-1-1-1-1	90	8	80	24,41,22	
	89	8	90	25,35,21	Larger version of Celestion 3	Heybrook Sextet	1099	Зx	88	8	200	27,90,20	With stands
	89	8	100	21,50,25	5	Impulse H7	835	Horn	88	8	70	14,80,29	Floor standing
	89	8	100	21,100,23		Impulse H6	1425	Horn	89	8	100	19,91,35	Floor standing
	84	8	120	20,38,27	Compact stand mount, free spac	Impulse H5	1675	Horn	93	8	100	27.90.45	Floor standing
	88	8	100	19.85.31		Impulse H2	2385	Horn	94	8	100	26,116,45	Floor standing
	88	8	120	19,100,31		Impulse H1	3400	Horn	96	8	100	36,103,68	Floor standing
	84	8	120	21,42,26		Infinity Ref 10	200	IB	90	6	75	23,37,23	Pedestal
	86	8	150	20,53,29		Infinity Ref 20	300	IB	90	6	100	27,47,26	Pedestal
	82	8	120	20.37.24	Aerolam lightweight enclosure	Infinity Inf IV Sat	300	IB	90	6	80	16,24,18	Wall mount, shielded
	84	8	120	21,97,33	,	Infinity Ref 30	400	IB	90	6	100	27,84,25	Floor standing
	82	8	120	20,37,24		Infinity Inf Micro	400	Pt/sub	90	6	100	21,x 127d	Two satellites and passive sub
	92	8	75	23,36,23	Bookshelf, high sensitivity	Infinity SSW-10 Sub	500	Active	-	-	-	34,34,33	The eaternice and pacente eac
	94	6	100	28,51,29	Bookshelf	Infinity Modulus	795	Pt	86	5	200	27,31,18	High end compact
t/sub	95		125	22,25,32	3 box satellite/subwoofer	Infinity Modulus Sats	795	IB	88	5	125	31,18,27	Pedestal
	95	6	125	33,70,29	Floor standing	Infinity Kappa 6.1i	995	Pt	89	6	150	31,95,25	Floor standing
Pt	97	4	250	42,81,38	Floor standing	Infinity Kappa 7.1i	1195	Pt	89	6	225	36,108,26	Floor standing
Pt	96	1.	200	29,94,35	Floor standing	Interaudio XL1000	100	4		8	50	19,29,17	*
Pt	98		300	36,98,35	Floor standing	Interaudio XL2000	140	-	-	8	70	23,36,18	
Pt	102	4	400	46,90,47	Floor standing	Interaudio XL3000	160	-	-	8	70	29,46,23	
Pt	100	-	500	44,103,46		Interaudio XL4000	200	-	-	8	75	32,56,29	
Pt	103	4	600	44,135,46		Jamo Sat 160	100	2x IB	90	8	50	14,19,48	Shelf/wall mount, with wall br
	-	-	-	-		Jamo D115	100	-	90	4-8	60	24,42,22	
	89	4-8	90	24,36,36		Jamo Compact 500	100	2x Pt	90	8	60	16,25,20	High sensitivity, utility desi
	88	4-8	100	24,81,36		Jamo Cornet 30.3	100	2x Pt	88	8	55	20,32,23	Black ash - Mahogany £20 extra
	86	8	100	20,43,29		Jamo Sat 200	110	2x	90	8	50	15,22,8	Stereo passive subwoofer
	88	4.5	200	25,114,4		Jamo Outdoor	110	2x IB	90	8	50	19,34,48	Including wall brackets, weath
	88	6	100	21,32,26		Jamo Sat 300	120	2x	90	8	50	15,21,8	Use with SW500
	93	4	120	86,22,27		Jamo Compact 700	120	2x Pt	91	8	70	19,30.20	High sensitivity, utility desi
	93	4	180	24,97,34		Jamo Cornet 40.3	130	2x Pt	89	8	60	20,32,23	Black ash - Mahogany £20 extra
	88	-	120	-		Jamo Sat 500	150	2x Pt	90	8	50	16,21,14	Satellites for SW500
	88	4	120	51,160,45		Jamo D135	150	-	93	4-8	80	28,52,25	
IB	89	8	-	26,38,21	Bookshelf	Jamo Converta	150	2x Pt	90	8	50	9,25,24	Lamp-like appearance
IB	89	8	-	26,88,21	Floor standing	Jamo Compact 1000	150	-	92	8	90	23,37,22	High sensitivity, utility desi
IB	91	8	-	34,113,32		Jamo D165	180	-	93	4-8	100	28,52,25	J
	87	6	70	19,28,20	UK designeed & built	Jamo Cornet 60.3	180	2x Pt	90	8	80	23,42,27	Black ash - Mahogany £20 extra
Pt	80	8	150	22,102,30		Jamo Outdoor 2	200	2x Pt	90	4	60	18,32,12	Including wall brackets, weath
	87	8	75	20,38,25	Free space, stand mount	Jamo SW160 System	230	-	90	8	-	20,34,48	Compact passive subwoofer
	87	8	100	23,49,29	Free space, stand mount	Jamo Art	230	2x Pt	88	8	60	35,40,9	Shape and size of shallow 20 i
	87	8	75	27,46,25		Jamo 307	270	2x Pt	87	6	70	18,31,27	Stand mount
	_	-								-			
i bel	ow) are	e cove	ered in the		ce Directory, see page 123.								ce Directory, see page 123.
-	(1d)	4	4EN	14 40 00	Elear standing, free apage	Allicon Al 110	220	N/A	٩N	4	150	24 40 23	Floor standing, free space

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Key to loudsneakers

Price - typical retail, to nearest pound. Type - 2x, 3x etc - number of indepen-dent drive units, Pt - ported, IB -sealed, Active - dedicated active crossover, needs amps for each dri-ver, ABR - auxiliary bass radiator, Sub-subwoofer, Uni-Q - KEF prop. coaxial drive unit, Horn - horn loading, MC -moving coil, ESL - electrostatic, CC -coupled cavity, Hybrid - dynamic Price typical retail, to nearest

=

bass/ESL or ribbon top. Sens - output at given power input

level. Impedance - in ohms. Power - maxi-mum recommended amplifier output. Size - width x height x depth in cm.

Τ

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Model

LOUDSPEAKERS

Keswick Audio Aria

Keswick Audio Volante

Keswick Audio Figaro

Keswick Audio Alto

Linaeum LFX Wood

Linaeum LFX Corian

Linn Kelidh Passive

Linn Kaber Passive

Living Voice Tone Scout Living Voice Air Partner

Linn Keilidh Aktiv

Linn Kaber Aktiv Linn Keltik Aktiv

Lowther Fidelio

Lowther Academy

Lowther Bel Canto

Lumley Reference LM4

Lumley Reference LM5

Lumley Reference LM6

Lumley Reference LM3

Lumley Reference LM2

Lumley Reference LM1

MAG Audio Audio A90

Manticore Minaret F1

Martin-Logan Statement

Martin-Logan Aerius Martin-Logan Stylos

Martin-Logan Sequel II

Martin-Logan CLS IIz

Martin-Logan Quest

M-I Monolith IIP

M-L Monolith IIIX Metaxas Empress

Metaxas Czar

Mission 760

Mission 780

Mission 762

Mission 751

Mission 763i

Mission 752

Mission 765i

Mission 753

Modulus Sub

MA Monitor 1 Gold

Monitor Audio MA201

MA Monitor 7 Gold II

MA Monitor 9 Gold II

Monitor Audio MA202

MA Monitor 14 Gold II

Monitor Audio Studio 6 MA MA1200 Gold II

Monitor Audio Studio 50

Mordaunt-Short CS1

Mordaunt-Short MS10

Mordaunt-Short SW1

Mordaunt-Short MS20

Mordaunt-Short MS30

Mordaunt-Short HT30

Mordaunt-Short MS40

Mordaunt-Short MS50

Mordaunt-Short HT50

Naim IBL Passive

Naim SBI Active

Naim SBL Passive

Naim DBL Active

Naim DBL Passive

Neat Petite

NAD 800

NAD 802 Naim IBL Active

MA MA700 Gold II

MA Studio 20SE

Monitor Audio MA100G

Metaxas Emperor

Mission 760i SE

Manticore Matisse

Magnepan SMGa

Manticore Minaret

Lowther Delphic

Koss SA10

Koss SA30

Linaeum LSI

Linn Index

Linn Tukan



Price

269

799

19

36

649

991

1399

398

595

1090

1298

1995

1990

1299

1499

1899

2195

499

895

3600

688

450

750

1300

4991

8730

3850

9500

130

150

200

250

300

380

500

680

1750 190

250

250

290

400

470

500

800

4000

150

180

300

380

149

776

895

1586

1708

7672

595

Key to loudspeakers Price - typical retail, to nearest pound.

Impedance Pon

85

125

150

30

60

60

100

100

100

100

120

150

200

300

100

100

100

100

75 75

125

125

125

150

100

120

100

100

100

200

100

100

75 100

120

60

80

65

75

Size

34.110.3

21,42,27

21 85 27 19.28.27

19,70,27

16,22,18

30,150,38

16.22.18

21.44.24

19.30.18

20.83.28

20.83.28

20,90,28

20.90.28

26,104,37

64 110 7

64 160 90

29,100,43

29,100,43

28,132,44

28,137,44

18.36.22

25,46,21

25.81.21

27,87,28

33,110,29

71.122.40

52,150,8

23,15,11

100,28,22

23,140,10

23,122,30

23 35 28

31,160,29

62 127 32

42,160.29

59.163.28

59,163,26

50,150,8

70,230,8

100,230,8

18 30 20

18.30.20

18.30.26

25.50.29

19.32.27

25,80,29

20,84,26

25,100,34

21,88,32 49.45.45

16.24.16

22,41,27

17.35.17

16,24,16

22,89,29

21.76.24

22,35,26

22.35.25

20.92.26

20.92.26

20,104.30

16,24,14

19.31.22

24,58,26

25.43.28

25.43.29

23,82,28

25,87,33

25,87,33

20,32,24

20.40.26

25,80,28

25.80.28

27,89,27

27,89,27

65,120,40

65,120,40

20.30.18

Special

Bookshelf Floor standing

High imp

European design

To match Figaro

High impedence

30 watts minimum

Multipurpose

16ohm option

Stand mount

Stand mount

Floor standing

Floor standing

2 box, open baffle

Nearfield monitor

Nearfield monitor

Fibrelam cabinets

Full range panel

Two-way

In wall

ESL/dynamic, biwire,

Dynamic bass/electrostatic, tw

Dynamic bass/electrostatic, tw

ESL/dynamic, active crossover

Full range single panel ESL

Full range, multi-panel ESL

Stand mount, boundary siting

Stand mount, boundary siting

Stand mount, near wall siting

Stand mount, boundary siting

Floor standing, near wall sit

Floor stand, near wall siting

Floor stand, transverse folded

Variable phase, high/low filte

Miniature stand/shelf mount

Gold dome tweeter, pulp bass

As MA Monitor 1, shielded

Gold dome tweeter, pulp bass

Stand/shelf mount, metal bass

Floor standing MA700 GII

Floor stand, metal cone bass

Shielded, Positec protected

Alloy tweeter, MCS woofer

Alloy tweeter, MCS woofer

Alloy tweeter, MCS woofer

Shielded, Positec protected

Alloy tweeter, MCS woofer

Alloy tweeter, MCS woofer

10 litre enclosure

11.5 litre enclosure

Boundary, floor standing

Positec, integrated subwoofer

Coupled cavity, matches CS1

Floor stand, metal bass & mid

Stand mount, inverted

Floor stand, free space

Stand/shelf mount

Stand/shelf mount

Floor/shelf standing

Stand/shelf mount

ESL/dynamic, two-way

Full range 3-panel ESL

Two-way full range ribbon

Open baffle

Features solid timbers

Modified ribbon/dynamic

Modified ribbon/dynamic

Modified ribbon/dynamic

Floor standing, 60w min

Floor standing, boundary

Integral stands, boundary

Integral stands, boundary

Floorstanding, three-way

Floorstanding, Vitavox drivers

Including adjustable stand

With adjustable stand, 160hm o

Integral stands, 60w minimum

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Price - typical retain, to nearest pound. Type - 2x, 3x etc - number of indepen-dent drive units, Pt - ported, IB -sealed, Active - dedicated active crossover, needs amps for each dri-ver, ABR - auxiliary bass radiator, Sub - subwoofer, Uni-Q. KEF prop. coaxial drive unit, Horn - horn loading, MC -moving coil, ESL - electrostatic, CC -coupled cavity, Hybrid - dynamic

bass/ESL or ribbon top. Sens - output at given power input

Sens evel level. Impedance - in ohms. Power - maxi-mum recommended amplifier output. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Model	Price	Туре	Sens	Impedance	Power	Size	Special
LOUDSPEAKERS							
Jamo BX100	300	3x Pt	91	8	100	22,55,28	Floor or stand mount
Jamo 407	350	2x Pt	88	6	80	22,41,29	Stand mount
Jamo Graphic	350	2x Pt	88	6	60	39,44,8	Wall mount
Jamo Atmosphere	380	2x Pt	88	8	60	27,37,16	Wall mount, doubles as lamp
Jamo D365	390	-	96	4-8	200	46,78,35	
Jamo BX150	390	3x Pt	82	8	150	28,83,31	Floor mount
Jamo Silhouette	400	-	90	5	80	25,122,17	
Jamo SW500 System	430	2x	90	8	140	41,38,53	Passive stereo subwoofer
Jamo BX200	450	3x Pt	83	8	250	43,72,33	Floor mount
Jamo 477	500	2x Pt	86	4	100	19,77,29	Floor standing
Jamo 507	700	3x Pt	88	4	150	22,91,37	
Jamo 707	900	3x Pt	90	4	200	24,104,39	
Jamo Oriel	6000	3x	87	6	300	40,178,30	Floor standing, coupled cavity
JBL Control One	115	2xPt	87	4	150	24,156,14	Shielded, wall mountable
JBL 4208	449	-	89	8	300	29,45,23	
JBL L1	479	2x Pt	87	8	200	25,40,20	Asymmetric, time aligned
JBL HTS-1	629	-	-		150	-	
JBL L3	699	2x Pt	89	8	200	30,86,24	Asymmetric, time aligned
JBL HTS-2 system	800	-	-	4	150		
JBL HTS-3	999	-	-		180	-	
JBL L5	1299	3x Pt	90	6	300	26,45,33	Asymmetric, time aligned
JBL Ti 1000	1500	2x IB	89	4	150	20,30,13	Asymmetric, double wall
JBL L7	1699	4x Pt	89	4	200	117,25,45	Asymmetric, time aligned
JBL Ti 2000	2000	3x IB	89	4	200	33.82.30	Asymmetric, double wall
JBL TI 3000	2499	3x IB	90	6	200	46,105,35	Asymmetric, double wall
JBL 1 5000	3499	3x IB	90	6	300	48,114,38	Asymmetric, double wall
		OX ID	51		500	+0,114,30	
Jordan Watts JHFLG	420	1.10	00	-	- 80	10.00.17	Flagon pottery colour
Jordan Watts JH200	510	1x IB	86	8		19,33,17	Bookshelf or stand mount Marble finish available £970
Jordan Watts JH400	820	1x IB	86	8	80	28,32,17	
J Watts Aspect JH1+1	2745	2xIB	85	8	100	40,93,23	Matt - alt finishes extra
Jordan Watts JH2K	3230	-	-	-		-	
J Watts Classic JH2KM	4250	2x	87	8	150	47,82,34	Line tweeter array
J Watts Classic JH5K	4875	2x IB	89	8	250	47,126,40	Floor stand, line array
J Watts Classic JH5KM	5860	2x	89	8	250	47,125,40	Line driver array
J Watts Classic JH10K	9340	2x IB	92	8	500	47,156,40	Floor stand, line array
Jordan Watts JH10EM	10495	2xIB	92	8	500	47,156,40	Line driver array
JPW Minim SGL SHD	50	2x	87	6	70	13,23,10	
JPW Satellite SGL SHD	50	2x	85	8	70	13,23,10	
JPW Satellite	80	2x	85	8	70	13,24,10	
JPW Minim	80	2x	87	6	70	19,28,20	135mm bass, 14mm treble
JPW Minim Pair Solid	89	2x	87	6	70	19,28,20	
JPW Sonata Vinyl	100	2x	87	8	70	13,23,10	
JPW Sonata	120	2x	87	8	70	23,32,22	165mm bass, 14mm treble
JPW Subwoofer	130	1x	95	8	80	25,51,27	
JPW Sonata Plus	140	2x	87	8	70	23.32.22	165mm bass, 25mm treble
JPW P1 Vinyl	150	2x	89	8	70	13,23,10	
JPW P1	170	2x	89	8	70	26,44,25	200mm bass, 19mm treble
JPW AP2	200	2x	89	8	80	26,44,25	200mm bass, 19mm treble
JPW AP3	230	2x	88	8	100	26,52,29	200mm bass, 19mm treble
JVC SPX220TBK	100	3x Pt	90	8	60	24,66,24	
JVC SPX550BK	120	3x Pt	90	8	60	24,66,24	
JVC SPX770BX	150	3x Pt	90	8	80	28,75,25	
					100	31.86.27	
JVC SPX990BK	230	3x Pt	91	8		31,00,27	Catallita auburadar austam
JVC SX-SW9	300	2xPt	90	6	100	20 02 05	Satellite subwoofer system
JVC SX911WD	660	3x Pt	91	6	150	38,63,35	
JVC SX500	700	2x Pt	90	6	180	27,45,28	
KAL Mini-Ref MKII	395	-	86	8	120	23,27,17	
KAL Mini-Tower	619	-	89	6	150	17,90,22	
KAL Compact Ref	650	-	89	8	140	23,36,27	
KAL Tunejal	795		89	8	150	23,100,27	
KAL Trans-double	1500	-	89	8	250	23,112,36	
KAL Warlock	1600	-	90	6	250	25,113,36	
KEF K120	169	2x IB	87	8	80	21,34,25	Stand/bookshelf
KEF Q10	199	2x Pt	88	6	100	19,28,24	Uni Q, shielded
KEF K140	239	2x IB	89	8	100	26,49,25	Stand/bookshelf
KEF K160	329	2x ABR	89	8	150	26,75,25	Floor standing
KEF Q30	349	2x Pt	88	6	125	19,70,28	Uni Q, shielded, floor standin
KEF Q60	419	2x Pt	90	6	175	19,102,28	Uni Q,3 shielded, floor standi
KEF Q50	499	3x Pt	89	6	150	19,80,28	Uni Q, shielded, floor standin
KEF 101/3	549	2x	89	4	150	22,50,27	Uni Q bass EQ option
KEF Q80	569	2x ABR	89	8	125	25,86,28	Uni Q floor standing
KEF Q70	699	3x	90	6	175	19,102,28	Uni-Q, shielded, floor standin
KEF Q90	739	3x Pt	89	8	150	25,89,32	Uni Q floor standing
KEF 102/2MS	749	2x	87	6	150	22,33,27	Uni Q, shielded shelf/stand mo
KEF 103/4MS	1199	3x Pt	91	4	200	22,90,31	Uni Q, shielded showstand his
KEF 103/4S	1249	3x CC	91	4	200	22,90,31	'Audiophile' 103/4MS
KEF 103/45 KEF 104/2	1595	3x 00	92	4	250	28,90,31	Floor standing, coupled cavity
				-			
KEF 105/3	2295	4x Pt	93	4	300	28,111,41	Uni Q, coupled cavity bass
KEF 105/3S	2345	4x Pt	93	4	300	28,111,41	Uni Q, audiophile 105/3
KEF 107/2	3695	3x	92	4	350	33,117,45	Floor standing, Kube equaliser
Kenwood LS-770G	260	Pt	88	4	110	27,48,26	European design
Kenwood LS-300G	300	Pt	82	8	60	21,35,30	European design
Kenwood LS-880G	360	Pt	86	4	160	28,51,26	Titanium tweeter
Kenwood LS-500G	500	Pt	87	4	100	22,44,28	European design
			87	4	120	30,90,30	European design
Kenwood LS-700G	1200	Pt	0/	4	120	30,90,30	Luiopean design

vered in the Hi-Fi Choice Directory, see page 123.	Listings marked in red (as show

n below) are covered in the Hi-Fi Choice Directory, see page 123.

Key to loudspeakers Price - typical retail, to nearest pound. Type - 2x, 3x etc - number of indepen-dent drive units, Pt - ported, IB -sealed, Active - dedicated active crossover, needs amps for each dri-ver, ABR - auxiliary bass radiator, Sub - subwoofer, Uni-Q - KEF prop. coaxial drive unit, Horn - horn loading, MC-moving coil, ESL - electrostatic, CC - coupled cavity, Hybrid - dynamic

bass/ESL or ribbon top. Sens - output at given power input level. Impedance - in ohms. Power - maxi-mum recommended amplifier output. Size - width x height x depth in cm. Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

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	Price	Туре	Sens	Impedance	Power		
Model	ce	pe	ns	ce	er	Size	Special
Orelle Orator II	699	2xPt	91	8	100	27,40,30	Time aligned, biwire
Origin Live OLAV	289	-	88	8	100	20,30,19	Time aligned, siwire
Origin Live OL2B	349	-	88	8	100	19,80,19	Floor standing
Origin Live OL-1A	399	-	86	8	150	20,30,19	
Origin Live OL-2A	469	-	86	8	150	19,80,19	Floor standing
Origin Live OL-1	499	-	86	4	150	20,30,19	
Origin Live OL-2	649	-	86	8	150	19,80,19	Floor standing
Origin Live OL3	975	3x	88	8	150	19,83,23	Floor standing
Origin Live Conqueror Pentachord Pentode	1600	3x	89 87	8 8	150 80	23,87,23 20,74,20	Floor standing Active crossover, including el
Pentachord P'column	0	IB IB	87	0 4	80	20,74,20	Including active crossover, fo
Pentachord B	0	IB	87	8	80	52,35,52	Active crossover, including el
Pentachord A	0	2x IB	87	8	80	21,28,20	Direct coupled
Philips Legend FB720	200	Pt	80	7	75	21,37,31	Shoot oogloo
Philips DSS930	1300	Active	-	75	-	22,58,33	Active digital loudspeaker
Pioneer CS301	120	3x Pt	90	8	120	27,54,24	Bookshelf
Pioneer CS501	170	3x Pt	90	8	140	31,53,25	Bookshelf
Pioneer CS701	230	3x Pt	90	8	190	35,70,28	Bookshelf
Pioneer S4UK	250	2x Pt	88	6	80	21,37,28	No crossover, UK optimised
Pioneer S60	270	2x	87	4	80	22,47,28	Bookshelf
Pioneer CS901	280	3x Pt	92	8	220	39,75,29	Bookshelf
Pioneer S80 Pioneer S200	370 600	2x	88 89	4	80 120	23,56,28	Bookshelf Biwire floor standing
Pioneer S200 Pioneer S400	950	2x 2x	89 89	4	120	26,90,34 27,96,38	Biwire, floor standing Biwire, floor standing
Polk S4	200	2x 2x Pt	89 91	4	100	27,96,38	Stand mount, free standing
Polk M3	200	2x Pt	89	8	100	17,29,21	Multi-app, including wall brac
Polk S6	300	2x ABR	91	8	125	26,54,20	Stand mount
Polk S8	450	2x ABR	90	8	150	29,64,22	Stand mount
Polk S10	600	2x ABR	91	8	200	32,74,26	Floorstanding
Polk LS50	800	2x Pt	89	8	250	27,83,29	Floorstanding
Polk LS70	1200	2x Pt	90	8	250	31,94,37	Floorstanding, biampable
Polk LS90	1700	3x Pt	90	8	250	31,94,37	Floorstanding, biampable
Posselt Alpha I	950	Pt	89	8	60	24,44,28	
Posselt Alpha II	1200	Pt	89	8	90	23,100,27	
Posselt Alpha III Posselt Alpha IV	1350 1500	Pt Pt	89 89	8 8	100 135	26,102,30	
Posselt Albatros	2200	Hrn	93	6	200	27,104,31 31,186,32	Ultra sensitive
Proac Tablet 3	479	-	87	8	100	17,28,23	olita sensitive
Proac Studio 100	699	-	88	8	150	20,40,25	
Proac Response 1 S	919	-	87	8	100	17,30,24	
Proac Response 2	1634	-	88	8	150	23,45,281	
Proac Response 3	3065		90	8	300	28,118,30	
Proac Response 3 Sig	4935	-	90	8	300	28,118,30	
Prof Monitor Co TB1	481	2x Pt	90	8	150	20,40,25	Shielded version available
Prof Monitor Co LB1	998	2x	89	4	300	18,53,25	Transmission line
Prof Monitor Co AB1	1598	2x	89	6	400	26,79,43	Transmission line
Prof Monitor Co MB1P	4681	2x 2x	91 91	8 4	500 600	38,87,53	Transmission line Transmission line
Prof Monitor Co BB5P Quad ESL-63	6754 2860	ELS	86	8	100	43,104,79 66,93,27	Panel, simulates point source
RCF Mytho1	595	-	88	8	150	28,16,24	ranei, sinulates point source
RCF Mytho 2	795	-	90	8	200	38,22,31	
RCF Mytho 5	1295	-	85	8	200	84,16,27	
RCF Mytho 3	1395	-	89	8	250	95,22,31	
RCF Mytho 5	1725	-	89	8	300	95,28,34	
Realistic Minimus 3.5	30	-	-	8	15	9,15,5	
Realistic Minimus 21	30	-		8	10	15,24,13	
Realistic M'mus 26	56	-	87	8	40	18,28,11	
Realistic Minimus Pro-7	60	2xPt	87	8	50	11,18,11	Revised design
Realistic Minimus Pro-77 Rega Kyte	100 198	2xPt 2x	86	8 8	55	14,22,11 19,31,19	Revised design Stand/wall/shelf mount
Rega EL8	298	2x 2x		8	-	17,72,20	Floor stand
Rega ELA	450	2x	-	8	-	30,80,20	Floor stand
Rega XEL	1040	2x	-	6	-	20,82,30	Floor stand
Rehdeko RK115	1200	Pt	104	8	-	34,42,28	
Rehdeko RK125	2300	Pt	102	8	-	34,61,28	
Rehdeko RK145	3400	Pt	102	8	-	39,66,29	
Rehdeko RK175	6500	Pt	106	8	-	50,96,37	
REL Strata	499	Sub		÷.,	1kw	42,52,31	Active, internal amp
REL Stadium	795	Sub			1kw	58,52,36	Active, internal amp
REL Stentor	1495	Sub	-	-	1kw	59,56,37	Active, internal amp
REL Studio Richard Allen Min 2	2995 129	Sub	- 86	8	1kw 100	69,62,52 16,30,20	Active, internal amp
Richard Allen Minette Gold			86	8	100	16,30,20	
Rogers LS2A/2	229	-	87	8	100	23,36,21	Use about 30cm from wall
Rogers LS6A/2	399		89	8	150	27,51,28	Stand mount, free space
Rogers Studio 3	449	-	85	8	45	19,30,16	
Rogers LS8/A	499		90	8	150	26,86,25	
Rogers P20	750	2x Pt	88	8	150	26,42,30	Stand mount, stands available
Rogers Studio 7	880	-	89	8	150	30,63,30	
Rogers P22	1100	2x Pt	88	8	150	26,85,30	Floor stand, sloping baffle
Rogers LS5/9	1531	*	87	8	100	28,46,27	Internal base floor standing
Rogers P24a Roksan Ojan 3	1800 895	- Pt	86 90	4	250 250	25,104,35 28,76,460	Internal bass, floor standing Floor standing, sprung tweeter
Royd A711	115	-	90 89	8	60	28,76,460	Bookshelf or near wall siting
Royd A7 Series II	115	Pt	89	8	60	31,20,18	Near wall siting
Listings marked in re	u (as sh	iown be	iow) ar	e cov	ered in th	e HI-FI Choi	ce Directory, see page 123.

	HI-FI CHOICE Key to loudspeakers Price • typical retail, to nearest pound. Type - 2x, 2x etc • number of indepen- dent drive units, Pt • ported, IB • sealed, Active • dedicated active crossover, needs amps for each dri- ver, ABR • auxiliary bass radiator, Sub • subwoofer, Uni-Q • KEF prop. coaxial drive unit, Horn • horn loading, MC • moving coil, ESL • electrostatic, CC • coupled cavity, Hybrid • dynamic					bass/ESL or ribbon top. Sens - output at given power input level. Impedance - in ohms. Power - maxi- mum recommended amplifier output. Size - width x height x depth in cm. Products highlighted in red have been tested in <i>Hi-Fi Choice</i> . Please refer to The Directory on page 123 for full test	
	Price	moving couple	g coil, E: d cavity	SL - e , Hybr	lectrostati rid - dynam		results.
Model Loudspeakers	се	pe	Su	Ce	er	Size	Special
Royd Topaz	173	Pt	89	8	100	31,20,18	Near wall siting
Royd Sapphire II Royd The Minstrel	245 259	Pt Pt	89 86	8 8	100 100	31,20,18 69,18,12	Biwire, near wall siting Side port,. floor standing
Royd Sintra II	375	Pt	89	8	100	31,20,18	Biwire, near wall siting
Royd The Sorcerer Royd The Abbot	595 665	Pt Pt	86 90	8 8	120 120	31,20,18 81,20,30	Front port, near field monitor Floor standing, free space
Royd The Prior	978 299	Pt	90 87	8 8	150 100	96,37,26	Floor standing, free space
Ruark Swordsman II Ruark Sabre II	385	2x IB, 2x IB	87	8	100	20,38,27 23,37,27	Bookshelf or stand mount Bookshelf or stand mount
Ruark Templar Ruark Talisman II	479 699	2x IB 2x Pt	87	8 8	100 100	19,70,27	Floor standing
Ruark Broadsword II	849	2x Pt 2x IB	88 86	8	120	23,84,32 29,43,38	Floor standing Stand mount
Ruark Crusader II	1495	3x Pt	88	6	150	24,92,32	Floor standing
Ruark Equinox Ruark Accolade	1749 2549	2x Pt 3x Pt	88 89	6 8	150 200	25,88,34 29,100,38	External crossover Floor standing
Sansui SP-X111K	125 399	- Pt	89 87	6 8	50 100	18,30,20 20,38,30	Free standing
SD Acoustics SD3 SD Acoustics SD5	1235	Pt 3x Pt	87 88	8	200	20,110,30	Free standing Ribbon tweeter
SD Acoustics SD1 Shahinian Obelisk	1650 2290	IB 3x	88	8 6	250 200	30,125,30 37,74,32	Open mid, ribbon tweeter 1st Shaninian model, floor sta
Shahinian Hawk	4950	Mono s	- ub -	6	250	37,95,28	Passive
Shahinian Diapason	7950	5x	91 88	6	300	58,100,38	Omni-directional, floor standi
Sonus-Faber Minuetto Sonus-Faber Amator	898 1498	2x 2x	88 88	-	-	23,35,28 20,34,31	Compact, stand mount Compact, stand mount
Sonus-Faber Electa	1690	2x	88	-	•	38,27,24	Compact, stand mount
Sonus-Faber Amator Sonus-Faber Guarneri	2898 5500	2x 2x	88 88	-	-	37,22,35	Compact, stand mount Compact, limited edition
Sonus-Faber Extrema	5991	2x	88	-	-	55,27,46	'Reference Standard'
Sony SS-E300 Sony SS-V77	50 50	IB	- 90	- 16	-	- 19,9,14	Magnetically shielded Full range surround speakers
Sony SS-E500	80	IB	-	-	-	-	Magnetically shielded
Sony SS-J90AV Sony SS85E	100 100	- IB	- 85	167 4	- 70	19,12,15 9,32,24	Shielded centre speaker UK optimised sound
Sony SS85E Sony SS125E	120	IB	85	4	90	9,32,24 22,38,38	UK optimised sound
Sony SA-W90	350	-	-	-	70	22,49,51	Active subwoofer
Sony SSA1L Sound-Lab Dynastat	450 3790	IB Hybrid	85 88	4	120 350	19,30,32 44,183,41	Bio-cellulox tweeters Oak or walnut finish £3990
Sound-Lab Pristine II	6990	ESL	88	8	300	72,153,69	Steel frame, black
Sound-Lab A3 Sound-Lab A1	11990 13990	ESL ESL	88 88	8 8	300 400	79,61,23 91,208,27	Any finish Curved panel, any finish
Spendor LS3/5A	630	Зx	83	8	40	19,30,16	BBC inspired location monitor
Spendor S20 Spendor SP2/3	760 970	-	84 88	8 8	70 80	22,38,26 28,55,33	On stands, free space On stands, free space
Spendor SP1/2	1330	-	89	8	90	30,63,30	on stands, nee space
Spendor S100 Spendor SP7/1	1965 2000	2x 2x	89 88	8 8	100 80	37,70,43 85,30,35	
Spendor SP9/1	3300	3x	89	8	100	106,37,44	-
Spica TC50	649	IB	86	4	50 50	33,39,29	Free space, on stands Free space, on stands
Spica TC50SE Spica TC50SEX	849 949	IB IB	86 86	4	50	33,39,29 33.39.29	Free space, on stands
Spica Angelus	1295	IB	87	8	200	53,117,26	Free space, floor standing
Tannoy 603ll Tannoy 605ll	139 169	-	86 87	4 6	70 90	23,34,16 28,40,19	Free space, floor stand Gold anodised tweeter
Tannoy 607II	219	-	88	6	100	32,50,23	Gold anodised tweeter
Tannoy 609II Tannoy 611II	294 429	-	89 91	5 4	120 150	33,50,23 33,70,23	Dual concentric Dual concentric
Tannoy 613ll	600	-	90	4	150	28,90,19	Dual concentric
Tannoy 615II TDL Near Field Mon	750 120	-	92 88	4 8	175 70	33,98,23 18,30,17	Dual concentric
TDL RTL1	200	-	87	8	80	20,39,22	
TDL RTL2 TDL RTL3	300 400	-	87 90	8 8	80 120	20,73,22 20,90,37	
TDL Studio 0.75	499	-	85	8	100	20,67,30	
TDL Studio 0.5 TDL Studio 1	499 699	- 2x	85 86	8 8	75 120	20,62,30 23,77,33	Transmission line bass
TDL Studio	699	-	86	8	100	23,76,33	
TDL Studio 3 TDL Studio 4	999 1499	-	87 87	8 8	250 300	30,98,41 27,112,44	
TDL Reference Monitor	1999	-	87	8	350	30,119,47	Floor standing
Teac LSX8 Teac SW1	80 120	- Sub	-	8 6	30 100	11,18,11 17,44,30	Coaxial, shielded
Teac S300	150	2x Pt	-	6	100	17,24,17	
Technics SB-CS55 Technics SB-CS75	80 100	2x Pt 3x Pt	-	8	60 60	25,43,25 27,49,25	Shelf/stand, shielded Composite mica cone mid
Technics SB-CS95	150	3x Pt	-	8	100	29,54,25	Composite mica cone mid
Technics SB-EX2	180 250	2x Pt 3x Pt	-	4	100 125	24,48,29 24,60,29	Composite mica cone mid Mica diaphragms, separate LF b
Technics SB-EX3 Technics SB-EX7	450	3x Pt 3x Pt	-	4	125	24,60,29 29,85,32	Mica diaphragms, separate LF b
Technics SB-MX100D	2000	2x Pt	-	6	100	23,47,34	Floor standing, separate LF ba
Technics SB-MX200D Totem Model One	4000 995	3x Pt Pt	88 87	4	125 120	35,91,43 17,31,23	Mica bass/tweeter
Triangle Titus E	265	-	90	8	75	20,25,32	Quite law are used as t
Triangle Comete E Triangle Scalene E	399 625	-	91 91	8 8	100 150	22,28,40 84,22,22	Suits low powered valve amps Suits for low power valve amp
Triangle Norma	775	-	93	8	150	26,84,25	Suits low power valve amp
			and the second second		100		

SEVENOAKS SUPERFI

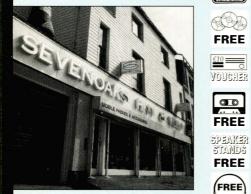


DISPLAY & DEMONSTRATIONS

The moment you step through the door of a Sevenoaks Hi Fi or Superfi branch you're going to be better looked after. With over 21 years experience in Hi Fi, Video and TV retail, we're here to make sure you get the equipment that best suits your needs and your budget.

m Jr prouncts

You'll find a wide range of products with the emphasis on quality rather than country of origin. Not only is everything we sell on display, but it's also available for demonstration. Each of our branches has dedicated demonstration facilities to help you enjoy choosing your equipment.



If you thought this level of service might be expensive you'd be wrong. Our prices are the most competitive around and our added value offers famous throughout the industry

AFTER SALES CARE

Each of our Sevenoaks Superfi branches is served by a dedicated Central Service Department. Approved by all the leading manufacturers, our team of fully trained engineers is capable of repairing 99% of all faults - in our own workshops. Once the repair is complete we give you a 3 month warranty. The kind of back up you'd expect from the leading independent Hi Fi retailers in the country



ADDED VALUE



ALDA

FREE

10

010

FREE

STANDS

FREE

FREE

* *

0

FINANCE

Full selection of Hi Fi Press Award Winners



Free TDK Tapes on selected Cassette

Deck purchases Free 007 stands



Free Headphones worth £ 40 on selected Hi Fi Separates over £500



suggested systems) Dedicated listening



SUGGESTED SYSTEMS

The suggested systems priced below all include the popular NAD 5120 turntable but an alternative turntable or CD Player is available at extra cost. Please see CHOICES list below for further details.

Amplifiers Speakers	Pioneer A203 Technics SUVZ220K	NAD 302 Marantz PM44SE MkI Technics SUVZ320K	Kenwood KA3020SE Harman HK6150 Technics SUA600K Marantz PM44SE Mkli	NAD 304 Pioneer A300X	Technics SUA700K
JPW Sonata V Celestion I JPW Minim NAD 801	264. 95	296. 95	319.95	<mark>344</mark> .95	359.95
Celestion 3 MkII JPW Sonata W Mission 760i	288.95	319.95	344.95	368 .95	384.95
Tannoy Profile 631 Mission 760ı SE NAD 800	304.95	336 .95	359.95	384 .95	399.95
Tannoy Profile 632 Celestion 5 MkII 8&W DM600 Mon Audio 1	328.95	359 .95	384.95	408 .95	424.95
Celestion 7 MkII NAD 802	359.95	392. 95	416.95	439 .95	456.95

CHOICES

The following Compact Disc Player or Turntable may be ordered instead of the $\bf NAD~5120$ in the above systems:~

CD PLAYERS

Aiwa XC300 Add f 19 Denon DCD615 Add £ 79 Denon DCD825 Add £ 119 Marantz CD52II Add £ 59 Marantz CD52IISE Add £ 139 Marantz CD53 Add £ 79

Marantz CD63 Add f 139 NAD 501 Add £ 79 NAD 502 Add £ 99 Pioneer PDS703 Add £ 149 TEAC CDP3500 Add £ 79 Technics SLPG440AK Add £ 59

Dual CS503.2 Add £ 59 Dual CS505.4 Add £ 89 NAD 533 Add £ 89 Project 0.5 Add £ 49 Technics SI BD22K Add f 49 Thorens TD280 IV Add £ 99

TURNTABLES

PRICE PROMISE

We always try to ensure our prices are competitive. In the unlikely event of an identical product being available from a local authorised dealer at a lower price, we will beat that price by up to £ 20. To qualify it must be a verifiable offer on product that is in stock, brand new and in a sealed box. No Added Value Offers apply on price beat sales

PRICE BEAT VALUES:

£ 110 - £ 500	= £ 10
£ 501 - £ 1,000	= £ 15
£ 1,001+	= £ 20

0% FINANCE

We offer 0% finance on a wide range of Hi Fi separates. Package 1: 10% deposit followed by 6 equal monthly payments. Example: Cost £ 600. Deposit £ 60 plus 6 payments of £ 90. Package 2: 25% Deposit followed by 9 equal monthly payments. Example: Cost £ 600. Deposit £ 150 plus 9 payments of £ 50. Package 3: 50% deposit followed by 12 equal monthly payments. Example: Cost £ 840. Deposit £ 420 plus 12 payments of £ 35. All Options: Minimum balance £ 400. Subject to status. 0% APR. Personal shoppers only. Written details on request

26 BRANCHES NATIONWIDE SEE

CD Vouchers available on selected purchases VOUCHER

THE SPECIALIST

HI FI PRODUCT SELECTION

AMPLIFIERS

/	-
Arcam Alpha 5 Arcam Delta 290 Aura VA80 Aura VA80 Aura VA100 Black Audiolab 8000A/II Audiolab 8000A/II Audiolab 8000P/II Audiolab 8000P/I Audiolab 8000P/I Audiolab 8000P/I Audiolab 8000P/I Cyrus PSXR (Selected branches) Cyrus PSXR (Selected branches) Denon PMA450 II Denon PMA450 II Denon PMA450 SE Denon PMA480R Denon PMA480R Denon PMA480R Denon PMA480R Denon PMA480R Denon PMA480R Denon PMA480R Denon PMA480R Denon VA480R Denon HA480R Denon HA480R Denon HA480R Denon HA480R Denon HA480R Denon HA480R Denon HA480 Exposure EXP13 MM Exposure EXP13 MM Exposure EXP13 MM Exposure EXP18 Marantz PM342 Marantz PM342 Marantz PM342 Marantz PM344 MkI SE Marantz PM344 MkI SE Marantz PM344 MkI SE Marantz PM344 MkI SE Marantz PM345 Musical Fid A11 Mk III Musical Fid A11 Mk III Musical Fid A11 Mk III Musical Fid A11 Mk III Quad 306 Pioneer A300X Pioneer A300X Pioneer A300X Pioneer A300X Rotel RA935BX Rotel RA930AX Rotel RA930AX	$ \begin{array}{c} f \ 159.9 \\ f \ 219.95 \\ f \ 229.95 \\ f \ 229.95 \\ f \ 229.95 \\ f \ 239.95 \\ f \ 139.95 $
Quad 606 Rotel RA930AX Rotel RA930BX Rotel RC970BX Rotel RC970BX Technics SUA600K Technics SUA700K Technics SUA900Mkll K Yamaha AX380	f 689.95 f 174.95 f 224.95 f 224.95 f 149.95 f 199.95 f 249.95 f 399.95 f 199.95
MINI/MICR	US

Aiwa, JVC, Sony & Technics P.O.A

Denon D65 Ex Speakers	£ 569.95
Denon D90 Ex Speakers	£ 669.95
Denon D110 Ex Speakers	£ 799.95
Denon D150 Ex Speakers	£ 929.95
Denon D550 Ex Speakers	£ 999.95
TUNER AM	PS
Denon DRA365RD	£ 249.95
Denon DRA545RD	£ 319.95
Marantz SR53	£ 199.00
Nad 701	£ 259.95
Nad 705	£ 329.95
CASSETTE DCC DECKS	
DCC DECKS	5
Aiwa ADF450	£ 119.95
Aiwa ADF850	£ 229.95
Aiwa ADWX727	£ 169.95

Aiwa ADWX727 Aiwa ADWX828	£ 169.95 f 199.95
Aiwa ADWX828 Aiwa ADWX929	£ 199.95 £ 249.95
Denon DRM540 Denon DRM740	£ 159.95 f 259.95
Denon DRIVI740 Denon DRS810	£ 299.95
Denon DRW760	£ 249.95
Denon UDR F10 Marantz SD53	£ 269.95 £ 199.95
Marantz SD63	£ 249.95
Nad 602 Nakamichi DB1	£ 199.95 f 849 95
Nakamichi DR2	£ 599.95
Nakamichi DR3	£ 359.95
Philips DCC300	£ 174.00
Philips DCC600	£ 194.00
Pioneer CTS430S	£ 199.95
Pioneer CTW603RS	£ 229.95

Sony TCK611S Dolby S	£ 249.00
Technics RSTR373K	£ 179.95
Technics RSTR474K	£ 199.95
Yamaha KX380	£ 169.95
Yamaha KX580	£ 249.95

£ 179.00

Sony TCK5115 Dolby S

AUDIO VISUAL

B&W, Canon, Celestion, Denon, JBL, Kef, Kenwood, Marantz, Mon Audio, Mordaunt Short, Pioneer, Technics, Yamaha and Sony. Refer to our A/V Ad.

Mordaunt Short, Pioneer, Tech Yamaha and Sony. Refer to ou	Audio, nnics, ir A/V Ad
SPEAKERS B & W DM600i B & W DM610i B & W DM610i B & W B05 B & W 805 B & W 804 Castle Chester Castle Durham II Castle Durham II Castle Durham II Castle Durham 900 Castle Trent II Castle Vork Celeston 1 Celeston 3 Mk II Celeston 3 Mk II Celeston 7 Mk II Celeston 7 Mk II Denon SCE 313 Heybrock HB 1/3 Heybrock Quartets JPW Sonata Veneer JPW Sonata Veneer JPW Sonata VinyI	SPEAKER STANDS f 189,955 f 249,955 f 429,955 f 429,955 f 649,955 f 249,955 f 249,955 f 249,955 f 249,955 f 199,955 f 149,955 f 129,955 f 129,955 f 129,955 f 255,955 f 129,955 f 129,955 f 255,955 f 199,957 f 199,957 f 255,955 f 255,955 f 199,957 f 199,957 f 255,955 f 299,957 f 199,957 f 299,957 f 299
JPW Minim	£ 59.00 f 549.95
Kef R101.3 Kef R102.2 Kef R103.4 Kef R103.4 Kef R105.3 Kef R105.3 Kef Q30 Kef Q30 Kef Q30 Kef Q50 Mission 751 Mission 752 Mission 760iSE Mission 760iSE Mission 760iSE Mon Audio 201 Mon Audio 202 Mon Audio 202 Mon Audio 1 Gold Mon Audio 1 Gold Mordaunt Short M510 Mordaunt Short M520 Mordaunt Short M530 Mordaunt Short M530 Mordaunt Short 0.5 Nad 800 Nad 801 Nad 802 Quad Gradient SW63 Rogers L52A-2 Rogers Studio 3 Ruark Crusader II Ruark Equinox Ruark Sabre Ruark Talisman II Ruark Talisman II Tannoy Profile 633 Tannoy Profile 637 Tannoy Profile 637 Tannoy Profile 638 TDL RTL1 TDL NFM Wharfedale	$ f 549, 95 f 749, 95 f 749, 95 f 149, 955 f 1595, 95 f 1595, 95 f 1595, 95 f 199, 95 f 2295, 95 f 299, 95 f 299, 95 f 299, 95 f 129, 95 f 129, 95 f 129, 95 f 129, 95 f 239, 95 f 249, 95 f 1495, 95 f 1495, 95 f 1495, 95 f 249, 955 f 384, 95 f 249, 95 f 249, 95 f 384, 95 f 249, 95 f 384, 95 f 249, 95 f 384, 95 f 479, 95 f 299, 95 f 384, 95 f 449, 95 f 449, 95 f 449, 95 f 449, 95 f 319, 955 f 349, 95 f 399, 95 f 399, 95 f 399, 95 f 299, 95 f 399, 95 f 299, 95 f 399, 95 f 399, 95 f 299, 95 f 399, 95 f 299, 95 f 299, 95 f 299, 95 f 299, 95 f 290, 95 \ f 290$
TURNTABLI	ES
Dual CS503-2 inc. cart Dual CS435 inc. cart Dual CS505-4 inc. cart Nad 5120 inc. cart	£ 169.95 £ 129.95 £ 199.95 £ 119.95

 Nad 533
 f 199.95

 Project 0.5 inc cart
 f 144.95

 Project 1 inc cart
 f 184.95

 Project 6 inc cart
 f 229.95

 Technics SLBD22K
 f 159.95

 Thorens TD280 Mk IV inc.
 f 429.95

 Thorens TD166/RB250
 f 299.95

TUNERS

CD PLAYERS

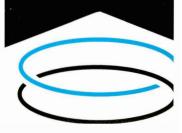
Audiolab 8000 DAC Aura CDS0 Syrus (Selected Branches) Denon DCD615 Denon DCD1290 Denon UCD F10 Kenwood Warantz CD12 Warantz CD52 II Award Winner Warantz CD52 II SE Marantz CD53 Marantz CD725E Marantz CD725E Marantz CD10 Graded Musical Fidelity FCD Vads 501 Vakamichi MB4S Philips CD 710 Philips CD 740 Philips CD 740 Philips CD 740 Philips CD 750 Nak Triangle Ordinal	£ 94.00 £ 299.95 £ 449.95 £ 449.95 £ 799.95
Arcam Alpha 5 Arcam Black Box 50 Arcam Delta 270 Arcam Delta 270 Arcam Delta 250 Trans Audio Alchemy DAC inc box Audio Alsono CDM Audio Alsono CDM Audio Alsono CDM Audio Alsono CDM Audio Alsono CDM Common DCD 1290 Denon DCD 1290 Denon DCD 1290 Denon DCD 1290 Denon UCD 110 Kenwood Marantz CD52 II Award Winner Marantz CD52 II Award Winner Marantz CD52 II SE Marantz CD63 Marantz CD725E Marantz CD10 Graded Musical Fidelity FCD Valsa Fidelity FCD Valsa Fidelity FCD Valsa Fidelity FCD Valsa Fidelity FCD Valsa 501 Valsa 502 Valsa 70 Philips CD 710 Philips CD 740 Philips CD 750 Philips CD 750	£ 449.95 £ 449.95 £ 799.95
Marantz CD52 II SE Marantz CD53 Marantz CD63 Marantz CD72SE Marantz CD10 Graded Musical Fidelity FCD Jad 501 Vad 502 Vakamichi MB4S Philips CD 710 Philips CD 710 Philips CD 740 Philips CD 750 Philips C	f 749,95 f 199,95 f 749,95 f 749,95 f 399,95 f 219,95 f 219,95 f 219,95 f 329,95 f 239,95 f 239,95 f 219,95 f 1199,95
Marantz CD53 Marantz CD63 Marantz CD72SE Musical Fidelity CDT Musical Fidelity FCD Jad 501 Vad 502 Vakamichi MB4S Philips CD 710 Philips CD 720 Philips CD 740 Philips CD 750 Philips CD 750 Phil	f £ 149.00
Musical Fidelity CDT Musical Fidelity FCD Vad 501 Vad 502 Vakamichi MB4S Philips CD 710 Philips CD 720 Philips CD 740 Philips CD 740 Philips CD 750 Prink Triangle Da Capo Prink The Capo Pri	£ 299.95 £ 199.95 £ 249.95 £ 599.95
Musical Fidelitý FCD vad 501 vad 502 vakamichi MB45 vhilips CD 710 vhilips CD 720 vhilips CD 740 vhilips CD 750 vhilips CD 750 veac VRDS7 veac VRDS7 veac VRDS10	£ 899.00
Feac P700/D700 Fechnics SLPD667 Multi Fechnics SLPD867 Multi Fechnics SLPG440AK Yamaha CDX870	f 519.95 f 1499.95 f 179.95 f 229.95 f 129.95 f 119.95 f 169.95 f 169.95 f 199.95 f 199.95 f 199.95 f 249.95 f 249.95 f 824.95 f 824.95 f 229.95 f 29.95 f 129.95 f 129.95 f 29.95 f 129.95 f 129.95 f 29.95 f 129.95 f 29.95 f 129.95 f 229.95 f 229.95 f 129.95 f 29.95 f 20.95 f 2

All prices are valid until at least August 31st , 1994

SEVENOAKS HI FI BRANCHES AT:

SEVENOAKS 0732 459555 109-113 London Road **BRIGHTON 0273 733338 55 Preston Street CANTERBURY 0227 462787** 20a Lower Bridge Street CHATHAM 0634 846859 **4 Railway Street**

new CHELSEA 071 352 9466 403 Kings Road, SW10 CHELTENHAM 0242 241171 A/V ONLY 24 Pittville Street CROYDON 081 665 1203 373 London Road ENFIELD 081 342 1973 7 Genotin Road ESSEX 0376 501733 **1** The Grove Centre Witham **GUILDFORD 0483 36666** 73b North Street **LEICESTER 0533 557518** 94 Granby Street OXFORD 0865 241773 **41 St Clements** TUNBRIDGE WELLS 0892 531543 28-30 St Johns Rd WATFORD 0923 213533 478 St Albans Road WOOLWICH 081 855 8016 **162 Powis Street** new WORCESTER 0973 223362 **2 Reindeer Court** MAIL ORDER 0732 458985 SUPERFI **BRANCHES AT:** BIRMINGHAM 021 631 2675 67 Smallbrook, Queensway new COVENTRY 0203 223254 **16 Spon Street** DERBY 0332 360303 56 London Road HULL 0482 24051 **4 Dock Street** LEEDS 0532 449075 7 King Edward Street LINCOLN 0522 520265 271a High Street LONDON 071 388 1300 2-4 Camden High Street NOTTINGHAM 0602 412137 **15 Market Street** SHEFFIELD 0742 723768 1 Rockingham Gate The Moor **STOKE ON TRENT** 0782 265010 51 Picadilly, Hanley



SEVENOAK

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OVER FOR FULL DETAILS

MUSICAL EXPRESSION

john shearne



phase two

John Shearne

"A valve amp without the bottles", is how John Shearne's 'Class B' integrated amplifier has been described. The delightful contrast of the deep blue marble fascia and chrome control knobs adds to the flavour.

The warm extended bass and rose tinted mid-range will set the toes tapping for the most seasoned audiophile.

That's not all - we also have Audiolab, Exposure, Cyrus, Musical Fidelity and Ouad for you to consider.

teac

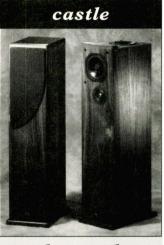


Teac

ngn ena ni

This elegant two box CD transport (P700) and DAC (D700) combination performs with refined sophistication.

Behind the Gold-Anodised fascias of their shoe-box styling, lies an uncompromising vibrationfree Rigid Disc Clamping System (VRDS and the latest 20-bit Digital Filter. At Sevenoaks-Superfi you can audition the VRDS range which includes VRDS7, 10, 20. P700. D700.



howard

Castle

The superb natural. articulate sound and beautiful presentation of the Castle **Howard** enhances the reputation of this dedicated manufacturer. combining craftsmanship and technology. Throughout the range, which includes models like the Chester, York, Trent II, Durham 900, there is a choice of nine real wood veneers, providing handmade quality, at realistic prices

There are many other quality loudspeakers from Ruark, Kef Reference, TDL, Monitor Audio, Mission and Heybrook.

audiolab



8000cdm & 8000dac

Audiolab

Never a company to do things by half measures, when Audiolab introduced a CD Transport to partner their Award-Winning DAC, their meticulous approach to CD reproduction resulted in a product of outstanding sound quality to match the rest of their range - 8000A, 8000C, 8000P, 8000M and 8000 T. Our other

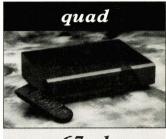
Audiophile CD players. transports and DAC's include Roksan, Arcam, Cyrus, Audio Alchemy, Musical Fidelity and Teac

STAX

The Lambda, Gamma and Professional Series of Ear Speakers and Energisers-

ESSEX

Quality headphones for the discerning listener.



67cd

Quad

For over 50 years the name Quad has meant quality. Throughout the world, many hundreds of thousands of satisfied customers have endorsed this statement. The secret of the Quad's success is their constant search for improved musical reproduction and original style. True to these ideals the 67 CD incorporates the latest technology and innovative looks To audition other models from the range like the 66 & 34 Pre Amps, 606 & 306 Power Amps, FM66, FM4 Tuners and ESL63 (Electrostatic loudspeakers), contact your local branch.

At Sevenoaks Superfi you'll also find top quality tuners from names like Audiolab, Musical Fidelity and Cyrus, plus cassette decks from Nakamichi, Sony and many, many more.

26 BRANCHES THROUGHOUT





55 Preston Street 0273 733338 Sevenoaks Hi Fi

City Wall	CANTERBURY
Bridge St	20a Lower Bridge Street
New	0227 462787
Č D	Sevenoaks Hi Fi

Dover	0227 462787 Sevenoaks Hi Fi
Railway Street	CHATHAM 4 Railway Street 0634 846859
Street S	Sevenoaks Hi Fi

Worlds End	CHELSEA 403 Kings Road,
Kings Rd	SW10
E S	071 352 9466
reet	Sevenoaks Hi Fi
-	CHELTENHA
o Pittville	24 Pittville Stree
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IA N	Sevenoaks Hi Fi
W.Croydon E	CROYDON
H W.Croydon E London Road	CROYDON 373 London Roa
	373 London Roa
	373 London Roa 081 665 1203
London Road	373 London Roa 081 665 1203 Sevenoaks Hi Fi
	373 London Roa 081 665 1203 Sevenoaks Hi Fi ENFIELD
London Road	373 London Roa 081 665 1203 Sevenoaks Hi Fi ENFIELD 7 Genotin Road

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ad,	Tesco
; i Fi	Grove Centre
HAM treet	North St High St
i Fi N	
Road	Charles Street
i Fi	Granby Street

1 The Grove Centre.Witham 0376 501733 Sevenoaks Hi Fi

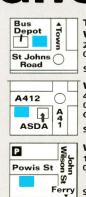
GUILDFORD 73b North Street 0483 36666

Sevenoaks Hi Fi LEICESTER 94 Granby Street 0533 557518

Sevenoaks Hi Fi OXFORD River

Boulter Street **41 St Clements** 0865 241773 St Clements St

Sevenoaks Hi Fi



The Shambl

Reindeer Court

Cheapen

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TUNBRIDGE WELLS 28-30 St Johns Road 0892 531543

Sevenoaks Hi Fi WATFORD

478 St Albans Road 0923 213533 **Open Sunday** Sevenoaks Hi Fi



162 Powis Street 081 855 8016

Sevenoaks Hi Fi

WORCESTER 2 Reindeer Court 0973 223362

Sevenoaks Hi Fi

MINIS & MICROS

OPTIONS

Once you, ve chosen the mini micro system you want, choose the price option that suits you best. We've developed a four tier system that is geared to the level of service you require.

OPTION 1

Full RRP less 10% discount for cash and carry customers Standard manufacturers warranty

OPTION 2

Full RRP, to include delivery, installation 1 year parts and labour warranty and home call out

OPTION 3

Full RRP, to include a 3 year parts and labour warranty on cash and carry basis.

OPTION 4

Full RRP plus £ 100, to include delivery, installation, 5 year parts and labour warranty and home call out.

INSTALLATION / CALL OUT CONDITIONS

Install must be adjacent to mains/aerial point. **Customers must live** within 7 miles of local branch



SCCH 950

The compact size and tidy appearance of the latest mini and micro systems hide the fact that these miracles of modern miniaturisation provide a big sound. Systems now boast more powerful amps, powered subwoofers, and many other features that enable the best of them to produce a sound big enough to fill a room.



So whether you're looking for a first class secondary system, or you want a big sound in a small package, you'll find what you're looking for at Sevenoaks Superfi.



We stock top name systems including Sony, JVC, Aiwa, Technics, Kenwood and Pioneer, 'OPTIONS' not available on Denon

THE COUNTRY..

Car Park St	BIRMINGHAM 67 Smallbrook, Queensway	Briggate
Smallbrook Queensway	021 631 2675 _Superfi	Brid
Belgrave Co Theatre Spon St	COVENTRY 16 Spon Street 0203 223254	
Spon St effort	Superfi	C
Eagle Centre	DERBY 56 London Road	M
London Road	0332 360303 Superfi	e
Queens Gardens Dock St	HULL 4 Dock Street 0482 24051	
	Superfi	



Superfi



The Mooi 0742 723768 Superfi STOKE ON

TRENT 51 Picadilly, Hanley 0782 265010 Superfi

Prices include VAT and were correct at time of going to press. but are subject to change without prior notice. E&OE. Most, but not all, of the offers displayed are also available from our associates Superfi. Sevenoaks Hi Fi and Superfi are not legally related and are separate commercial undertakings.

All prices are valid until at least August 31st, 1994

PRICE PROMISE

We always try to ensure our prices are competitive. In the unlikely event of an identical product being available from a local authorised dealer at a lower price, we will beat that price by up to £ 20. To qualify it must be a verifiable offer on product that is in stock. brand new and in a sealed box. No added value offers apply on price beat sales.

PRICE BEAT VALUES:

£110 - £500 = £10£501 -£1,000= £15 £1.001 + = £20

GUARANTEES

All the products we sell are brand new, fully guaranteed and maintained by our own **Central Service Department**.

SUPERFI CENTRAL SERVICE DEPARTMENT 0602 420414

SEVENOAKS CENTRAL SERVICE DEPARTMENT 0732 459105

MAIL ORDER HOTLINE 0732 458985



SEVENOAKE

E R F

UP

S

114 HI-FI CHOICE BUYER'S GUIDE



JVC RX-508VBK

NC BX-808VBK

JVC BX-1010VTN

Kenwood KR-A4060

Kenwood KR-V6060

Kenwood KR-V7050

Marantz SR-53

Marantz SR-63

Marantz SR-73

Marantz SR-82

Philips FR940

Pioneer SX-102

Pioneer SX-202R

Pioneer SX-302

Sansui RZ790

Sansui RZ-3500 II

Sherwood RX1010

Sherwood RX2010

Sherwood RX4010R

Sherwood RV5030R

Sherwood RV6010R

Sherwood RV6030R

AI 110

NAD 701

NAD 705

600

920

230

350

400

270

330

550

850

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450

220

240

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120

140

180

330

350

400

EM M I

FM M

FM,M

FM,M

FM,M

FM M I

EM M I

FM,M

FM,M

FM,M

FM,M

FM,M,I

FM,M

FM M

FM.N

FM,M

FM,M

FM,M

FM,M

FM M

FM.M.

FM.M.I

FM,M,

30

Price - typical retail, to nearest pound. A/V - minimum requirements - Dolby Surround/Pro-Logic circuitry. Power - watts/channel, both channels driven RMS Bohms, 2012 - 20kHz. Wavebands - FM, L-long wave, M -medium wave. Presets - number thereof. In/outputs - MM/MC - moving coil/moving magnet, L - line, T - tape,

Key to recievers Price - typical retail, to nearest

V - audio input or tape circuit with video signal routing. Remote - control. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to systems Price - typical retail, to nearest Price - typical retail, to nearest pound. Sources - CD - compact disc, R - radio tuner, Tu - turntable, T - cassette tape, V - video signal routing (composite and/or S-Video). Power - output power in watts, per channel, RMS. Size - main unit dimensions - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

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	-			6	Impedance	P					
Model	Price	Type		Sens	Ince	Power		Size		Special	
LOUDSPEAKERS		CD			C)	-		5120		opeoiai	
Triangle Alcante	999	-		92	4	20	0	22,100,23	2	Suits low po	wer valve amp
Triangle Icare	1350	-		92	8	25	0	99,22,28			
Triangle Calisto	1850	-		90	8	30	0	104,22,2	2		
Triangle Altair	2450	-		92	8	30	0	35,120,3	0	Proprietary t	tweeter
Triangle Octant	3550	-		94	8	30		42,150,1	9	Ultra high se	
UKD Operetta	595	Pt		88	8	70		22,30,26	-		gany, stand mount
UKD Callas	750	Pt		88	8	12		34,22,32	-		gany, stand mount
UKD Super Pavarotti	875	Pt		88	8	15		23,55,23	-		jany, stand mount
UKD Caruso	1850	Pt		88	8	20		22,97,28			t, floor standing
Vandersteen 2Ce Visonic David 5001	1395	4x		88	7	16		41,101,2	4	Free standir	ng, phase aligned
Visonic Sub 4	132 154	-		-	4-8	50 10		10,17,10	+		
Visonic David 6001	163	-			4-0	60		36,49,31 13,20,12	+		
Visonic David 8001	228	-			4-0	80		16,25,17			
Wharfedale Centre Cube	45	- Pt		- 87	4-0 8	75		14,13,12	1	Shielded co	ntre speaker
Wharfedale Modus Cube	69	Pt		87	8	75		14,13,12	1	Shielded Ce	nue speaker
Wharfedale CRS3	89	2x	Pt	89	8	10		22.38.17	+	Stand/booh:	shelf mount
Wharfedale D30.2	99	Pt		89	0 8	10		22,38,17		Stand/books	
Wharfedale Modus Centre	99	Pt		87	8	75		46,14,12	1		ntre speaker
Wharfedale Modus Micro	99	2x	Pt	86	8	75		14.23.12		Shielded ce	na o opounor
Wharfedale Diamond V	129	Pt		87	8	10		18,26,20	1	Stand mour	t near wall
Wharfedale CRS5	129	2x	Pt	89	8	14	_	26,48,20		otano mou	
Wharfedale Modus Mini	129	AB		86	8	75		14,39,12	1	Shielded tw	o-wav
Wharfedale Modus Sub-b		Pt		88	8	20		57,23,26	1		I double tuned sub-w
Wharfedale 415	149	IB		87	8	10	0	24,35,20			
Wharfedale CRS7	199	Pt		91	8	15	0	26,60,21			
Wharfedale 425	199	IB		88	8	10	0	26,40,25			
Wharfedale 535	249	IB		90	8	12	0	27,48,29			
Wharfedale CRS9	299	Pt		93	8	16	0	31,80,28		Floor standi	ng, three way
Wilson X1 Grand Slam	0	Зx		94	-	-		-		Three-way r	eference
Wilson Puppy II	5500	Su		91	-	-		25,53,35	-	Passive sub	woofer for WATT
Wilson WATT III	7645	2x		91				27,31,36	-		
Wilson WHOW II	12500	Su	b	98	-			88/65,36	+	Active subw	oofer for WATT
Yamaha NS-C80	99	-		90	6	80		14,45,17	+		
Yamaha NS-E80	120	•		90	6	50		27,20,7	+		
Yamaha NS-C110	149 250	-		90 90	6 8	12 10		15,47,18	+		
Yamaha NS10M ZYP AI	199	- IB		88	0 8	50		21,38,20	+	Wall mount	
ZYP AIT	219	IB		88	8	50		14,22,12			chielded
ZYP A2S	299	IB		88	8	50		22,14,12	+	Magnetically shielded Studio nearfield monitor	
LITALO	200	ID		00	0	00		22,14,12	-	Studio riear	
				Z			_			1.00	
				Wavebands		-	In/outputs	1.00	R	1.1.1	
	Price	-	Power	ban		Presets	utp		Remote		
Model	ice	N	Ver	g		ets	uts		ote	Size	Special
RECEIVERS											
B&O Beomaster 7000	835	Ν	75	FM,N		20		2L,2T	Y	-	
Denon DRA-345R	250	N	45	FM,N		24		3L,1T	Y	44,12,32	System remote
Denon DRA-545RD	320	N	60	FM,N		24		3L,2T	Y	44,12,32	RDS
Denon AVR-1000	520	Y	70	FM,N		16		2L,2T	Y	44,15,33	Auto input balance
Dual CR9000RS	200	N	55	FM,N		30		4L,2T	Y	44	Coin quitch remate
Grundig R210	170 250		50	FM,N	-	59	MM,		Y	36,12,30	Gain switch, remote
Grundig R2 Harman-Kardon HK3300	379		50 20	FM,N		59	MM,	5L 3L.2T	Y Y	44,14,30	RDS, Radio text, remote
Harman-Kardon HK3300 Harman-Kardon HK3400	499			FM,N					Y	45,13,35	
Harman-Kardon HK3400 Harman-Kardon HK3500	699		35 50	FM,N FM,N				8L,2T 4L,2T	Y	45,13,35 45,13,35	
Harman-Kardon HK3600	799		75	FM,N				4L,21 4L.2T	Y	45,13,35	
Harman-Kardon AVR-30	999		50	FM,N		- 16		4L,21 3L,3T,6V	Y	45,13,35	Dolby Pro Logic
JVC RV212BX	200	N	40	FM,N		40		MC,4L,3T	т -	45,13,35	DOIDY FID LUGIC
JVC RX-212XBK	200		40 50	FM,N		40	-	3L,1T	Y	44,13,34	4ch surround
JVC RX-308BK	250	N	50	FM,N		40		3L,1T 3L,1T	Y	44,13,34	4 channel surround
IVC BX-508VBK	350	V	50	EM N		40		11 3T	V	44,13,34	4 channel surround

Model	Price	AN	Power	Wavebands		Presets	In/outputs	nelliote	Remote	Size	Special
RECEIVERS	230	V	60	EAA	,M.L	30	MM,2L,2T	1	Y	43,14,30	System remote
Sony STRD311	-	T		i		the second second	and the second second second second		-		System remote
Sony STRD511	280	Y	50		,M,L	30	MM,3L,2T		Y	43,14,30	Dolby Pro Logic
Sony STRD611	330	Y	60			30	MM,3L,2T		Y	43,14,30	Dolby Pro Logic
Teac AG-V3020	450	Y	95	FM		30	MM,4L,3T	١	Y	44,16,38	Dolby Pro Logic
Technics SA-GX130DL	230	N	60	FM	,M,L	30	MM,2L,2	1	Y	43,13,31	
Technics SA-GX230DL	270	Y	80	FM	.M.L	30	MM,2L,2T	1	Y	43,13,31	Non-Dolby
Technics SA-GX350L	330	Y	80	FM	M.L	30	MM,4L,1T	1	Y	43,14,36	Dolby Pro Logic
Technics SA-GX550L	450	Ŷ	100		.M.L	30	MM,3L,1T	1		43,16,36	Dolby Pro-Logic
Yamaha RX-360		N				30			-	45,10,50	DOIDY FTU-LOUIC
	240	N	40	FM			MM,3L,1T		r		
Yamaha RX-V470	400	Y	50	FM	,M	-	MM,6L,2T	1	Y	-	Dolby Pro Logic
Model	Price	Source			Power		Size	Spe	ci	al	
SYSTEMS							1.1.1				
Aiwa NSX-270	280	CD	,R,2T		20		-	Mini	i, r	emote	
Aiwa NSX-400	300	CD	,R		25		-	Mini	i, s	ingle box	
Aiwa NSX-340	300	CD	,R,2T		25		-			-CD player	
Aiwa LCX-7	300		RT		15		14,24,26	Micr		se picyor	
						-	14,24,20	-		no front	round onlyro
Aiwa NSX-430	330		,R,2T		40		-				round spkrs
Aiwa NSX-520	350		,R,2T		40		·			-CD player	
Aiwa NSX-450G	350	CD	,R,T		25		-			D Graphics	
Aiwa LCX-9	350	CD	,R,T		10		14,24,26	Micr	ro,	with power	ed subwoofer
Aiwa Z-650	370		R,Tu,	2T	20		-	Midi			
Aiwa NSX-540	400		,R,2T		55	-		-		ront surrour	nd enkre
CONTRACTOR OF STATES OF STATES OF STATES				OT			26 40 05				iu oprio
Aiwa Z-1100	400		,R,Tu,	21	30		36,48,35			olayer	
Aiwa LCX-10	400		,R,T		8		14,24,26	-			with surround
Aiwa NSX-550G	430	CD	,R,2T		40		-	Mini	i, (D Graphics	
Aiwa D636	450	-	R,2T		40		-			-CD, front s	
Aiwa NSX-D737	500		,R,2T		50	-				-mode DSF	
				OT			00 54 05				
Aiwa Z-D300M	600		,R,Tu,	21	40		36,54,35			hree CD, se	
Aiwa NSX-D939	750		,R,2T		50		-				ncl speakers
Aiwa Z-D7000M	800	CD	,R,Tu,	2T	65		36,63,35	Midi	i, [SP, Dolby S	Surround
Aiwa D9100M	900		,R,Tu,		75		-				nc speakers
Akai MX115	399		.R,2T		35		27,39,26		-	c equaliser	spouroro
				0		_					au D
Akai RX590	449		,R,2T,		38		27,31,33			player, Dolt	
Akai MX115T	449		,R,P,2		35		27,48,31				nini turntable
Akai RX590T	499	CD	,R,2T,	Р	38		27,40,33	As F	RX	590, with m	ini turntable
Akai RX690	549		,R,2T		50		27,40,33			player, Dolt	
Akai RX690T	599		R.2T.	p	50		27,49,33				ni turntable
Akai RX890	799		,R,2T		60		27,42,33			Room Simu	
Akai RX890T	849		,R,2T,		60		27,51,33	a second second			ini turntable
Akai RX890 Compo	999	CD	,R,2T,	Р	60		64,78,35	RX8	90	with stand	& AP A950
Amstrad Micro 1000	170	CD	R,T				15,20,13	10 0	ore	sets, FM, N	1W. I W
Amstrad Mini 2000	200	-	RT		-		28,21,57			and equalise	
						-	20,21,01				
Amstrad CD3-500	230		,R,2T		5		-	-			yer, FM, MW
Amstrad Micro 2000	250		,R,T		(-)		17,28,23			sets, FM, N	
Amstrad Mini 3000	280	CD	,R,2T				26,32,49	RDS	S tu	iner, mic m	ixing
Amstrad Mini 5000	300	CD	,R,2T				26,32,25	Thre	ee	disc CD, mi	c mixing
Arcam Alpha 5	1200	CD			40	-	43,23,30			on Arcam s	
	1300	CD			50			1			and the second
Arcam Alpha 6	70/20002	1.2.2				_	43,23,30			ng Alpha 6	
Arcam Delta	2810	-	,R,T,D		75		43,37,34			emote contr	
B&O Beosystem 7000	245	CD	,R,Tu,	T	100		42,8,33	Con	npo	onents, spea	akers extra
B&O BeoSound Century	995		,R,T		-		75,37,17				ive speakers
B&O Beocenter	1400		,R,T		80		76,11,34	-			extended syst
CONTRACTOR OF A					00						
B&O Beosystem 2500	2150	-	R,T				83,36,16			speakers, li	
B&O Beosystem 2300	2150		I,R		-		83,36,16			00, without	
Denon D-65/S	640	CD	,R,2T		30		27 wide	Inclu	ud	es optional l	JK speakers
Denon D-90/S	740	CD	,R,Tu,	T	30	-	27 wide				UK speakers
Denon D-110/S	870	-	R,Tu,		40		27 wide				UK speakers
Denon D-250/S	1000					_					
			R,Tu,	21	50	-	27 wide	RUS	o, I	ic optional	UK speakers
Dual MS3700	600		,R,1T		50	_	-				
Dual MS2500	600		,R,2T		35		-				
Goodmans System 700	600	CD	,R,2T		50		-				
Grundig MC10	300		,R,T		25		18,36,29	Mini	j, f	olby NR	
Grundig M10	330		,R,2T		22		27,37,34				& full remot
Grundig M20	430					_					
			R,2T		35		25,37,30	Spe	c(f	um analyse	1
Grundig Fine Arts S1	740		,R,2T		50		44,45,30	-			
Grundig Fine Arts S3	760		,R,2T		50		44,37,30	Sep	ara	ites system	
Grundig Fine Arts S2	880	CD	,R,2T		80		44,45,30	Sep	ara	ites system	
Grundig Fine Arts S4	1130		,R,2T		120		44,45,30				
Grundig Fine Arts S5	1300		R,2T		120	-	44,41,30				
								1-		obio "	
Hitachi AX10	330		,R,2T		20		23,29,-	I INC Q	yra	phic equalis	SEI
Hitachi AX12	350		,R,2T		20		45,34,63				
Hitachi AXC10	380	CD	,R,2T		20		23,29,-	Inc o	gra	phic equalis	ser
JVC Adagio S20	370		DD,2T		30		25,27,35			rround	
JVC Midi -W48CD	430		DD,2T		30		36,50,34	-		irround	
								-			aaka
JVC Adagio S30	430		DD,2T	_	32		25,27,35			rround, Kar	
JVC Adagio C33	450		CD,2T,	V	30		25,33,34				D disc system
JVC Midi-W58CD	500	R,C	DD,2T		50		36,48,25	Bass	S C	ompensator	r
JVC Adagio S50R	500		DD,2T		40	_	25,36,35	-		rround, RD	
JVC Adagio C55	600		D,2T,	1	36		24,36,34			ced 7CD dis	
		-									
JVC Adagio S60R	600		CD,2T		45		28,36,35			mic surrour	
			D,2T		60		10 E7 00	Two	ch	nannel surro	und
JVC Midi-W78CD	750	R,C	0,21	-	00		36,57,29	100	G	lamer surre	Juliu

MM,1L,3T MM,1L,3T MM/MC,4L,3T

MM, 3L, 2T

MM,3L,2T

MM,3L,21

MM, 3L, 1T

MM, 3L, 1T

MM, 3L, 3T

MM,3L,2T

MM,2L,11

MM,2L,2T

MM,4L,4T

MM,2L,21

MM,2L,21

MM.2L.21

MM.2L.21

MM,2L,21

MM,2L,1

MM, 3L, 17

MM.3L.17

MM.4L.41

VM 41 41

MM,4L,4

44.

44 16 4

44 13 3

44,13,33

44,15,4

44,15,4

43.14.3

43.14.3

43 15 3

43,17,43

44,14,30

42,14,29

42,14.2

42,13,34

5ch Dolby Pro Logic

5ch Dolby Pro Logic

Dolby Pro Logic, multi-room

RDS

RDS

RDS

Key to systems Price - typical retail, to nearest pound. Sources - CD - compact disc, R - radio tuner, Tu-tuntable, T - cassette tape, V - video signal routing (composite and/or S-Video). Power - output power in watts, per channel, RMS.

Size - main unit dimensions - width x height x depth in cm. Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to tuners Price - typical retail, to nearest pound. Bands - FM - VHF, stereo and hi-fi capable, M - Medium awaye, low quality, mono, N - Long Wave, low quality, mono, N - Lican digital TV stereo sound. Presets - total number of presets on all bands.

HI-FI CHOICE BUYER'S GUIDE 145 RDS - Radio Data System, which pro-vides station IDs and sometimes other data on the FM waveband. Size - width x height x depth in cm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Model	Price	Source	Power	Size	Special	Model	Price
SYSTEMS				ULC	operation	SYSTEMS	
JVC Adagio G7	800	R,CD,2T,V	50	28,43,28	Panoramic surround	Sony Compact Plus 590	1
JVC Adagio G9	1000	R,CD,2T,V	55	28,43,28	Panoramic surround	Sony MHC4900	
Kenwood UD-302	400	CD,R,2T	33	27,36,31	3-disc carousel	Sony MHC 5900AV	1(
Kenwood UD-501	600	CD,R,T,2T	32	27,41,31	Presence modes	Sony Compact Plus 745A	
Kenwood M-47 Kenwood M-28MG	600 600	CD,R,Tu,2T	45 30	36,62,38	Five dias CD estruce	Sony Compact Plus 995A Technics SC-CH404	1
Kenwood UD-551	650	CD,R,T,2T CD,R,2T	30	36,56,38 27,41,31	Five disc CD carousel Multi CD	Technics SC-CH404	
Kenwood UD-701	750	CD,R,V,2T	32	27,41,31	Dolby Surround	Technics SC-CH575	
Kenwood M-47G	750	CD,R,Tu,2T	45	36,62,38	Graphic equaliser	Technics CD-X120	
Kenwood UD-751M	800	CD,R,V,2T	32	27,41,31	Multi CD	Technics SC-CH750	
Kenwood M-57MG	850	CD,R,Tu,2T	45	36,62,38	Multi-CD, graphic equaliser	Technics CD-X320	1
Kenwood M-76AG	950	CD,R,V,Tu,2T	60	36,62,38	Dolby Surround	Technics CD-X520	1
Kenwood UD-901	1000	CD,R,V,2T	42	27,41,31	Dolby Pro Logic	Technics SC-CH9090	10
Kenwood M-77MG	1000	CD,R,V,Tu,2T	60	36,62,38	Multi-CD	Technics SC-CH950	1
Kenwood HD-1000	1000	CD,R,T	40	27,40,35	MD & equaliser options	Yamaha CC70	1
Kenwood M-97G	1250	CD,R,V,Tu,2T	85	36,64,38	Dolby Pro Logic		_
Kenwood M-97MG	1300	CD,R,V,Tu,2T	85	36,64,38	Multi-CD		
Marantz 1010 Marantz 1020	900 1000	CD,R.2T	45	42,77,31	System Link Operation		_
Nakamichi S'space 7	1495	CD,R,2T CD,R	45 40	42,77,31	Motorised Front Panel Multi-CD, aux & tape input	Model	Price
Onkyo L-909	1200	MM,3L,2T	70	-	Ciomponent system, 40hm rated	TUNERS	ë
Panasonic SC-DH30	250	CD,R,2T	5	-	component eyetern, sonth faceu	Aiwa XT-003	
Panasonic SC-CH11	300	CD,R,2T	20	-		Aiwa XT-950	
Panasonic SC-CH33Z	370	CD,R,2T	30	-	-	Arcam Alpha 5	
Panasonic SC-CH150	430	CD,R.T,	20	18,25,28	51cm wide, including speakers	Arcam Delta 150	
Philips FW21	300	CD,R,2T	12	26,30,22		Arcam Delta 280	
Philips AS44CD	329	CD,R,2T	20	36,38,29		Audiolab 8000T	
Philips AS540CD	379	CD,R,2T	40	36,398,29		Aura TU50	
Philips FW41	400	CD,R,2T	30	26,30,25		Day Sequerra FM Ref	5
Philips AS640CD	429	CD,R,2T	30	36,38,29	Five disc CD	Day-Seq S B'dcast Mon	14
Philips FW370 Philips FW91	900 999	CD,R,DCC CD,R,DCC	75 60	36,50,35	DCC midi	Denon TU-260L Denon TU-580RD	
Philips FD920	999	CD,R.DCC	43	26,35,26 44,50,30	DCC mini Full size separates	Goodmans GST650	1
Philips FS380	1000	CD,R,DCC	100	44,50,30	DCC midi	Goodmans Delta 700	
Pioneer N-25	299	CD,R,2T	20	-	Double cassette, three-disc CD	Grundig T310	-
Pioneer N-50W	349	CD,R,2T	50	-	One touch Karaoke, smart timer	Grundig T1	
Pioneer J-200	399	CD,R,2T	11		Mic mixing, five band equalise	Grundig T2	
Pioneer N-70W	399	CD,R,2T	70	-	Double auto-reverse cassette,	Grundig T4	1
Pioneer N-70W/M	449	CD,R,2T	70	-	Multi-play version of N-70W	Harman-Kardon TU92000	1
Pioneer N-100W	499	CD,R,2T	100	-	Double auto-reverse cassette,	Harman-Kardon TU94000	1
Pioneer J-300	549	CD,R,2T	40		Single play CD with Smart tume	Harman-Kardon TU96000	
Pioneer N-100W/M	549	CD,R,2T	100	-	Multi-play version of N-100W	JVC FX362BX	
Pioneer J-400M	649	CD,R,2T	50	-	Six-disc multiplay, Dolby Surr	JVC FX1010TN	-
Pioneer Impresso-3	749	CD,R,T	35	-	Separate components, CD with S	Kenwood KT-1050L	-
Pioneer J-500 Pioneer J-500M	779 829	CD,R,2T CD,R,2T	65 65	-	Dolby Surround, seven band equ Six-disc multiplay version of	Kenwood KT-2050L Kenwood KT-3050L	
Pioneer J-V600	879	CD,R,2T	65		Dolby Pro Logic A/V system, Mo	Kenwood KT-6050	1
Pioneer Impresso-7	899	CD,R,T	45		As Impresso 3, with RDS tuner	Linn Kremlin	19
Pioneer J-700	999	CD,R,2T	115		CD with Stable Platter mechani	Magnum Dynalab FT11	
Pioneer J-V600LD	1199	CD,R,2T	65	-	IncludesPAL/NTSC LaserDisc pl	Magnum Dynalab FT101	1
Samsung SCM6550	230	CD,R,Tu,2T	5	35,33,29	Midi, remote control	Magnum FT101 Etude	1:
Samsung MAX335	230	CD,R,2T	10	25,32.26	Mini, remote control	Marantz ST-53	1
Samsung SCM8100	300	CD,R,Tu,2T	20	36,37,29	Midi, remote control	Marantz ST-63	1
Samsung MAX370	300	CD,R,2T	20	25,32,24	Mini, remote control	Marantz ST-72L	-
Samsung SCM8300	350	CD,R,Tu,2T	20	36,37,29	Midi, equaliser, 5 CD carousel	McIntosh MR7083	1
Samsung SCM9100	430	CD,R,Tu,2T	30	36,47,29	Midi, remote control	Meridian 504	-
Sansui MS6901	420	CD,R,2T	50	18,26,34		Meridian 604	1
Sanyo SYS 220 Sanyo MS1	300 300	CD,R,2T CD,R,T	15 25	36,36,37 22,21,22		Michi RHT-10 Mission Cyrus FM7	
Sanyo DC D10	300	CD,R,T CD,R,2T	25 15	27,36,32		Mus-Fid T1 MK II	H
Sanyo DC-D15	300	CD,R,2T CD,R,2T	15	27,36,32	10 disc CD player	Musical Fidelity FT	
Sanyo DC-D40	400	CD,R,2T	30	27,36,32	10 disc CD player	Naim NAT03	
Sanyo SYS915	430	CD,R,2T	30	36,43,36	Four-disc CD player	Naim NAT02	
Sharp Midi C2400	230	CD,R,2T	10	61,32,31	Remote 3 disc CD changer	Naim NAT01	1.
Sharp System-S360E	230	CD,R,2T	10	27,32,33	Remote control	Onix BWD1	
Sharp System-CD150E	260	CD,R,Tu,2T	10	36,48,36	30 tuner presets	Onkyo T-401	
Sharp Midi CDR160	270	CD,R,2T	10	76,40,38	X-bass boost feature	Onkyo T-409	
Sharp System-S370E	270	CD,R,2T	25	27,32,33	Five band equaliser	Onkyo T-450RDS	
Sharp System CD170E	280	CD,R,Tu,2T	10	36,40,36	Remote control, auto-reverse	Onkyo T-411RDS	P
Sharp Mini S3460	300	CD,R,2T	30	63,32,30	3 mode programmed equaliser	Onkyo R-811RDS	1
Sharp Midi CDR260 Sharp System-Q8E	300 330	CD,R,2T CD,R,T	25 12	76,40,38 15,19,26	3 mode programmed equaliser Ultra compact	Philips FT930 Pioneer F-202L	
Sharp Mini C4450	330	CD,R,T CD,R,2T	20	15,19,26 63,32,30	3 disc CD changer	Pioneer F-202L Pioneer F401L	
Sharp Micro XL12	350	CD,R,2T CD,R,1T	50	48,23,31		Pioneer F-301RDS	
Sharp Mini S6470	399	CD,R,TT CD,R,2T	100	63,32,30		Pioneer F-502RDS	
Sony MMC450	300	CD,R,21 CD,T,Tu,2T	20	22,29,27		Pioneer F-502RDS-G	
Sony Compact 190	330	CD,R,Tu,2T	9	35,48,34		Pioneer F93	
Sony MHC 650	380	CD,T,Tu,3T	35	22,28,26	Full remote	Quad FM4	
Sony Compact 195	389	CD,R,Tu,2T	9	35,49,41		Quad FM66	
Sony Compact 290	400	CD,R,Tu,2T	30	35,48,35		Rotel RT930AX	
Sony Compact 295	450	CD,R,Tu,2T	30	35,49,41	Full remote	Rotel RT950BX	
Sony MHC C50CD	500	CD,T,Tu,3T	30	22,33,32	Five-disc CD	Rotel RT990BX	
		CD,T,Tu,3T	40	22,28,26	Electronic EQ	Sansui TU-X317	
Sony MHC Z900	500					the second s	
	500 500 600	CD,R,Tu,2T CD,T,Tu,3T	40 40	35,59,36 22,39,31	Five-disc CD Five-disc CD	Sansui TU-X519 Sherwood TD1120	1

Listings marked in red (as shown below) are covered in the *Hi-Fi Choice* Directory, see page 123.
Denon D-110/S 870 CD.R.Tu.2T 40 27 wide RDS inc. ontional LK speakere

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870 CD.R.Tu.2T

27 wide

RDS. inc optional UK speakers

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Boory MAC 5000AH10000.D. T.L. 2160043.47.42UK sourdBoory Gonzack LPL 6564510000.D. T.L. 216063.47.42Duby Pro Logic, Laron'DiacBoory Gonzack LPL 6564510000.D. T.L. 215027.42.34Min Karacke, Including speakersBoory Gonzack LPL 656410000.D. T.L. 215027.42.34Min Karacke, Including speakersBoory Gonzack LPL 6500.D. D. T.L. 215027.42.34Min Karacke, Including speakersBoory Gonzack LPL 6000.D. D. T.L. 215027.42.34Min Londong speakersBoory Gonzack LPL 7000.D. D. T.L. 215027.42.34Min Londong speakersBoory Gonzack LPL 7000.D. D. T.L. 2160027.42.34Min Londong speakersBoory Gonzack LPL 7000.D. D. T.L. 2060027.42.34Min Londong speakersBoory Gonzack LPL 7000.D. D. D. 206007.007.00Boory Gonzack LPL 7000.D. D. R.L 207.007.00Boory Gonzack LPL 7000.D. D. R.L 207.007.00Boory Gonzack LPL 7000.D. D. R.L 207.007.00Boory Gonzack LPL 7007.007.007.00Boory Gonzack LPL 7007.007.007.00 <t< td=""><th>Sony MHC 5900AV Sony Compact Plus 745A</th><td></td><td></td><td></td><td></td><td></td><td>Five-disc CD, electronic EQ</td></t<>	Sony MHC 5900AV Sony Compact Plus 745A						Five-disc CD, electronic EQ
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			normal analysis			the <i>Hi</i> . Fi	Choice Directory, see page 122

Do you want to choose your hifi in a comfortable and relaxing environment . . ?

Do you want friendly and helpful advice (and a cup of tea) . . ?

Do you want to buy your system based on what you hear (and not what somebody tells you) . . ?

Do you live in GUILDFORD . . ?

... or Addlestone, Aldershot, Ashford (Middx), Ashstead, Bagshot, Basingstoke, Bracknell, Camberley, Chertsey, Cranleigh, Dorking, Epsom, Esher, Farnborough, Farnham, Frimley, Godalming, Hartley Wintney, Haslemere, Hook, Horsham, Kingston, Liphook, Leatherhead, New Malden, Odiham, Petersfield, Reading, Reigate, Redhill, Richmond, Shepperton, Virginia Water, West Byfleet, Weybridge, Windsor, Woking?

Nobody else in these areas stocks all the following major brands: Acoustic Energy, Arcam, Audio Innovations, Audiolab, Aura, B&W, Celestion, Creek, Cyprus, Dali, Epos, Deltec, Harman Kardon, heybrook, Infinity, JPW, KEF (Reference), Linn Products (including records), Marantz, Meridian, Mission, Musical Fidelity, NAD, Nakamichi, Onix, QED (Systemline), Quad, Rega, Revox, Rogers, Rotel, Sony, Supra, Sound Org, Target, Yamaha (including Home Cinema Systems) & Top Tape.

Visit us first and you won't need to go anywhere else, we have superb demonstration rooms where you can decide in comfort, and we will deliver and install free of charge (and part exchange is possible).

Complete service – We are the only outlet in the area to offer the *complete* service. As well as stocking selected items from the above manufacturers we are able to serve and/or repair *on the premises* all the above brands (and others also).



Access • Visa • Switch Open Monday – Saturday 9am – 6pm (later by appointment)

Key to turntables. Price - typical retail, to nearest pound. Speeds - 33, 45 and/or 78 revolutions per minute. Type - A - Auto, that is, automatic play initiation, and arm return at end of side. S - Semi, arm lift or arm return at end of side. M - Manual.

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Т Size - width x height x depth in cm. Special - Cartridge and/or arm includ-ed etc.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



HI-FI CHOICE BUYER'S GUIDE 117

Model	Price	Bands	Presets	RDS	Size	Special
TUNERS Sherwood TX1010C	100	FM.M	30	N		
Sherwood TX3010C	120		30	N	-	
		FM,M		N	42.0.20	Chating service
Sony STS211LB	130	FM,M,L	30		43,9,30	Station naming
Sony STS311LB	200	FM,M,L	30	Y	43,9,30	RDS EON, 'Autobetical' select
Sony STS505ES	250	FM,M,L	30	Y	43,9,35	UK optimised sound
Teac T-X4030	120	FM,M	20	N	44,9,28	
Technics ST-6T350L	140	FM,M,L	30	N	43,7,30	
Technics ST-GT550L	190	FM,M,L	39	N	43,7,31	Remote control capable
Technics ST-GT650L	230	FM,M,L	39	Y	43,10,31	Class AA, remote control ready
Yamaha TX-350L	130	FM,M,L	40	N	-	
Yamaha TX-470	160	FM,M	40	N	-	

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Nodel	Price	Туре	Speeds	Size	Special
TURNTABLES	170		00/15	44.40.00	las estables
Akai AP A950 Alphason Sonata	179	M	33/45	44,12,35	Inc cartridge
	835	M	33 33/45		Motor unit, suspended
Alphason Sonata/Atlas	1235 1860				Motor unit inc PSU
Alphason Symphony		M	33/45		Motor unit & PSU
Ariston Pro-1200	160	M	33/45	-	Semi-pro disco deck
Audiomeca Romance	1675	М	33/45		With Romeo unipivot arm
Audiomeca J1	2500	М	33/45	50, 40, 2	Top of the range model
Audiomeca J1/SL5	4250	М	33/45	50, 40, 2	With parallel tracking arm
3&0 7000	505	Auto	33/45	42,8,33	Inc MMC2 cartridge, RIAA pream
Basis Ovation	4950	M	33/45	58,42,14	Lead/brass, record clamped
Basis Debut Gold Std	7250	M	33/45	58,42,19	Belt drive, high mass, four po
Basis Debut Suction	8550	M	33/45	58,42,19	Includes suction platter
DNM Rota 1	2850	M	33/45	59,14,37	Includes arm and cartridge
DNM Rota 2	4000	M	33/45	59,14,37	Includes arm and cartridge
Dual CS3700	85	S	33/45	36, 36, 9	Midi-sized turntable
Dual CS435	130	F	33/45	44, 36, 1	Turntable includes cartridge
Dual CS503-2	170	S	33/45	44, 13, 3	Turntable includes cartridge
Dual 505-4 UK	200	S	33/45	44, 15, 3	Turntable inc cartridge
Dual CS750-1	350	S	33/45/78	44, 14, 3	Turntable includes cartridge
Dual Golden One	500	S	33/45/78	44, 14, 3	Piano finish CS750-1
Genexxa Lab-710	60	M	33/45	-	Includes MM cartridge
Genexxa Lab-810	70		33/45		
		S			Includes MM cartridge
Goodmans Delta 700	55	S	33/45	11 10 00	Part of Delta system
Kenwood KD-491F	100	A	33/45	44,10,39	Includes cartridge
Kuzma Stabi/PS	1200	М	33/45	51, 18, 4	Belt driven, external PSU
Kuzma Stabi Ref/PS	3000	M	33/45	-	Two motor, belt driven
inn Basik	349	М	33/45	45,14,36	Complete with Akito arm
inn LP12 Basik	745	М	33	45,14,36	Non-crystal motor drive
inn LP12 Valhalla	894	М	33/45	45.14,36	Electronic PSU, upgradable
_inn LP12 Lingo	1345	М	33/45	45,14,36	Outboard high grade PSU
Manticore Madrigal	570	M	33/45	46,36,12	Turntable
Manticore Mantra	780	M	33/45	46,36,12	Turntable
Manticore Magister	3800	M	33/45	57,46,18	Special order only
	A rest of the second				
Michell Mycro	397	M	33/45	46,14,34	Instrudes Dags DD200 arm
Michell Mycro/arm	539	M	33/45	46,14,34	Includes Rega RB300 arm
Michell Gyrodek	697	M	33/45	53,19,41	Optional outboard PSU
Michell Gyrodek/arm	839	М	33/45	53,19,41	Includes Rega RB300 arm
Moth Alamo	175	М	33/45	-	Comes with RB250 arm
Moth Turntable	199	M	33/45	-	Split-plinth design
NAD 5120	110	S	33/45	-	Includes arm
N'ham Spacedeck	600	М	33.45	1	
N'ham Illusion	600	M	33/45	-	
N'ham HyperSpacedeck	1200	M	33/45	-	
N'ham Graphic	1200	M	33/45	-	
N'ham Mentor	2200	M	33/45		75lb alloy or graphite platter
	4800	M	33/45		
N'ham Mentor Ref					150lb platter, graphite top
Origin Live Oasis-S	899	M	33	40.45.07	Suspended turntable
Pink Triangle Export GTi	890	M	33/45	46,15,37	Suspended turntable, acrylic p
Pink Triangle Anniv	1695	M	33/45	45,15,37	Two box reference deck
Pink Triangle Anniv/PSU	2050	М	33/45	45,15,37	Battery PSU version of above
Pioneer PL-225	120	S	33/45	42,10, 36	Belt drive, fitted cartridge
Pioneer PL-335	150	А	33/45	42,10,36	Belt drive, fitted cartridge
Pro-ject 0.5	145	S	33/45	42, 11, 3	With Ortofon OM5 cartridge
Pro-ject 1	185	М	33/45	42, 11, 3	With Ortofon 510 cartridge
Pro-ject 1 (E)	209	S	33,45	42,11,32	Semi-auto version of Pro-ject
Pro-ject 2	249	M	33/45	46, 12, 3	Metal/glass platter, clamp
Pro-ject 2/Ortofon	275	M	33/45	46, 12, 3	With Ortofon MC1 cartridge
Pro-ject 6	379	M	33/45	46, 17, 3	Suspended turntable
					As above, with Ortofon MC15
Pro-ject 6/Ortofon	435	M	33/45	46, 17, 3	
Pro-ject 6/Sumiko	699	M	33/45	46,17,3	With Sumiko arm
Rega Planar 78	198	M	78	45,13,37	As Rega Planar 2, 78 only
Rega Planar 2	198	М	33/45	45,13,37	Includes RB250 arm
Rega Planar 3	260	M	33/45	45,13,37	Includes RB300 arm
Rivelin Audio Eclipse	1595	М	33/45	45,13,38	Motor unit
Roksan Radius	495	М	33/45	46,12,35	Motor unit
Roksan Radius/Tabriz	695	М	33/45	45,13,36	As above, with Roksan arm
Roksan TMS	2500	M	33/45	46,12,35	Reference motor unit
Sherwood PS1870	70	S	33/45	-	Budget turntable with arm
101100010101010	10	0	00/40		Duogot turnabio with alli

	\	Price -	cartridges typical ret MM - movi	ail, to	nearest ignet (outp	ut	Fit - N for normal half inch mountings, T for T4P plug in types. Weight - in grams.
)	typical coil (oi Output Int. sty able st	lly 1mV/cm utput typic t - in mV/ci /lus - Y for tyli and N f	ally o. m/sec remov or fixe	ignet (outp MC - movi 1mV/cm/s able/repla d styli.	ing iec). ice-	Products highlighted in red have beer tested in <i>H-Fi Choice</i> . Please refer to The Directory on page 123 for full test results.
	Price	Туре	Speeds				
Nodel Turntables		Ð			Size		ecial
SME Model 20 SME Model 20A	2683 3763	M		45/78 45/78	42,16,32		ecision turntable above, with SME Series V arm
SME Model 30	10166	М	33/4	45/78	45,22,35	Fla	igship turntable
SME Model 30A Sony PSLX1504H	11399 90	M S	33/4	45/78 45	45,22,35 43,10,36		above, with SME Series V arm aver, with MM cartridge
Sony PSLX431B	150	А	33/4	15	43,11,36	Pla	ayer, auto rec size select
Systemdek I/920 Systemdek IIX/900	136 230	M M	33/4		-		mi-suspended deck
Systemdek I/920/Moth	235	М	33/4	45	•	As	above with RB250 arm
Systemdek IIXE/900 Fechnics SL-BD20	330 140	M S	33/4		- 43,10,38		above with separate PSU It drive, includes T4P cartr
Fechnics SL-BD22	160	S	33/4	45	43,10,38	Bel	It drive, includes T4P cartr
Fechnics SL-1210Mkll Fechnics SL-1200Mkll	430 430	M M	33/4		46,17,36 43,10,38		artz DD, no cartridge artz DD, includes T4P cartri
Thorens TD-180/AT91	180	S	33/4	45/78	-	Ele	It drive, inc Stanton 500 c
Thorens TD-280 IV/UK Thorens TD-166 VI/UK	200 200	S M	33/4	45/78 45	-	_	ectronic belt drive, AT95E ank armboard, cut to shape,
Thorens TD-166 VI/UK	270	M	33/4	45	-	Inc	TP50 manual arm, AT95E
Thorens TD-166 VI/UK Thorens TD-3001BC	300 630	M M	33/4		-		th Rega RB250 arm, no cart arm, various armboards avai
Thorens TD-2001 Thorens TD-3001/UK	700	S	33/4		-	Inc	ludes Thorens TP90 arm, no
Phorens TD-520	770 900	M S	33/4	45 45/78	-		spended , Rega arm no cart orens TP90, pitch control, n
Fownshend MkIII Rock	799	М	33/4		-	He	adshell end arm damping
Voyd The Voyd 0.5	1570 3368	M M	33/4		51,16,42 51,16,42		iginal three-motor model graded standard Voyd
Voyd Reference	6500	М	33/4		51,16,48		rntable, polycarbonate platt
/PI HW-19Mk3/PLC /PI HW-19Mk4/PLC	2150 2950	M M	33/4		•		ternal PSU, belt driven above, TNT platter/bearing
/PI TNT Junior /PI TNT Series 3	3500 6000	M M	33/4		-		or mans TNT Series 3 igue platter and drive
Wilson Benesch	1550	M	33/4		-		gh-tech turntable
Model	Price	Туре	Output	Int. stylus	Fit		
	00	A 45.4	4.001/				Special
Arcam C77	30 40	MM MM	4mV 4mV	л Ч Ч		-	Special Conical stylus As C77 with metal body
Arcam C77 Arcam C77MG Arcam E77	40 50	MM MM	4mV 4mV	Y	N N N		Conical stylus As C77 with metal body Elliptical stylus
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77	40 50 60 63	MM MM MM	4mV 4mV 4mV 4mV	Y Y Y Y Y	N N N N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77 Arcam P77MG	40 50 60 63 73	MM MM MM MM	4mV 4mV 4mV	Y Y Y Y Y Y	N N N N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77 Arcam P77MG Audio Note Io IIV Audio Note Io Itd V	40 50 60 63 73 1395 2950	MM MM MM MM MM MC MC	4mV 4mV 4mV 4mV 4mV - -	Y Y Y Y Y N N	N N N N N N N N	-	Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77 Arcam P77MG Audio Note Io ItV Audio Note Io ItV Audio Technica AT-91	40 50 60 63 73 1395	MM MM MM MM MM MC	4mV 4mV 4mV 4mV 4mV 4mV	Y Y Y Y Y N	N N N N N N N	-	Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77 Arcam P77 Audio Note Io IIV Audio Note Io IIV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-91	40 50 60 63 73 1395 2950 13 19 20	MM MM MM MM MM MC MC MC MM MM	4mV 4mV 4mV 4mV 4mV - -	Y Y Y Y Y N N Y Y Y	N N N N N N N N N N N N	-	Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77 Arcam P77 Audio Note lo IIV Audio Note lo IIV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-101EF Audio Technica AT-110E	40 50 60 63 73 1395 2950 13 13	MM MM MM MM MM MC MC MM MM	4mV 4mV 4mV 4mV 4mV - - - -	Y Y Y Y Y N N Y	N N N N N N N N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77MG Arcam P77MG Audio Note Io ItV Audio Note Io ItV Audio Technica AT-91 Audio Technica AT-910EF Audio Technica AT-110EF Audio Technica AT-110E Audio Technica AT-420E	40 50 60 63 73 1395 2950 13 19 20 24 40 62	MM MM MM MM MC MC MM MM MM MM MM MM	4mV 4mV 4mV 4mV - - - - - - - - - - - - - -	Y Y Y Y Y N N N Y Y Y Y Y Y	N N N N N N N N N N N N N N N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired
CARTRIDGES Arcam C77 Arcam C77MG Arcam C77MG Arcam E77 Arcam P77 Arcam P77 Arcam P77MG Audio Note Io IIV Audio Note Io IIV Audio Technica AT-91 Audio Technica AT-95E Audio Technica AT-101E Audio Technica AT-450E Audio Technica AT-450E Audio Technica AT-450E Audio Technica AT-0C5	40 50 60 63 73 1395 2950 13 19 20 24 40	MM MM MM MM MM MC MC MC MM MM MM MM	4mV 4mV 4mV 4mV - - - - - - - - - - - -	Y Y Y Y Y N N N Y Y Y Y	N N N N N N N N N N N N N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired
Arcam C77 Arcam C77MG Arcam E77 Arcam E77 Arcam P77MG Arcam P77MG Audio Note Io ItV Audio Note Io ItV Audio Technica AT-91 Audio Technica AT-95E Audio Technica AT-101EF Audio Technica AT-102E Audio Technica AT-1450E Audio Technica AT-0C3 Audio Technica AT-0C3 Audio Technica AT-0C3	40 50 60 63 73 1395 2950 13 19 20 24 40 62 104 40 62	MM MM MM MM MC MC MM MM MM MM MM MM MM M	4mV 4mV 4mV 4mV - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77MG Arcam P77MG Audio Note Io IIV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-95E Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-102S Audio Technica AT-0CS Audio Technica AT-0CS Audio Technica AT-0CS Audio Technica AT-0CS Audio Technica AT-0CS Audio Technica AT-102N	40 50 60 63 73 1395 2950 13 19 20 24 4 4 0 62 104 146 619 944 250	MM MM MM MM MC MC MM MM MM MM MM MM MM M	4mV 4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y N N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77 Arcam P77 Audio Note Io IIV Audio Note Io IIV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-101EF Audio Technica AT-402E Audio Technica AT-402E Audio Technica AT-4023 Audio Technica AT-0C3 Audio Technica AT-10C30 Audio Technica AT-10C30 Audio Technica AT-10C30 Audio Technica AT-1	40 50 60 13 1395 2950 13 19 20 24 40 62 104 146 619 944	MM MM MM MM MC MC MM MM MM MM MM MM MM M	4mV 4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU
Arcam C77 Arcam C77MG Arcam E77 Arcam E77MG Arcam P77MG Audio Note Io ItV Audio Note Io ItV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-102 Audio Technica AT-420E Audio Technica AT-0C3 Audio Technic	40 50 60 63 1395 2950 13 19 20 24 40 62 104 146 619 944 250 500 800 1295	MM MM MM MM MC MC MM MM MM MM MM MM MM M	4mV 4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y Y N N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU
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Arcam C77 Arcam C77MG Arcam E77 Arcam E77 Arcam P77MG Arcam P77MG Audio Note Io ItV Audio Technica AT-91 Audio Technica AT-95E Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-102E Audio Technica AT-102S Audio Technica AT-0C3 Audio Technica AT-0C3	40 50 60 63 31 395 2950 13 19 20 24 40 62 104 440 62 104 44250 500 800 1295 500 800 700 700	MM MM MM MM MM MM MM MM MM MM MM MM MM	4mV 4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU Nude micro linear stylus High output MC, line contact Boron cantilever Boron tube cantilever
Arcam C77 Arcam C77MG Arcam E77 Arcam P77MG Arcam P77MG Arcam P77MG Arcam P77MG Audio Note lo IIV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-023 Audio Technica AT-420E Audio Technica AT-023 Audio Technica AT-023 Au	40 50 60 373 1395 2950 13 9 20 24 4 4 6 9 20 24 4 4 6 19 20 24 4 4 6 19 20 20 20 20 20 20 20 20 20 20	MM MM MM MM MM MM MM MM MM MM MM MM MM	4mV 4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU Nude micro linear stylus High output MC, line contact Boron cantilever Boron tube cantilever Boron tube cantilever
Arcam C77 Arcam C77MG Arcam E77 Arcam E77 Arcam E77MG Arcam P77 Arcam P77 Arcam P77MG Audio Note lo IIV Audio Technica AT-91 Audio Technica AT-95E Audio Technica AT-95E Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-450E Audio Technica AT-450E Audio Technica AT-450E Audio Technica AT-450E Audio Technica AT-450E Audio Technica AT-0C3 Audio Technica AT-10C3 Audio Technica AT-10C3 Audio Technica AT-10C3 Audio Technica AT-10C3 Audio Technica AT-10C3 Audio Technica AT-10C3 Audioquest MC5 Audioquest MC5 Audioquest 2000NSX Benz-Micro The Gilder Benz-Micro MC-31 Benz-Micro MC-31 Benz-Micro Wood Ref	40 50 60 373 1395 2950 13 99 20 24 40 20 24 40 20 24 40 20 24 40 20 24 40 20 24 40 20 20 20 20 20 20 20 20 20 2	MM MM MM MM MM MM MM MM MM MM MM MM MM	4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y N N N N N N N N N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU
Arcam C77 Arcam C77MG Arcam E77 Arcam E77 Arcam E77MG Arcam P77MG Audio Note Io ItV Audio Note Io ItV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-1023 Audio Technica AT-450E Audio Technica AT-003 Audio Technica AT-003 Audio Technica AT-003 Benz-Micro MC3 Benz-Micro M090 Benz-Micro M090 Benz-Micro Ruby Ref Benz-Micro Ruby Ref Denon DL110	40 50 60 63 73 1395 2950 13 19 20 24 40 62 104 4619 944 250 500 600 1295 600 700 700 850 1100 850 700 700 700 700 700 700 700 7	MM MM MM MM MM MM MM MM MM MM MM MM MM	4mV 4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y N N N N N N N N N N N N N N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU Nude micro linear stylus High output MC, line contact Boron cantilever Boron tube cantilever Boron tube cantilever
Arcam C77 Arcam C77MG Arcam E77 Arcam E77 Arcam P77MG Arcam P77MG Arcam P77 Arcam P77MG Audio Note Io ItV Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-91 Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101EF Audio Technica AT-101G Audio Technica AT-10C3 Audio Technica AT-420E Audio Technica AT-0C3 Audio Technica AT-0C3 Benz-Micro M090 Benz-Micro L040 Benz-Micro L040 Benz-Micro M090 Ref Benz-Micro M090 Ref Benz-Micro M090 Ref Benz-Micro M090 Ref Benz-Micro M090 Ref	40 50 60 373 1395 2950 13 920 24 40 62 20 24 40 62 104 146 619 944 250 500 800 800 700 700 700 700 700 1100	MM MM MM MM MM MM MM MM MM MM MM MM MM	4mV 4mV 4mV - - - - - - - - - - - - - - - - - - -	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y N N N N	N N		Conical stylus As C77 with metal body Elliptical stylus As E77, with metal body 'Profile' stylus As P77, with metal body Silver wired Needs PSU
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WORCESTER David Warings, Marmion House, High Street. Tel 0905 27551

120 HI-FI CHOICE BUYER'S GUIDE



Key to cartridges. Price - typical retail, to nearest pound. Type - MM - moving magnet (output typically nmV/cm/sec), MC - moving coil (output typically o.nmV/cm/sec). Output - in mV/cm/sec Int. stylus - Y for removable/replaceable styli and N for fixed styli.

Fit - N for normal half inch mountings, T for T4P plug in types. Weight - in grams.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.



Key to cartridges. Price - typical retail, to nearest pound. Type - MN - moving magnet (output typically :mv/cm/sec). MC - moving coil (output typically o.imv/cm/sec). Output - in mV/cm/sec Int. stylus - Y for removable/replaceable styli and N for fixed styli.

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Fit - N for normal half inch mountings, T for T4P plug in types. Weight - in grams.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

Model	Price	Type	Output	Int. stylus	Fit	Weight	Special	Model
CARTRIDGES								CARTRIDGES
Goldring Eroica LX	100	MC	0.5mV	Ν	Ν	6	As Eroica, low output	Ortofon MC2000II
Goldring Eroica	100	MC	2.5	Ν	Ν	6	Gyger II stylus	Ortofon MC3000II
Goldring 1042	105	MM	6.5mV	Y	Ν	6	Gyger S stylus	Ortofon MC5000
Goldring Elite	200	MC	0.5mV	Ν	Ν	6	van den Hul, silver wire	Ortofon MC7500
Goldring Excel	549	MC	0.5mV	N	N	8	van den Hul I stylus	Pickering TE-15
Goldring Excel GS	599	MC	0.5mV	N	Ν	8	Gyger S, hand built	Pickering VE-15
Grado ZTE+1	27	MM		Y	N	-	Moving flux, high output	Pickering T-E
Grado ZCE+1	37	MM		Y	N		Moving flux	Pickering V15-DJ Pickering TL-E
Grado Z3E+1	47	MM		Y	N N		Moving flux Moving flux	
Grado ZF1+	82	MM	-	Y	N	-	Moving flux	Pickering XV15-3500 Pickering TL-2E
Grado Signature 8MZ Grado Signature MCZ	250 375	MM	-	Y	N			Pickering XV15-625E
Grado Signature MCZ Grado Signature TLZ	650	MM	-	Y	N		Moving flux Moving flux	Pickering XV15-0250 Pickering XV15-150-
Grado Signature XTZ	975	MM MM		Y	N		Moving flux	Pickering TL-2-S
Kiseki Blue GS	499	MC	0.4mV	N	N	8		Pickering XV15-7575
Kiseki Purpleheart	749	MC	0.4mV	N	N	11		Pickering XV15-625E
Kiseki PHS	899	MC	0.4mV	N	N	8		Pickering XV15-1800
Kiseki Blackheart	1995	MC	0.3mV	N	N	11		Pickering TL3S
Kiseki Lapis Lazuli	5000	MC	0.4mV	N	N	8	Gemstone body	Pickering XEV-3001E
Koetsu Red T	1550	MC	-	N	N		High-output MC	Pickering XLZ-3500
Koetsu Red K Sig	1998	MC	-	N	N	-	Selected, re-tuned Red T	Pickering TL-4-S
Koetsu Urushi	2200	MC	-	N	N	-	Metal alloy body	Pickering TL-3003
Koetsu Signature	3218	MC		N	Ν	-	Rosewood body	Pickering XLZ-4500
Linn K5	54	MM	4.5mm	Y	Ν	-		Pickering TL-4004
Linn K9	109	MM	4.5mm	Y	Ν	-		Pickering XSV-5000L
Linn K18/II	197	MM	4.5mV	Y	-	-	Metal body	Pickering XLZ-7500
Linn Klyde	449	MC	150uV	N	Ν		Alloy body	Pickering TLZ-7500-
Linn Arkiv	998	MC	150uV	Ν	Ν	-	Three point mt, machined body	Rega Bias
London Decca Maroon	199	MM	5.0mV	Ν	Ν	8	Original mounting	Rega 78
London Decca Gold	239	MM	5.0mV	Ν	Ν	8	Elliptical stylus	Rega Super Bias
London Decca Maroon Dp		MM	5.0mV	Ν	Ν	10	Deccapod mounting	Rega Elys
London Decca Gold Dpd	299	MM	5.0mV	Ν	Ν	5	Elliptical stylus, Deccapod	Roksan Corus Black
London Decca S Gold	339	MM	5.0mV	Ν	Ν	7	Original mounting	Roksan Shiraz
London Decca S Gold Dp	399	MM	5.0mV	N	N	10	Deccapod mounting	Shure ME70B
London Decca Jubilee	999	MM	5.0mV	N	N	5	0.5 inch mounting	Shure M92E
Lyra Lydian	649	MC		Y	N	-		Shure SC35C
Lyra Clavis	1298	MC	-	Y	N	-		Shure M44C
Lyra Parnassus	1995	MC	-	Y	N			Shure M44-7
Milltek Aurora	299	MC	2.0mV	N	N	9.5	High output MC	Shure M44G Shure ME95ED
Milltek Olympia Nagaoka MP-11	399 24	MC	2.0mV	N Y	N N	9.5	As Aurora, sapphire cantilever	Shure M55E
Nagaoka TS11	70	MM MM		Y	N		Elliptical stylus Line contact stylus	Shure M104E
Nagaoka TS12 Boron	80	MM	-	Y	N		As MP-11, with boron cantileve	Shure ME97HE
N'ham Tracer I	98	MM	-	-	N	-	As MP-11, with boron cantileve	Shure M110HE
N'ham Tracer II	175	MM	-			-		Shure V15V-MR
N'ham Tracer III	350	MM	-					Stanton 500EL
N'ham Tracer IV	550	MM	-		N	-		Stanton 500AL II
Ortofon OMP-5E	16	MC	-	Y	T			Stanton 680AL/X
Ortofon OM-5E	16	MM		Y	N	1 .		Stanton 680EL/X
Ortofon OM3E/U	20	MM	-	Y	1.		With headshell	Stanton 890AL/X
Ortofon OM3E/U	20	MM	-	Y	N	-	That roughter	Sumiko Oyster
Ortofon OM3E/S	20	MM	1.2	Y		-	With headshell	Sumiko Black Pearl
Ortofon OM Pro S	21	MM	-	Y	N	1.1	Budget disco cartridge	Sumiko Pearl
Ortofon OM10 Super	25	MM	1.1	Y	N	-	Elliptical stylus	Sumiko Blue Point
Ortofon Night Club	32	MM	-	Y	N	-	Spherical stylus	Sumiko BPS
Ortofon 510	32	MM		Y	N	-		Transfiguration AF-1
Ortofon Night Club	37	MM	-	Y	N		Elliptical stylus	Transfiguration Supr
Ortofon Concord Pro	40	MM	1.1	Y.	N	-	For professional use	van den Hul MM-1
Ortofon Concord NC	55	MM	-	Y	N	-	Professional, spherical stylus	van den Hul MM-2
Ortofon 520P	55	MM	-	Y	N	-		van den Hul DDT-II
Ortofon 520	55	MM	-	Y	N	-	Elliptical stylus	van den Hul MC-10
Ortofon OM20 Super	60	MM	1.4	Y	Ν	-		van den Hul MC-One
Ortofon MC1 Turbo	60		-	Y	N	-		van den Hul MC-One
Ortofon Concord NC	60	MM	-	Y	N	-	Spherical version of Concord	van den Hul MC-Two
Ortofon OM30 Super	80	MM	-	Y	N	-	Fine line stylus	vdH Grasshopper III
Ortofon MC10 Super	85		1.0	Ν	Ν			vdH Grasshopper III
Ortofon 530P	85	MM	1.0	Y	Т	-		vdH Grasshopper III
Ortofon 530	85			Y	Ν	1.1	Elliptical stylus	vdH Grasshopper III
Ortofon Quartz	110	MC	1.1	Ν	Ν	1.1	High output MC cartridge	vdH Grasshopper III
Ortofon MC3 Turbo	110	MC	1	N	N	1.1		vdH Grasshopper III
Ortofon MC15 Super II	110	MC	1.0	N	N	1.1		Virtual Reality Aciore
Ortofon 540	110	MM	1.1	Y	N	1.1		Virtual Reality Etile
Ortofon Quasar	350	MC	1.1	N	N	1.1	High-output elliptcal MC	Virtual Reality Lexe

Model	Price	Туре	Output	nt. stylus	Fit	Weight	Special
CARTRIDGES		110					
Ortofon MC2000II	650	MC		N	N		(Deplicent) stylus
Ortofon MC3000II Ortofon MC5000	950 1500	MC MC		N N	N N	-	'Replicant' stylus Sapphire cantilever
Ortofon MC7500	2000	MC		N	N		75th Anniversary model
Pickering TE-15	2000	MM		Y	N	-	Tracks 1.5gm
Pickering VE-15	25	MM	-	Y	N	-	Tracks 1 - 3gms
Pickering T-E	25	MM		Y	T		Elliptical
Pickering V15-DJ	28	MM	-	Y	N		Disco model
Pickering TL-E	35	MM		Y	T		Diaco model
Pickering XV15-350C	40	MM	-	Y	N		Conical stylus
Pickering TL-2E	40	MM	-	Y	T	-	Conical stylus
Pickering XV15-625E	50	MM	-	Y	N		
Pickering XV15-150-DJ	50	MM	-	Y	N		Professional cartridge
Pickering TL-2-S	55	MM	-	Y	N		Line contact stylus
Pickering XV15-757S	60	MM		Y	N		Line contact stylus
Pickering XV15-625DJ	60	MM	-	Y	N		Broadcast cartridge
Pickering XV15-1800S	70	MM	-	Ŷ	N	-	Line contact stylus
Pickering TL3S	80	MM	-	Y	Т	-	
Pickering XEV-3001E	95	MM	-	Y	Ν	-	Elliptical stylus
Pickering XLZ-3500	100	MM	-	Y	Ν		
Pickering TL-4-S	100	MM	-	Y	Т		
Pickering TL-3003	145	MM	-	Y	Т		
Pickering XLZ-4500	150	MM	-	Y	N		Line contact
Pickering TL-4004	175	MM	-	Y	Т	-	
Pickering XSV-5000U	200	MM	-	Y	Ν	-	High output
Pickering XLZ-7500	200	MM	-	Y	Ν	1.14	Hybrid, low impedence
Pickering TLZ-7500-S	200	MM	-	Y	T	1.14	
Rega Bias	34	MM	*	-	N	- × 11	
Rega 78	34	MM	-		Ν		for 78rpm records
Rega Super Bias	52	MM	-	-	Ν	-	
Rega Elys	74	MM		-	Ν	-	
Roksan Corus Black	130	MM	-	Y	Ν		
Roksan Shiraz	800	MM	-	N	Ν	-	
Shure ME70B	18	MM	6mV	Y	Ν		Conical stylus
Shure M92E	22	MM	5mV	Y	-	-	Dual T4P & normal fit
Shure SC35C	28	MM	5mV	Y	Ν	-	For broadcast use
Shure M44C	33	MM	9mV	Y	Ν		Professional, spherical stylus
Shure M44-7	33	MM	9mV	Y	Ν	- 14	Professional, spherical stylus
Shure M44G	35	MM	6mV	Y	Ν	-	Professional, spherical stylus
Shure ME95ED	38	MM	5mV	Y	Ν		Elliptical stylus
Shure M55E	42	MM	6mV	Y	Ν		Professional, spherical stylus
Shure M104E	44	MM	5mV	Y	-		DualT4P & normal fit
Shure ME97HE	60	MM	4mV	Y	Ν		Hyper elliptical stylus
Shure M110HE	74	MM	4mV	Y		-	Dual T4P & normal fit
Shure V15V-MR	265	MM	3mV	Y	N		Micro ridge stylus
Stanton 500EL	34	MM	-	Y	N		Elliptical stylus
Stanton 500AL II	34	MM	-	Y	N	-	Spherical stylus
Stanton 680AL/X	50	MM	-	Y	N	-	Spherical stylus
Stanton 680EL/X	56	MM	-	Y	N	-	Elliptical stylus
Stanton 890AL/X	82	MM	-	Y	N	-	Professional cartridge
Sumiko Oyster	30	MM	-	Y	N		
Sumiko Black Pearl	50	MM	-	Y	N	-	
Sumiko Pearl	70	MM			N		High output MC
Sumiko Blue Point Sumiko BPS	100 250		-	N N	N N		High output MC Nude stylus
Transfiguration AF-1 Mk			230uV	N	N		MC, transformer & preamp
Transfiguration Supreme	1995	MC	200uV	N	N		Yokeless ring magnet system
van den Hul MM-1	275	MM	20000	N.	N		Tokeless mig magnet system
van den Hul MM-2	325	MM	-		N		
van den Hul DDT-II	675	MC		N	N		Silver coils
van den Hul MC-10	775	MC	1.4	N	N	-	Silver coils
van den Hul MC-One	975			N	N		Selected version of MC-10
van den Hul MC-One/Hi	1100	MC		N	N	1.1	High output version of MC-10
van den Hul MC-Two	1300	MC	1.0	N	N		As MC-One/Hi, higher output
vdH Grasshopper III	2300	MC		N	N		As WO-One/mi, higher output
vdH Grasshopper III	2300		-	N	N	-	
vdH Grasshopper III	2300		-	N	N		
vdH Grasshopper III	3200		1	N	N		
vdH Grasshopper III	3200			N	N		
vdH Grasshopper III	3500	-		N	N	-	
Virtual Reality Aciore	199			N	N		
Virtual Reality Etile	299	-		N	N		
Virtual Reality Lexe	899		-	N	N		
	-	-	-	-	-	-	

HI-FI CHOICE BUYER'S GUIDE 121



Key to tonearms Price - typical retail to the nearest pound Type - F - fixed armtube/headshell, A - interchangeable armtube, H - interchangeable headshell. Base type - S - SME fit, L -Linn/Alphason fit, P - proprietary fit. Effective length - from privot point to headshell in millimetres. Weight range - the range of cartridge masses that the arm can accept in grams. Special - characteristics of the arm.

Products highlighted in red have been tested in *Hi-Fi Choice*. Please refer to The Directory on page 123 for full test results.

				Effective	~	
			Base	ctiv	Wt. range	
Mar. 4.1	Price	Туре	type	e ler	ang	
Model ARMS	ö	e	Je	ä	le	Special
Air Tangent Tangent 10B	8000	F		100		Air-bearing
Air Tan Tangent Ref. Sig.	10000	F	-		-	Remote version of above
Alphason Xenon	286	F	L	229	3-20	1-piece titanium armtube
Alphason Xenon MCS	370	F	L	229	3-20	vdH silver wiring
Alphason HR100S	490	F	L	229	3-20	Superior quality bearing
Alphason HR100S MCS	550	F	L	229	3-20	vdH silver, top bearings
Audiomeca SL5	1999	-	-	-	-	Parallel tracking
Decca LI Arm	49	Н	L	212	5-12	Damped
Decca LIR Arm	99	Н	L	212	5-12	Rewired version of LI
Dynavector 507	1400	-	-			Biaxial design
Graham 1.5T	2550	-	S	-		SME base, unipivot
Helius Orion 3 S1 Copper	395	Р	Р	254	-	
Helius Orion 3 S1 Silver	515	Р	Р	254	-	
Helius Orion 3 S2 Copper	575	Р	Р	254	-	Bi-metal tube
Helius Orion 3 S2 Silver	695	Р	Р	254		Bi-metal tube
Helius Cyalene 2	1395	Р	Р	254	-	Silver wired, pivoted
Kuzma Stogi	600	-	-	1.1	-	Effective mass 13gm
Kuzma Stogi Ref	1000	-	-	-	-	Effective mass 12.5gm
Linn Akito	209	F	L	229	-	Statically balanced
Linn Ekos	1297	F	L	229	-	Dynamically balanced
Manticore Musician	320	F	L	230	1	
Manticore Magician	650	F	L	230	1.	Polished armtube finish
Manticore Magician	720	F	L	305	-	Polished armtube finish
Moth Arm	95		-	-	-	Rebadged Rega RB250
Moth Mk III	146	-	-	-		Rebadged Rega RB300
Naim ARO	794	-	-		-	Unipivot
N'ham Space	350	-			-	Optional silver wiring, unipiv
N'ham Mentor N'ham Alien	750	-	-	-	-	Silver wiring, unipiv
Rega RB250	95	F	R	237	-	Graphite tube, unipivot Scaled down RB300
Rega RB300	139	F	R	237		Pivoted arm
Roksan Tabriz Zl	330	1	n	231		'Intellligent' counterweight
Roksan Artemiz	690	F		-		Flagship arm
SME Series IIIS	230	A	S	233	0-12	Economy version of Series III
SME 3009 Ser II Imp	255	F	S	231	3-7	Fixed headshell, low mass
SME 3009 S2 Ser II Imp	278	Н	S	231	3-8	Detachable headshell, medium m
SME Series III	320	A	S	233	0-13	Ultra-low mass for hi-complian
SME Series II 3009-R	424	Н	S	233	0-28	Heavier version of Ser II S2 I
SME Series II 3010-R	434	Н	S	239	0-25	Detachable headshell, 10 inch
SME Series II 3012-R	466	Н	S	308	0-25	Detachable headshell, 12 inch
SME Series 300-309	568	Н	S	232	6-17	Ser V derivative with detach h
SME Series 300-310	581	Н	S	238	6-17	10 inch (nom) version of 300-3
SME Series 300-312	661	Н	S	308	5-14	12 inch (nom) version of 300-3
SME Series IV	827	F	S	233	5-16	Economy version of Series V
SME Series V	1232	F	S	233	0-14	Flagship model
Townshend Excalibur	799	F	Р	220	3-14	Outrigger headshell damping
Wheaton Tri-Planar 4	2750	-	-	-	-	With terminal box
Wheaton Tri-Planar 4C	3000	-			-	As above with Cardas cable
Wilson Benesch ACT1	975	-	-	1.	-	Carbon-fibre armtube, unipivot
Zeta	469	-	-	-	-	Pivoted
Zeta	555	1.0	100	-	-	Pivoted, vdH wired

he information contained in the Hi-Fi Choice Buyer's Guide is supplied either by manufacturers or by distributors. Each month we contact all companies to ensure that the data is as accurate and up-to-date as possible. However, prices and specifications are subject to change due to circumstances beyond our control.

Please let us know if you spot any omissions or errors in the Buyer's Guide.



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The original and best review based hi-fi guide

This is the legendary Directory, the second part of the new look Hi-Fi Choice Buyer's Guide, based entirely on comprehensive technical and subjective reviews. Each entry carries the weight of our exhaustive test procedures and should be read in conjunction with the prices and specifications given in our index starting on page 87.

he Hi-Fi Choice Directory was conceived as a reference guide to all the audio products reviewed by Choice that are currently available. The products are split into categories, each with its own introduction containing information about the product type and its applications. They are particularly relevant to the uninitiated first time buyer and help sort out the order of priorities when buying a piece of equipment.

Each product along with its current retail price is placed in its respective category in alphabetical order. The prices of the products are updated on a regular basis, although it should be noted that our value ratings are based on the product's price at the time of review.

Sound quality

This column contains the ratings for the standard achieved in our listening tests. The sound quality ratings range from Poor to Excellent. Their meaning and order are as follows:

Р	POOR
A-	AVERAGE-
Α	AVERAGE
A+	AVERAGE+
G-	GOOD-
G	GOOD
G+	GOOD+
VG	Very Good
E	EXCELLENT

With P being the worst and E the best rating within a section.

One important point to remember is that these cannot be used to compare products from different categories. For example, a cassette deck rated Excellent in sound quality will not usually offer the same

How to use this guide

Perhaps the most influential symbols in the *Directory* are the little red triangles *found* in the value column at the beginning of each entry where appropriate.

Products that make the grade are awarded the Best Buy or Recommended accolade.

- A product carrying the Best Buy swingtag is of excellent quality and good value for money in its price category.
- A Recommended products are runners up, but still definitely worth considering within their price bands.
- Please note however, that an expensive Recommended product will nearly always sound better than an inexpensive Best Buy.

An ideal situation would be to choose suitably priced A Best Buy or Recommended products from relevant categories and create a Best Buy system. However, due to the variety in tonal balance that exists in many audio products, and differences in taste, system building is unfortunately not that simple. These ratings make a useful guideline for shortlisting components, but only experiencing the actual combination will tell you whether it works for you.

Finding that component

Before you shop, follow our top eight tips for better buying:

Check out the components' recommended retail prices in the *Directory*.
 Find out as much as you can about the products you want by reading *Hi-Fi Choice*'s reviews and lab tests.

3. Visit local dealers that stock some of the brands you want to hear and try to find one that seems sympathetic to your needs.

4. Don't discount a dealer's suggestions just because the products don't have rave reviews.

5. Take your own software (records, CDs, tapes) along for a demonstration of the equipment that the dealer recommends.

6. Listen at the sort of volume you would normally use at home - systems often sound more impressive when played loud.

7. If you are unsure about something or want to hear an alternative, just ask.
8. Audition a system for a reasonable amount of time, say three quarters of an hour or so, before making a decision.

standard of fidelity as a similarly rated turntable or CD player. Unless you have first generation masters of course.

Comments

The Comments column contains a potted summary based on the original review, emphasising the salient points of a product's character and sonic

performance. The space available doesn't allow for great detail but we have attempted to put across the essence of the review. Obviously, important information on compatibility or auxiliary equipment used in the test cannot be included, and we would advise you to refer to the

original review for this. Please note that these comments are those of our own reviewers and not, as is the case with some magazines, those of the manufacturer.

Features

Product features are shown with a combination of figures and blob charts, with headings at the top of each column indicating the appropriate category, a blob indicating the existence of a particular feature.

There are different headings for each section and the more complicated categories are explained in the individual introductions. Where figures are used the unit of measurement is shown in the heading.

Back issues

The final column refers to the issue of *Hi-Fi Choice* which featured the complete review.

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SEXPORT	AMPLIFIERS	CASSETTES	FANTASTIC SAVINGS ON MIDI & MINI	THE CAR HI-FI
Tax Free Goods	8-63 2 5 O		HI-FI SYSTEMS	
Oversean Visitors	DENON (2 Yr Guarantee)	<u>AIWA</u>	SAVE £150 ON THIS	KS-RX770 +
	PMA-25011 30wpc PMA-35011 50wpc	AD-F450 Hx-Pro NEW AD-F850 3 Head NEW	MHC 2800CD	XL-MK500 CD Changer System
CLEARANCE BARGAINS	PMA-480R 50wpc <u>KENWOOD</u> KA 1030 65wmc	AD-WX828 Twn A-Rev DENON (2 Yr Guarantee)		Was £499 £349.0
Yamaha CDX-570	KENWOOD KA-1030 65wpc KA-3050R 45wpc KA			KE-2730 Radio/Cass 4x7 Watt. Was £165 NOW £129
Was £239 Now	K4-4050R 70wpc K4-5020 80wpc		Was £ 5.49.99	KE-3730 R dio/Cass Dolby B N Was £ 185 NOW £145
£179 CD PLAYERS WAS NOW	KA-5050R 95wpc KA-7050R 100wpc	DRW-760 Hx-Pro KENWOOD	Now £399.99	7980M In Dash 3 Tray CD/Tun
Denon DCD-595 £179 £159 Denon DCD-695 £199 £169 Denon DCD-890 £269 £229	A-102 30wpc	KX-5050 3 Head	MONEY SAVERS WAS NOW	Excluding Power Amps Was £679 NOW £529
Denon DCD-890 £269 £229 Rotel RCD-955AX £230 £185 Yamaha CDX-670 £290 £239		PIONEER CT-S420 3 Head	Aiwa Z650 £369 £349 Aiwa NSX-D707 £499 £420 Hitachi AX-12 £349 £298	KENWOOD
Yamaha CDX-660 £249 £199 CASSETTES WAS NOW	A-502A 40wpc 80wpc 80wpc 4-502R 70wpc 57	CT-S620 3 Head CT-W503R A/Rev NEW	Hitachi AX-12 £349 £298 Hitachi AX-15 £449 £380 JVC Adagio S2 £369 £315	Exc. Power Amps Was £499 NOW £390
Rotel RD-945AX £149 £125 Rotel RD-955AX £199 £165	A-400X 60wpc A-351R 70wpc <u>TECHNICS</u> <u>SU-4600</u> 40wmc	CT-W603R Hx-Pro NEW CT-W803RS Rem Con NEW	Kenwood M47G £749 £620 Kenwood M77MG £999 £900	NENJVC
Yamaha KX-260 £160 £129 Yamaha KX-360 £199 £169 FM TUNERS WAS NOW	13C-1000 40mpt	SONY TC-K611 Dolby S Heart Ber	Kenwood M57MG £849 £705 Kenwood UD551M £649 £585	KD-GT7 CD Receiver 4x25 W tts • 3 CD Changer 3 Band R dio • 24 Preset Memo
IVC FX-342 £129 £79 Philips FT-920 £139 £99	SU-A700 45wpc SU-A80011 55wpc	TECHNICS RS-TR373 TRev NEW	Sony 759CD £1099 £935 Sanyo DCMS1 £299 £255 Technics CDX120 £699 £595	
Pioneer F-676 £199 £149 Pioneer F-757 £279 £209	SU-A80011 55wpc SU-A90011 80wpc SU-V300 30wpc	RS-TR474 Hx-Pro NEW RS-TR979 Tw Rec	Technics CDX120 £699 £595 Technics SCCH950 £999 £849 Pioneer J30 £749 £599	SPEAKER BARGINS
Technics ST-G70 £249 £205 Technics ST-G470 £149 £123	SU-V500 45wpc YAMAHA (2 Yr Guarantee)	RS-BX646 3 Head RS-BX747 3 Head	Pioneer J50 £1149 £919 Pioneer N33 £379 £300	TS-E1066 Was £37-NOW £27 pa TS-E1399 Was £77 NOW £56 pa TS-E1688 Was £66-NOW £48 pa
AMPLIFIERS WAS NOW Philips FA-920 £199 £129 Rotel RA-940BX £199 £175	AX-570 100wpc AV AMPLIFIERS &		Pioneer N93M £1049 £839 HI-FISYSTEMS	TS-G1033 Was £37 NOW £25 pa TS-F1385 Was £37 NOW £27 pa
Rotel RA-920AX £129 £105 Technics SU-VZ220 £129 £110	RECEIVERS	FM TUNERS	AIWA	1994/95 PIONEER RANG
Technics SU-VZ320 £169 £145 Portable DCC	CINEMA COLINID		NXS-270 16wpc NSX-340 20wpc	• NOW IN STOCK
& Mini Diusc		DENON (2 Yr Guarantee) TU-260 "Winner"	ZD-7000M 40wpc NEW '94/95 RANGE IN STOCK AKAI	WE OFFER A FULL
DIGITAL CD WAS NOW Panasonic RQ-DP7 E399 £199		TU-580 RDS Sys <u>KENWOOD</u> KT-2060 3 Band	MX-92 25wpc DUAL VOLTAGE RX MINI'S IN STOCK DENON (2 Yr Guarantee)	FITTING SERVICE FOR CAR HI-FI, ALARMS
MINI DISC WAS NOW Sony MZ2P £399 £299	PRO·LOGIC <u>DENON</u> (2 Yr Guarantee) <u>AVC-3530</u> 110wpc	KT-3050 RDS Sys	D-65 30wpc Q	AND
Sony MDS101 £699 £629 WHARFEDALE	AVC-1530 70wpc Выт Вет AVC-3020 80wpc Выт Вет	STS-311 "Winner" TECHNICS ST-610 24 Mem ST-67550 Bern Com	D-10 wompe	MOBILE TELEPHONES
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5NVE £50 Now 5NVE £79.99	PIONEER Image: Comparison of the state of t	STOP	UX-A4 15wpc UX-T1 8wpc W-58CD 50wpc	For the Best in
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Amplifiers

he amplifier sits at the heart of the system, processing the outputs from all the various music sources as necessary and then driving the loudspeakers. These two (quite separate) functions are integrated into a single box at the lowto-middle price points; separated pre- and power amplifiers, even separate power supplies, become increasingly common as one moves upmarket.

There is a substantial difference between specialist (sound quality oriented) amplifiers and the consumer electronics style models. The former are bleakly simple, avoiding all unnecessary features to provide the most direct signal path in the interests of sound quality. The latter range

from models with basic tone controls to those with remote control (including volume), surround sound options etc.

We include our measured power output (RMS, 80hm load, 1 channel driven) - but again, paradoxically, this doesn't necessarily correspond to the loudness capability of the amplifier, which has as much to do with the elegance of the overload characteristics within a given system (valve amplifiers invariably sound more powerful than their rating would suggest).

Apart from output the facilities listing shows how many line (that is inputs besides those for phono cartridges) inputs a product has and

includes tape inputs. The MM and MC blobs indicate which types of cartridge can be accomodated. Integrated, preamp and power amp indicate the type of amplifier and in some instances that a pre/power combination has been tested. In such instances the price given is for both components. The remote control and headphone socket blobs indicate the existence of these facilities.

An increasing number of amplifiers are supplied without RIAA disc stages, or with the phono stage as an optional extra. If you use a turntable, make sure that it has a MM or MC stage to suit your cartridge.

Amplifiers

Automospin Commonspin Albarry AP4/S508 650 4. Adsappointing sound from a pre/power amp that's hamstrung by a variety of technical oversights. Albarry has done better. 46 Albarry AP4/S508 650 4. Adsappointing sound from a pre/power amp that's hamstrung by a variety of technical oversights. Albarry has done better. 46 Albarry AP4/S508 67 Available with or without various MM/MC options, the 'basic' PP1 has an attractively warm, earthy sound. 48 Alchemist Kraken 3100 4. Class-A objet d'art that's far too sensitive to RF interference. Can sound cold and firerce as a result. 54 Alchemist Kraken APD7/APD8 75 G. A quirky Class A number with an equally warm and colourful sound. Hardy accurate but entertaining nonetheless. 49 Arcam Alpha 5 230 A+ A aread-down version of the Alpha 6 that suffers little penalty in power but a significant forfiet in sound quality. 60 A ream Dista 1105/120.2 1070 76 New MOSFET design with a subite and medicie sound that takes a conservative wire of powerful dynamics and musical colour. 99 A ream Dista 200 450 50 Combines the dyness and restraint of Arcam's older models with a refereshing sense of detail, dynamics and musical colour. 99 A fudio linnovations Series 200 60	4 4 5 4 5 5 5 6 4 5	 	•	•			ne soc.	^{Issue} No.
Albary PP1 430 G* Available with or without various MM/MC options, the 'basic' PP1 has an attractively warm, earthy sound. 48 Alchemist Kraken 310 A Class-A objet d'art that's far too sensitive to RF interference. Can sound cold and fierce as a result. 54 Alchemist Kraken APD7/APD8 775 G A quirky Class A number with an equally warm and colourful sound. Hardly accurate but entertaining nonetheless. 49 AMC CVT3030 529 A A well meaning and affordable attempt to mix transistors with valves, albeit one that only really shines with simple musical styles. 35 Arcam Alpha 5 230 A* A pared-down version of the Alpha 6 that suffers little penalty in power but a significant forfeit in sound quality. 60 Arcam Alpha 6 300 VG A new MOSFET design with a subtle and melodic sound that takes a conservative view of powerful dynamics 68 Arcam Delta 110S/120.2 1070 VG Now in mkll guise this established combination has matured into a very articulate, powerful if dry-sounding amplifier. 109 Arcam Delta 290 450 G Turns in a fuller and more substantial performance via MM rather than CD. Otherwise its sound can seem slightly bleached. 10 Audio Innovations Series 200 850 G Turns in a fuller and more substantial performance via	4 5 4 5 5 6 4	• • •	•	•	•	•		
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Audiolab 8000A 450 VG Recent updates have maintained its competitiveness with a thoroughly refined, consistent and very disciplined sound. 80	6			•				Col
		•		•			•	• 116
Audiolab 8000C/8000P 1100 G Very distinctive, almost stark neutrality that will not appeal to all listeners. Good value engineering, nevertheless 157	5	•	•	•				• 129
	7	•	•		•			• 97
Aura VA-100 Evolution 300 G+ Might overheat when driving insensitive, low-impedance speakers but was applauded for its sense of scale and drama via CD 81	5	•		•				• 109
A Beard Audio CA35/P35mkl 2390 VG Good build quality and finish and a characteristic valve sound make a first class amplifier capable of great musical enjoyment 35	4				•			• 63
Beard CA506 1695 G+ A versatile valve preamp, the bass sounded lively if a touch softened, while the treble was detailed but lacked a little sparkle	4		•		•			50
Conrad-Johnson PV-10A 1250 E Fabulous preamplifier. Beautiful imaging, superb detail, plenty of gain on the phono stage; classy build quality too.	4	•			•			78
Conrad-Johnson Premier 7 11000 E The 'Seven is designed without compromise, and is clearly one of the finest (valve) preamplifiers money can buy.	4	•	•		•			Col
Creek 4240 249 G- Bearing no relation to earlier Creek designs, this radical re-think is very much more successful via MM than CD. 49	4	•	•	•				• 134
Denon PMA-250III 160 A- Pretty high resolution for the price, occasionally looses its grip but is generally engaging.and enjoyable 55	3	•		•				• 121
Denon PMA-350I 220 G+ In-depth modifications have brought the original PMA-350 out of its shell with a powerful, up-front and compelling performance.	5	•		•				• 134
▲ Denon PMA-450 250 G+ Denon's latest integrated amp swept the board with its big, brassy if somewhat extravagant sound. 99	5	•		•				• 116
A DPA Digital DSP-200S/DPA-200S 1245 E The very dramatic but exceptionally detailed and transparent sound of this combination belies its modest power rating. 48	5				•	•		124
EAR 802/509mkll 4200 VG Extremely well made and combining the sonic strengths of both transistors and valves this EAR combo warrants attention 100	6	•			•			63
EMF Audio Sequel 349 G+ A fresh start for Mike Creek has resulted in the Sequel, a minimalist amp with a very refined but mildly restrained sound 47	4							• 109
Exposure XX 625 A Line only integrated with good sense of timing but limited hf extension. Likely to be very system dependent. 43	4			•				121
A Harman Kardon HK1400 400 G+ HK's first line-only amplifier exudes a relaxed but confident sound that is only troubled by the most dense of recordings. 52	7			•				129
A Harman Kardon HK6250 280 G+ Heavily based on the cheaper HK6150, this version offers slightly more power with a similarly gutsy and expressive sound 51	5	•		•				• 116
Harman Kardon HK6550 430 A- Follow up to 6500 is disappointing with grainy hf and limited depth. Quite powerful but ultimately not up to the mark 69	6	•	•	•				• 121
Harman Kardon HK6850 900 G This monster is derived from the HK6800 with a similarly deep and powerful sound but a rather steep price tag 101	6	•	•	•				• 109
A Jadis JP30/JA30 12204 E French tubes. Beautiful build, nostalgic styling and delightful sounding midrange transcend limitations at frequency extremes 30	4	•			•	•		60
JVC AX-R562 250 A- More fuss and bluster than detail and dynamics was how one listener concisely described this less than wonderful model 90	5	•		•			•	• 121
JVC AX-Z1010 650 G+ One of the best behemoths: a big amp with a big, boppy and unmuddled sound and a couple of ancient 16-bit DACs for good measure! 124	6	•		•				• 109
Kenwood KA-3020 c 170 G+ An unassuming little amplifier that turns in a remarkably balanced and entertaining sound. Lively, detailed and engaging 66	5	•		•				97
Kenwood KA-3020SE 230 G+ A lower-powered but more load tolerant version of the KA-3020 with an up-beat yet very comfortable and generous sound. 39	5	•		•				• 134
Kerwood KA-4050R 280 A- Respectable but ultimately uninspiring model whose remote control is its main asset. 85	5	•	•	•			•	• 121
Kenwood KA-5050R 350 A A listenable but neither particularly communicative or captivating amplifier that puts features ahead of sound. 103	6	•	•	•			•	• 129
Lecson Quatra 420 G Underpowered but with the flexibility of four independent power amps. Very deep, captivating sound with 3D soundstaging. 40	5	•	•	•				92
Linn Majik-I 593 A The cornerstone of Linn's modular hi-fi system has many innovations to its credit but its sound is vague and confused. 33	6	•		•			•	• 129
Magnum Class A 599 G+ Lashings of rich and compelling music, trading a hint of lushness for stark accuracy. An unexpected find. Phono stage option 55								- 21
Magnum Quartet 329 A- An integrated model that incorporates four monobloks optimised for bi-wiring, but sound is sandy in the treble. 72	7			•				116
Marantz PM-44SEmkil 200 A- Two generations on from the PM-40SE, Marantz' latest £200 contender provides a disappointingly grey view of music, 56	7 5			•				116 • 121

Amplifiers continued

THE DIRECTORY



	Product	£Price	Comments		Y			V				
	Marantz PM-52SE	300 G	The SE premium pays for a degree of fluency that draws you into the music and keeps you there. Rather nice	95	6	•	•	•			•	. 121
	Marantz PM-80mkll	480 G	Less the revision and more an entirely new amp, this model sounds at its sweetest and most agreeable in the 31W Class A setting.	130	5	•	•	•			•	129
	Moth Series 30	587 G	A modular system capable of cracking results. The passive preamp and power amp combination warrant a Best Buy in their own right.	35	4	•	•		•	•		109
	Musical Fidelity Preamp/Typhoor	n 568 G	A combination that plays everything close to its chest but bridge the power amp and you'll witness an explosion of detail.	62	6				•	•		116
	NAD 302	170 G	A spritely and uplifting performance. Sounds loud but never intrusive or fatiguing.	39	5	•		•			•	116
	NAD 304	230 G	Equally effective with CD and vinyl this is another successful and entertaining NAD amplifier for your shortlist	50	6	•		•			•	121
	NAD 1000S/208	1120 A	One of the beefiest amplifiers we've ever tested. Unfortunately it sounds too restrained and lightweight.	314	5	•	•		•	•	•	124
	Nakamichi IA-3	350 G	A minimalist outing for the cassette heroes that's very confident if a tad restrained.	62	3			•			•	121
	NVA AP-20	340 G ·	Utilitarian amplifier sounds gentle and restrained but is euphonic and utterly engaging. Optional phono stage	35	4			•				109
	Onix OA-21S/SOAP	730 G -	Via MM disc this amp comes alive with a fresh and vibrant sound though its CD input sounds utterly dead by comparison.	60	4	•	•	•				97
	Philips FA-930	200 A -	Padical styling hides a digital switching facility plus full remote control over what is Philips' best effort to date	99	5	•		•			••	109
	Pioneer A-303R	200 G	A remote-controlled amp with a surprisingly fresh and uncomplicated sound that bests much of its audiophile competition	56	5	•		•			• •	134
	Pioneer A-300X	230 A ·	This revamped version of the A-300 was also more confident sounding via CD than MM, yet our panel were still left unmoved.	55	5	•		•				116
	Pioneer A-400	280 🗸	Pioneer's design concept snaps into focus with an amp that seems to bubble with musical detail. A budget bench-mark	71	5	•	•	•			•	92
	Pioneer A-400X	300 🗸	This looks like the established A-400 but uses new circuitry to encourage a gentler if no less enthralling sound.	68	5	•	•	•				129
	QED A270CD/PA	370 G	Recent updates have bolstered the output of the A270 without adding to its colorations. The PA phono option is a touch expensive	61	5			•				97
	QED C300/P300	630 G	A cost-effective combo, limited in its resolution but less beguiling as a result. Disc stage is sweeter but samey	58	3	•	•		•	•		85
	Quad 34	398 A	Well-built durable preamp, filtering and above average tone controls but was found lacking in sound quality (viz: detail/dynamics)		4	•	•		•			44
	Quad 66/606	1553 G	Amplifiers with a classic lineage but compromised by an equally dated, soft and undynamic sound.	138	6	•			•	•	•	124
	Rational Audio	175 A -	• Wacky Czechoslovakian amp offers a very open and fluid sound via CD but its MM performance depends on cartridge load impedance.	129	3	•		•				92
	Rega Elex	359 A	Minimalist amplifier that sounds too forward, hard and unforgiving for its own good. Shows plenty of promise, however.	51	4	•		•				116
-	Rose RV-23	450 G	Beautifully built British 'hybrid'. You can spend more to get a more transparent sound but it's hard to criticise at the price		3	•			•			77
	Rotel RA-930BX	200 🗸	A gilded version of the classic RA-930AX with a dark and luxurious sound that's reminiscent of Rotel's heyday.	50	4	•		•			•	134
	Rotel RA-935BX	225 G	A line only winner that lets a lot of music through and never lets things get out of hand. Could be a touch more enthusiastic	58	5			•				121
	Rotel RC-980BX/RB-980BX	800 A	Plenty of watts per pound, sound is expansive but lacks a sense of poise, of control and fine detail - a disappointment	143	5	•	•		•	•	•	109
	Sansui AUX-417R	280 G -	Unusually clean and precise with more subtlety than is usually attributed to remote control amps.	53	5	•	•	•			• •	121
	Sherwood AI-2210	80 P	Lightweight in all respects this is better than you'd find on a midi and at least its reasonably painless.	47	4	•		•			•	121
	Sonic Frontiers SFC-1	1500 G	Smooth, sophisticated Canadian valve amp with a decent direct input and more features than average	54	6			•				126
	Sugden A21a	469 G	The modern-day relative of Sugden's original Class A amp and one that offers a smooth, easy-going sound.	25						•		92
	Technics SU-VZ220	130 A -	Cheap, cheerful and pretty flexible to boot the SU-VZ220 quickly sounds thin, splashy and relentless when the going gets tough	50	4	•		•			•	109
	Technics SU-A800mk2	350 A	A quick audition might convince you the '800mk2 is something special, but longer term listening shows it's little but bluff.	79	5	•		•			• •	134
	Woodside ISA230	900 A	Smooth and inoffensive valve amplifier if one that lacks the sparkle and euphony required for a truly entertaining sound.	27	5	•		•				116
	Woodside SC26/STA35	3254 G -	Synergistic pairing with a cool, controlled sound, good focus and transparency. More about poise than grunt	35	5				•	•		100
	YBA Integre	1199 G -	Audiophile spec French integrated with good resolution and nice phono stage.	57	4	•		•			•	121
-	YBA 1 pre/power amp	8000 E	Well finished pre/power amp offers front rank stereo staging and transparency, and is capable of driving the most difficult loads	85	5	•	•		•	•		62
-	YBA 2 pre/power amp	3849 G -	Superbly finished with very good space and transparency, slightly softened bass. Needs transformer for MC cartridges	70	5	•	•		•	•		56
	YBA 3 pre/power amp	2449 G	This duo produced see-through, ethereal stereo images that were more convincing towards the centre of the soundstage	56	4	•			•	•		72



AV amplifiers

n practice an A/V amplifier provides all the standard CD, tuner, tape, aux and phono inputs offered by a standard stereo amplifier. In addition many also incorporate an AM/FM tuner section, making them A/V receivers.

More importantly a modern A/V amplifier includes a Dolby Pro Logic decoding chip along with extra circuitry to effect the rear channel delay. Naturally there's at least four channel's worth of amplification under the bonnet to feed the five loudspeaker outputs (Front L and R, Centre and

Rear mono L+R).

Some A/V amps offer other surround modes like simulated stereo, Hall surround (L+R is fed to the rear) and Matrix surround (L-R is fed to the rear). Others use an element of Digital Signal Processing (DSP) to steer the Dolby Pro-Logic or permit a variable rear channel delay. Some also include DSP options like Jazz, Church, Hall and Stadium modes which use different delay and steering levels to generate different `sound fields'.

From left to right the headings below indicate

how many watts per channel each amp has for its front, centre and surround outputs.

Surround modes indicates how many different surround effects are available and includes DSP. The audio inputs are for both hi-fi and AV components. S-type and phono video inputs are for VCRs, Laserdisc players and CTVs, S-type being the better of the two .

Subwoofer outputs are of the phono socket variety for active subs, and AM/FM tuner denotes if the unit is effectively a receiver.

AV amplifiers

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AV amp	lifi	ei	rs	Front output W	Ind out tout 180	SUTOUT W	Vide AUG ROL	ideo inpu inpuinpu inpuinpu inpuinpu	SUL INDU PRI	WOOI SSINO	ANI OU.	Mill	SUE NO.
Product	£Price		Comments		V		V	V	V	T		V	
Denon AVC-3530	999	VG	A true heavyweight with a richly detailed sound and flexible features to match		142	141	46	10	9	5	5	•	• 125
Harman Kardon AVR30	999	G+	Limited surround options are offset by a very secure sound with excellent control over effects.		74	75	30	7	10	6	0	•	• 125
Kenwood KA-V8500	699	G-	Can sound a tad forced and immediate but is remarkably well-equipped with digital soundfield options.		62	63	37	10	11	6	5	•	125
Marantz PM-700AV	450	A+	Sounds just great through front and centre channels but surround is very weak.		69	52	51	3	7	6	3		125
Philips FR940	450	A-	Perhaps as a result of the mismatch between front/centre channels, the FR940 proved a great disappointment on dem.		180	24	24	6	8	4	0		• 125
Pioneer VSA-D802S	600	A-	The disappointingly grey sound lacks attack and confidence, undermining the tension of movie soundtracks.		53	55	32	9	9	5	3	•	125
Technics SA-GX550	450	VG	A surprisingly gutsy and involving performance from a modestly-priced package.		48	48	49	2	5	2	0		• 125
Yamaha DSP-A2070	1100	G+	The ultimate in AV flexibility with full manual control over ever conceivable soundfield.		101	99	35	24	10	6	6	•	125



Cables

ables are not accessories but an integral part of your system. You can make do without accessories but no conventional system will function without cables. Inevitably some cables are greater than others. The best cable for your system will only be found through trial and error, but hopefully by combining our recommendations with those of a dealer you will end up with something that suits both your pocket and your system. 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. Symmetrical indicates where a twisted pair of conductors are used.

Coaxial means that there is a central 'hot' conductor and a shield that carries the negative signal. Stranded cables have multiple strands and solid core use individually insulated strand(s). Copper and silver indicates whether these metals are used as conductors.

Digital interconnects connect CD transports to

DACs, and are traditionally coaxial with a 750hm impedance. They come in optical and electrical varieties, the former being made of plastic or glass and the latter in coaxial or alternative configurations. The prices shown are for a terminated linear metre

Speaker cables are used between the amplifier and speaker. Our prices are for a terminated 5metre pair. Resistance and capacitance are indicated as low (L), medium (M) or high (H). Neither high resistance nor high capacitance cables are suitable for long runs.

Analogue interconnects

Product	£Price	terconnects		Stran Daxial	Solid ded	12.4	T	ISSUE NO.
Audio Note AN-A	29.50 A	A well-rounded and cuddly sound from a high-ish resistance interconnect. Lacks a sense of scale and dynamics	•		•		•	108
Audioquest Ruby Hyperlitz	70 🗛	A crisp, fast and articulate-sounding cable if one that's a little too pointed for our listeners	•			•	•	108
Audioquest Lapis Hyperlitz	329 E	An expensive cable that justifies its tag with a beautifully poised sound - natural, relaxed and very compatible.	•			•		• 108
Audio Technica AT620	28 A	Plenty of cable for the money but its performance is distinctly lightweight, lacking depth and subtlety		•	•		•	108
Chord Chameleon	59 A	An unpredictable cable with an 'anomalous treble' that can sound harsh one moment and oddly recessed the next!		•			•	108
Chord Solid	115 🗸	What looks like a military RF cable actually provides a slightly forward but incisive and intimately detailed performance		•		•	•	• 108
Cogan-Hall Intermezzo Ref	185 E	A user-hostile cable with a tight, convincing bass allied to a very relaxed and involving mid/treble.	•			•	•	108
Cogan Hall Intermezzo E-M	320 G	This bigger, thicker and thoroughly unwieldy 3-core version of the Intermezzo Reference actually sounds a little coarser	•					108
DNM Interconnect	40 🗸	Fresh, transparent and packed full of detail, this slither of a cable scored a direct hit with our listeners				•	•	108
Goldring 'Studio Quality'	20 A	A bog-standard OFC coaxial cable that might otherwise be given away with a new amp or CD player. Cheap but nothing special.		•	•		•	108
Isoda Electric HA-08-PSR	199 G	This odd-ball cables utilises a mix of copper, brass and aluminium strands to achieve a very distinct sound	•				•	108
Madrigal HPC	215 🗸	A very unusual cable design with a business-like approach to music-making that barely conceals its underlying 'fizz'.	•		•		•	108
Magnan Type Vi	595 A	With a series resistance some 500-1000 times higher than average, the furry sound of the Type Vi will alter from system to system.		•	•		•	108
Monster Interlink 500	60 G	Plenty of hype to keep the marketing bandwagon rolling plus a lively and lucid balance to cheer up the enthusiast	•		•		•	108
Moth Ley Line Black	100 G	The cheapest of Moth's Ley Line series uses just two twisted conductors to achieve a very solid and confident sound.	•			•	•	• 108
Moth Ley Line Grey	200 G	The four twisted conductors of this cable actually mark a downturn in audio quality	•				•	• 108
Panasonic RP-CA910	50 G	This conventional coax employs plenty of hi-tech materials which encourage an even-handed balance. A good upgrade.		•	•			108
Silver Sounds 12/2 and 12/3	99/150 V	Both these cables share a similarly open, transparent and dynamic sound though the latter is arguably the better integrated					•	• 108
Sonic Link Yellow	60 A	An interesting non-copper cable with an up-front sounded described as 'heavy-handed and pushy'.		•		•		108
Sonic Link Violet	99 G	Another nickel-based cable but with a very much better-balanced sound than Sonic Link Yellow	•		•			108
Straight Wire Laser Link	50 A.	Thanks to its high parallel capacitance this interconnect helps remove ultrasonic noise. Unfortunately it still sounds very odd!	•				•	108
Straight Wire LSI-Encore	90 A	A solid-sounding cable with a strong mid and bass but a disappointingly sat-upon treble	•				•	108
Tara Labs Prism	36 G	6N-purity copper, aero-grade insulation and spaced solid-core conductors all add-up to a slightly bright but frisky sound	•			•		108
Tara Labs Quantum CD	63 G	Praised by our panel for its lack of obvious vices, Quantum CD encourages a sweet and positive sound.	•			•	•	108
Tara Labs Quantum II	99 G	Bass power and extension is the key to the sound of this unusual and hi-tech cable	•			•	•	108
van den Hul The Source	70 G	Accurately reflects the life of the music without detail forcibly from the speakers		•			•	• 108
van den Hul MC D-102mklll S	80 A	A rather coloured sound thanks to its full and resonant bass but spoiled overall by a dirty treble						• 108



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THE DIRECTORY

Digital interconnects

Product	£Price		Comments		V.	X	V	No.	
Audioquest Video Z	50	E	The very best available with an expressive sound but generous price to sweeten the pill	Electrical			•		• 108
Audioquest Digital PRO	90	A+	A silver cable with all the drive of Video Z but lacking its clean-cut transparency	Electrical			•		• 108
Audioquest Optilink Z	100	A	Good level of midband detail but frequency extremes lack depth and extension	Optical		•			108
Bandridge AL560	20	P	The disappointingly heavy and muddled sound of this basic fibre thwarts any recommendation	Optical	•				108
Chord Codac	34 .	A	A connection with a stranded inner core and a sound that lacks integration	Electrical			•		• 108
A DPA Digi-link	27.50	VG	Can seem slightly impassive but there's no avoiding its exceptionally detailed sound	Electrical			•		• 108
DPA Opti-link	20	P	Very similar to Bandridge AL560 with an equally naff sound	Optical	•				108
Kimber PSB Digilink	24 .	A-	An analogue interconnect inappropriately pressed into digital service. A visible deterioration in the digital signal results.	Electrical				•	108
Kimber KC-1 Digilink	52	A	This cable adopts a woven construction with the addition of a conductive screen. Music lacks detail and spirit.	Electrical				•	108
Kimber KC-AG Digilink	222	A-	An asymmetric cable using silver conductors that deviates from the 75ohm standard. Not ideal for digital applications.	Electrical				•	- 108
Kimber Opti-Link	70	G	Hardly cheap for what appears to be a bog-standard PMMA fibre, yet it sounds a little brighter and livelier than most.	Optical	•				108
Monster Cable Datalink 100	45	G+	A colourful coaxial interconnect with an equally colourful and up-beat sound. Very compatible.	Electrical			•		• 108
Monster Cable Interlink LS100	45	G	Well constructed stepped-index fibre with polished ends and rugged connectors. Slightly lean, fuzzy but engaging performance	Optical	•				108
Moth Leyline Datalink	140	A-	A thin, coaxial version of Leyline Black with a rather hard and unforgiving character. Too expensive.	Electrical			•		• 108
A QED Digiflex	19	VG	A top performance, low-loss 750hm coax with a very open, almost liquid quality that allows its music to ease naturally across.	Electrical			•		• 108
Sonic Link Brown Digital	35 .	A-	A solid-core, twisted-pair interconnect that deviates from the 75ohm standard and provides an equally unbalanced sound	Electrical				•	108
Straight Wire Silver link	60	G+	A genuine attempt to get things right with a silver-plated, multi-strand coax. Yet it still sounds too dry and mechanical	Electrical			•		• 108
A van den Hul MC Videolink 75	30	VG	An AV-cum-digital cable that comes very close to besting QED's Digiflex. Still some emphasis of vocal sibilants, however	Electrical			•		• 108

Speaker cables

Speaker	<i>c</i> a	hles	Resistance	itance Strand	Solio	Core Con		ISSUE NO.
Product	EPrice	Comments	ance	tance Strand	ded	CORE	DDer Sh	IVer No.
Audio Note AN-B	A CONTRACTOR	A very high capacitance Litz-style cable whose sound may well act as a taming influence in many systems	M	Н				109
Audio Note AN-D	100 A	Supplied in linear, non-polarised lengths that should be twisted into stereo pairs. Sounds rather gritty and forward	L	1				109
Audio Note AN-SP	1270 V		Н	-				• 109
Audioquest F-14	44.50 A-		M	1				109
Audioquest Type 4	75 A-		M	Н				109
Audioquest Midnight Hyperlitz	260 G	Very similar to Type 4 but with a delicate smoothness that contrasts with the brighter sound of cheap cables	1	н				109
Bandridge LC7259 & LC7401	20/30 A	Two very traditional figure-of-eight cables. The thinner version (LC7259) sounds lighter and coarser than LC7401	1	1				109
Bandridge LC8258 & LC8408	30/50 A-	Two versions of the Silverflex series that, sadly, encourage very little sense of poise or decorum in their music	1	1				• 109
Cogan-Hall Intermezzo Full-Rand			1	L				109
DPA IS19	275 G		1	1				• 109
DNM Rainbow	84 A		Н	1				109
Heybrook Heywire	66 A	This well-meaning facsimile of earlier ribbon-style cables ends up sounding lumpy and uneven	Н	1				109
Isoda Electric HA-20	400 A		M	i i				109
Mission Stranded	20 G		1	M				109
Monitor PC KC27/KC34	40/60 A	Two heavyweight multi-strand cables with a thick and chesty (10027) or light and wispy (10034) balance. Take your pick	1	1				• 109
Monster Powerline 3 Plus	75 A -	The archetypal 'old-style Monster Cable' that labours under a soggy bass and untidy treble	1	M				109
Naim NAC A5	44 A -	Described as a 'dinosaur of a cable' by our listening panel, this stiff rod of wire has little application outside of a Naim system	L					109
QED Bi-wire 79-Strand	35 A	Reminiscent of curtain track, this bi-wire version of 79-strand is unfortunately saddled with a 'loud, hard and untidy' balance	1	L				109
Silver Sounds 12/2	300 E	Tonally accurate and exquisitely detailed, this cable opens a very transparent window on the music		н				• 109
Silver Sounds 16/4	200 200		M	н				• 109
Sonic Link Grey	80 G -	A prime choice to be write system's even in this cable does lack the full messe of its sister 12/2 A spaghetti-thin cable composed of silver-plated OF-copper and PTFE insulation. Lacks bass impact and treble 'air'.	Н	M				• 109
Straight Wire Waveguide 1.5	20 G	A spagnetu-trim cable composed of silver-plated of -copper and + in E institution, cacks bass impact and treble an . A conventional multi-stranded cable with a refreshingly up-beat, crisp but slightly lean-sounding balance	M	M				109
Straight Wire Flex-4	50 G		L	Н				109
Tara Labs Quantum III	238 G	An imaginatively-named cable that encourages an equally colourful sound. Described as 'dark and fruity' by our panel!	L	Н				109
van den Hul MC The Clearwater	50 A	Despite its evocative title, the Clearwater turns out to be a disappointingly 'murky sounding' cable	M	1		-		• 109
van den Hul MC The Magnum	265 A	Touted as vdH's most prestigious twinlead speaker cable, the Magnum sounds surprisingly soft and old-fashioned	101	L				• 109
A van den Hul MC The Wind	330 V		L	M				• 109
	330 VC	biowin in nom the containent, your a wind micro up a storm with its rush micro using and bone-ci unching bass:	L	IVI	-			- 109

Non Coaxial 75 S

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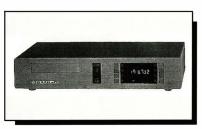
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Bartletts Suggested Systems

The Bartletts Suggested Systems listed below are supplied with the Marantz CD 53, an alternative CD player or Turntable is available, see below for price details. All systems are supplied with 8 metres of 79 strand loudspeaker cable. QED 4mm plugs are available at a cost

(Carriage £12.00 if required)

of £1.00 each. Carriage charge for delivery to an address on the UK mainland is £12.00 per order. All items are sent fully insured. Prices were correct at time of printing but are subject to change without notice. All systems come with a 2 year parts & labour guarantee. *E&OE*.

Call Bartletts for a demonstration

	Celestion 1	Mission 760i Celestion 3 II Mordaunt Short MS 10	Tannoy 603 II Mission 760ise	Mission 761i B&W DM 600i Celestion 5 II Tannoy 605 II Mordaunt Short MS 20	Tannoy 607 II Celestion 7 II Nad 802	Rogers LS 2a2 B&W DM 610i	Mission 762i Cerwin- Vega VS 8 Mission 780 SE	Rogers LS 4a2 Tannoy 609 II
Marantz PM 44 SE	378.95	417.96	433.95	456.95	487.95	503.95	518.95	550.95
Nad 302	355.95	394.95	409.95	433.95	464.95	479.95	495.95	526.95
Nad 304	401.95	440.95	456.95	479.95	511.95	526.95	542.95	573.95
Harman Kardon 6150	378.95	417.95	433.95	456.95	487.95	503.95	518.95	550.95
Harman Kardon 1200	480.95	524.95	542.95	568.95	604.95	617.95	630.95	674.95
Technics SUA 600	378.95	417.95	433.95	456.95	487.95	503.95	518.95	550.95
Pioneer A 300X	401.95	440.95	456.95	479.95	511.95	526.95	542.95	573.95

Options

The following CD players or turntables can be ordered instead of the Marantz CD 53 in the above systems:

CD Players

	CDT layers									
	Denon DCD 595	Deduct	£20.00	Denon DCD 695	Add	Nil	Denon DCD 890	Add	£70.00	
	Marantz CD 52 IISE	Add	£100.00	Marantz CD 63	Add	£50.00	Nad 501	Deduct	£20.00	
	Nad 502	Add	£20.00	Sony CDP 711	Add	£50.00	Sony CDP 911	Add	£100.00	
	Yamaha CDX 470	Add	Nil	Yamaha CDX 570	Add	£45.00	Yamaha CDX 670	Add	£90.00	
	Turntables									
	Dual CS 503-2	Deduct	£20.00	Dual CS 505-4	Add	£30.00	Technics SLBD 22	Deduct	£50.00	
	Thorens TD 280	Add	Nil							
_					_					

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Cassette decks

he bad odour of copyright theft hangs around the compact cassette, but there is no doubt it is the world's most versatile and ubiquitous music storage medium. Buffs may wrinkle their noses, but are happy to use cassette decks to make up tapes for the car or personal.

There is no problem 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.) Lab

performance and sound quality often go hand in hand, and are frequently somewhat dependent upon factory alignment. The mechanical integrity of the mechanism is another crucial factor, that is reflected in the price.

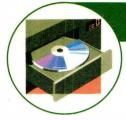
The columns on the right indicate when the facilities shown in the headings are available on a deck. Dolby B and C offer varying degrees of noise reduction and the HX Pro system gives significant treble improvements with ferric (Type I) tapes. Dolby S increases the level of noise reduction with less signal degredation than B or C. Three-head

recorders allow you to listen to a recording as it's being made, a useful qulaity control function. Bias adjustment allows you to fine tune the deck to suit different types of tape when recording. Auto calibration is a an automatic system for setting bias and Dolby levels.

Twin deck offers the option to dub tapes or to play two cassettes simultaneously. Autoreverse is a useful convenience feature, but usually with some mechanical compromise. In the case of twin decks a blob is inserted in this column even if only one transport autoreverses.

Cassette decks

Cassette	e d	e	cks a	DOI DOI	83 44 54 C	Dolby	All Bia Hea	to call	bratio,	Autorev in deck	Issue N	10.
Product	£Price		Comments	V	V	V	V.	Y	V			
Aiwa AD-F410	120	A	Comparable to AD-F500 but cheaper: Good all round performance, well adjusted, useful basic and not so basic features	•	•	•			•			99
Aiwa AD-F810	230	G	First class budget 3-head machine with a dual capstan transport that really works at reducing the 'fudge' factor	•	•	•			•			99
Aiwa AD-WX828	200	G-	Equipment levels strong, and sound is both vivid and presentable, but control system daunting.	•	•	•				• •	• 1	123
Aiwa AD-WX929	230	A	Superbly equipped twin deck that works and works well - remote control	•	٠	•	•			•	-	117
Aiwa XK-S9000	700	G+	Fabulous build, clunky transport and sharp, refined sound quality with Dolby S or B and metal tapes	•	٠	•	•	•	•	•	1	105
Akai DX-57	220	G	Eschews fancy gadgets for a good transport and decent electronics. Sound quality is firm and tidy but avoid Dolby C.	•	٠	•	•	•	•		1	105
Akai GX-95II	440	G+	Sharp, clear and articulate sounding deck, with superb performance extending to frequency extremes	•	•	•	•		•	•		99
Akai GX-R35	220	A	Middling sound quality at best with Dolby B; deteriorates with Dolby C	•	•	•	•		•			99
Akai GX-W45	320	A	Costly but musical high-spec dual deck, doesn't like modern high energy Type IIs and IVs. Good stability and clarity	•	٠	•				•	1	111
Arcam Delta 100	850	E	Superb transport and a ripe, spacious sound. The Dolby S installation more successful than most. Some replay incompatibility	•	•		•	•		•	1	111
Denon DRM-710	260	A	Although this is a fair performing model, the design has lost some of the competitive edge of its predecessor, the DRM-700.	•	٠	•			•		1	105
Denon DRS-610	200	G	Unique loading mechanism provides stability, and the deck has a crisp, clean quality. Occasionally anaemic bass.	•	•	•			•		1	111
Denon DRS-810	300	G-	Drawer loading deck, carefully designed, yet lacking in subtlety on audition.	•	•	•		•	•		1	127
Goodmans Delta 700W	100	P	Compact and ultra-basic twin deck which is rough and bass shy, with less than stable tape path.	•						•	• 1	123
Harman Kardon DC5500	600	A	Workmanlike sound quality offset by high price and inexplicable shortcomings like 'forgetful' Dolby switching and no timer support.	•	٠	•				•	• 1	117
Harman/Kardon TD4400	350	G	Simple features plus excellent engineering make this a model of integrity.	•	•	•			•			127
Harman Kardon TD4600	700	A	Original Dolby S deck has improved over the years and now sounds very acceptable. A strong, solid sounding deck - but expensive.	•	٠	•	•				1	117
JVC TD-R452	180	A-	Tidy, stable but ultimately rather soul-less experience. Auto-reverse is useful though.	•	•	•					• 1	117
JVC TD-X352	150	A-	Disappointingly amorphous sound despite decent measured results.	•	•	•			•			117
JVC TD-V562	200	G+	Ultra-sophisticated transport at a silly price; sound quality is stable but slightly opaque.	•	•	•		•	•		1	123
Kenwood KX-3050	170	A	Acceptable sound quality marred only by a loss of midband analysis and slightly edgy treble.	•	•	•					1	117
Kenwood KX-5530	220	A-	Neat looking, well equipped deck, adequately engineered but somewhat lacking musically. Worth considering if auto-reverse is a must	•	•	•			•		• 1	105
Kenwood KX-7050S	400	VG	Very well equipped and fine sounding deck, includes well implemented Dolby S	•	•	•	•	•	•	•	1	127
NAD 602	200	G	Minimalist deck for the audiophile market. Unfortunately engineering is minimalist too	•	•	•						127
Nakamichi DR-3	400	VG	Refined, exquisitely detailed and solid sounding 'budget' Nakamichi 2-header.	•	•				•			123
Nakamichi DR-2	600	VG	Accomplished design with simple features (manual tape select!) but superb sound/serviceability.	•	•			•	•			127
Nakamichi DR-1	850	VG	Typically idiosyncratic Nakamichi with manual everything, Good azimuth adjustment and dynamic, authoritative sound.	•	•							117
Philips DCC600	500	A+	Simplified circuit and mechanism, but the Philips badly needs a D/A converter transplant	•	•						• 1	
Pioneer CT-S420	250		Poor replay compatibility, but otherwise satisfactory, if slightly uneven performer.	•	•	•		•		•		127
Pioneer CT-S520	280	G	Decent if slightly coloured middle ranker with FLEX to revitalise old or soggy sounding tapes.	•	•	•		•		•		123
Sansui D-790WR	170		Modestly poor sounding but simple to use twin deck. Type II tapes show large response errors.	•						•		123
Sansui D-X117WR	220		Bass is thin and coloured, and the sound lacks dynamics, pitch accuracy and overall stability - the sound is neither stable nor solid.	•	•	•					• 1	
 Sherwood DD-3010C	120		Good range of features, let down by poor transport and iffy electronics.	•	•	•				•	• 1	
Sony (WMD6C) Pro Walkman	. 290		One of the finest sounding cassette decks on the market today. A mandatory Best Buy, which also fits in your pocket	•	•							60
Sony TC-K611S	300		Cheapest Dolby S three header yet, yet slightly let down by lack of attention to detail	•	•	•	•	•	•			127
Teac R-9000	500		Much better than average auto-reverse deck, well worth considering. Nicely engineered too.	•	•	•	•	•		•	• 1	
Teac V-8000S	700		Superb stability and real subtlety, this must be the best TEAC yet. The only disappointment was the Dolby C	•	•	•		•		•		105
Teac V-7010	800		Heavyweight (in every sense) design, immaculately crafted, impeccable sound, but not for grannie.	•	•	•		•	•			127
Technics RS-BX646	230		Unusually well built and non-microphonic deck with sophisticated facilities and lucid midband.	•	•	•		•	•	• •		127
Yamaha KX-650	260	G	Fine audio manners, especially in the midband and treble, mark this high class deck out from the crowd	•	•	•		•	•			99



CD players

N ow over a decade old, this all digital music source is well established despite high disc prices and the opposition of some hi-fi enthusiasts. Compact Disc's strengths over conventional vinyl are complete freedom from surface noise, ease of use, and more robust software.

However, many vinyl enthusiasts still find CDs sound less involving than top quality vinyl. But, with the dominance of CD in the high street, even vinyl die-hards need a CD player today. The columns on the right indicate when the facilities shown in the headings are available on a CD player: DAC type indicates the type of convertor chip used in each player, 16, 18 and 20-bit are multi-bit types, all the others are bitstream variants. In much the same way that an amp's output is not indicative of its sound quality, the chip used in a DAC isn't the only determining factor in a CD player's sound, but it is an important one. Remote control is not yet universal, and we have included a tick box, more to show which machines don't have

one than which do. The existence of electrical and/or optical digital outputs is important for future upgrading with an outboard DAC, as a rule electrical outputs are the most desirable. Phase inversion in the digital domain is rare on one box players but can make quite a big difference if you've got golden ears. Headphone sockets are useful but beware of those without volume controls. Track entry keypads are those with calculator style buttons which makes track access much quicker.



CD players

					No	.07	41	47	11 .0	7 40	9.0
	Product	£Pric	e	Comments	Y		V	X			
	Aiwa XC-300	150) <mark>A+</mark>	Cheap, cheerful and gratifyingly free of digital 'nasties', well-equipped but safe rather than thrilling on the sonic front.	Toshiba BS	•		•		•	107
	Aiwa XC-750	200	A	A refined version of the XC-700, sadly it has lost the magic of the original	PDM Bitstrm	•		•		•	119
	AMC CD6	349	9 G +	Based on the same 1-Bit circuit as Rotel's RCD-965BX but with a raunchier, beefier but less transparent sound.	PDM Bitstrm	•	•	•			• 124
	Arcam Delta 270	800) G+	The dry but tightly-focussed and supremely detailed sound of this player will either beguile or aggravate, depending on taste!	Hybrid	•	•				• 124
	Aura CD-50	400) <mark>G</mark> -	Based on an older Philips board with new CDM9 transport, this is a slim player with an innocuous sound	SAA7321	•	•				• 119
	AVI S2000MC	999	G+	A stylish, midi-width player with an exceptionally refined and comfortable sound. Lacks passion	20-bit	•	•				119
	Denon DCD-595	180	G	Lacks the 695's pitch control but provides a smoother sound by way of recompense	18-bit	•			•	•. •	• 128
	Denon DCD-695	200	G	A rough diamond with a raunchy sound to match. Pitch feature will be of interest to budding musicians.	18-bit	•	•		•	• •	• 124
	Denon DCD-890	270	G -	Similar to the DCD-1290 in its execution, sounds lively and powerful but lacks subtlety.	18-bit	•	•	•		• •	• 112
	Denon DCD-1290	330	G -	Looks the business but sound is a real five-minute wonder. Its compelling fizz lasts about as long as a firework.	18-bit	•	•	•		• •	• 107
	Dual CD1080RC	220) A -	Strange-sounding player with a top-heavy treble that does little to redress its lack of vibrancy and emotion	MASH/PWM	•	•				• 107
	Genexxa CD-4900	129	A	A little thin on detail, build quality and dynamics but thin on price too!	MASH/PWM	•				1	• 124
	Goodmans Delta 700	110) A+	A 16-bit alternative to the CD650II that furnishes a colourful and animated sound	16-bit	•					128
	Grundig Fine Arts CD2	- 190) A -	A stylish-looking player with a disappointingly vague approach to music-making	SAA7350		•			•	128
<u> </u>	Harman Kardon HK7725	800	VG	This flagship implementation of RLS sounds impressively bold and dynamic - a genuine rock 'n roller!	18-bit RLS	•	•	•	•	• •	• 124
	Harman Kardon TL8600	700	G +	A refined and more flexible version of the TL8500 multiplayer with a significantly more expressive sound	MASH/PWM	•			•	• •	• 132
	JVC XL-Z1050	500) A	Technically advanced and luxuriously equipped, this player remains rather bland and unsatisfying on audition	PEM Bitstrm	•	•	•		• •	• 119
	Kenwood DP-3050	200	A+	A slightly over-cooked version of the DP-3040 with a highly civilised but uninteresting sound.	NPC Bitstrm	•		•	•	• •	• 124
	Kenwood DP-7050	350	A	Kenwood's first sowing of Philips' Bit Stream technology has fallen on stony ground judging by its dry and awkward sound	PDM Bitstrm	•		•		• •	• 119
	Linn Karik	1497	VG	Based on Linn's original CD transport, this player sounds dry but very positive, detailed and engrossing	Crystal BS	•	•			•	• 119
	Marantz CD-52II	230	G	Launched to usurp the position of its own CD-52SE, the '52II is less colourful but equally appealing	PDM Bitstrm	•	•			• •	• 119
	Marantz CD-52IISE	300	G	A new mains transformer plus the full complement of internal mods has recaptured the frothy if startling sound of the original '52	PDM Bitstrm	•	•		1	• •	• 119
	Marantz CD-72SE	600	G+	A recommendation just eluded the grasp of this superbly built player thanks to its very polished but restrained sound.	bitstream	•	•			• •	• 112
	Mission DAD5	300	A+	Similar to Philips' 600-series: lively, plenty of space and full of 'bounce' but a little too eager to impress in the short term	bitstream	•	•			•	• 107
	Musical Fidelity CDT	5019	G+	Oddball player with a cheap top-loading transport and appaling digital gubbins yet saved by the euphony of its valves!	hybrid						112
	NAD 502	220	G	This updated version of the 5425 has traded the spontaneity of its forebear for a more precise but mechanical style of music	MASH/PWM	•	•				• 119
	Nakamichi CD-4	380	A-	This looks new enough but sounds little better than the older CD Player 4 upon which it is firmly based.	18-bit	•	•			• •	• 124
	Nakamichi MB-4s	300	G	Entry-level MusicBank player that sounds like it's come from a studio control room: plenty of dynamics and detail but little stereo depth	16-bit	•				•	• 132
	Onkyo DX-C110	350	G-	A big and beefy 6-disc carousel that strides confidently through rock and pussyfoots around gentle ballads	Bitstream	٠				•	• 132
	Philips CD732	140	A+	A cross between Philips CD690 and CD920 is no more technically accomplished but encourages a very lively and entertaining sound	SAA7341	٠	•			• •	• 128
	Philips CD920	160	A+	A new budget player with an appalling technical record but a surprisingly clean if understated sound	SAA7341	٠	•			• •	• 119
	Philips CD930	200	G-	Featuring digital circuitry similar to Marantz's players but a sound that's a little too ripe and soft.	PDM Bitstrm	•	•			• •	• 112
	Philips CD950	350	G+	Philips' top 900-series player is the first to employ its advanced DAC7 chipset. Sounds very crisp, clear and confident.	DAC7	•	•				• 112
	Pioneer PD-102	150		Smooth and littered with plenty of underlying detail, this budget player remains distinctly unadventurous	PFM Bitstrm	•			3		• 128
	Pioneer PD-S802	350		Once again Pioneer's LLC topology only served to split and confuse the listening panel. It's good, but quirky!	PFM BS	•	•	•			• 124
	Pioneer PD-M701		G+	A 6-disc multichanger from the originators of the breed. A little untidy perhaps, but still sounds fresh, dynamic and exciting	PDM Bitstrm	•					• 117
	Pioneer PD-M901	450		Another 6-disc multichanger based on the PD-M701 but with the addition of various 'Sound Field' options. Listening is hard work	PDM Bitstrm	•					• 117
	Pioneer PD-S901		G+	The very refined but confident, crisp and powerful sound of the '901 snatches Pioneer's LLC concept from the jaws of defeat	PFM Bitstrm	•	•	•			• 119
	Quad 67	790		Deceptively sleek in appearance but with a powerful, fluid and captivating sound reminiscent of Meridian's 206.	Crystal BS	•	•				• 124
	Rotel RCD-945AX	230		Based on the same CD-player-on-a-chip as Philips CD690 but with improved execution and build.	SAA7341	•	•				• 124
	Rotel RCD-965BX	300		An exceptionally refined bitstreamer: transparent, exquisitely detailed and powerfully emotive. A landmark player	PDM Bitstrm	•	•				• 100
	Sansui CD-X317	250		Not in the same class as older CD-X311mkll. Same technology but the sound is neither as responsive or engaging	MASH/PWM		•				• 107
	Sansui CD-X617	350		This 'double-DAC' version of the CD-X317 is more impressive, sounding light and tizzy with pop but dull with classical CD's	MASH/PWM	•	2	_			• 112
	Sansui CD-Alpha 717DR	-		A beautifully constructed if rather dated flagship player with an equally sedate and unadventurous sound.	MASH/PWM	•	•	•	•		• 124
	Sherwood CD-3020R	130		Although this budget wonder has little respect for musical convention, what emerges is still remarkably entertaining	NPC bitstrm	•					• 119
	Sherwood CD-5010R			A warm, detailed and enjoyable performance from a solidly built but affordable package.	PDM Bitstrm	•					• 124
	Sherwood CDC-5030R		A-	The replacement for the successful 5-disc CDC-5010R sounds messy, disjointed and generally unpleasant. A great disappointment	Bitstream	•		-			• 132
	Sony CDP-X303ES	550	A+	A disappointingly lean and inconsistent result from a player that puts the 'high' in technology if not fidelity	PLM Bitstrm	•	•	•	•	• •	• 124



THE DIRECTORY

CD players continued



Product	EPrice	Comments			1.00				
Sony CDP-C345	230	F Sony's Hybrid Pulse DAC sounds great in the CDP-311 but in this 5-disc carousel it provides a mere skeleton of a performance	PLM Bitstrm	•			•	•	132
Sugden SDT-1	850 🖌	Bearing in mind Sugden's SDA-1 converter lies at the heart of this player, its unpredictable performance is disappointing	16-bit	•	•				119
Teac CD-P3500	200 🖌	A well-meaning attempt to pare-down the CD-P4500 results in a similar looking player with a thoroughly uninspiring sound	PDM Bitstrm	•	•		•	•	112
A Teac CD-P4500	280	TEAC's first genuine 1-bit player its sound described as having a certain 'organic warmth', very composed and easy-going.	PDM Bitstrm	•	•		•	•	107
Teac VRDS-10	770 🖌	A basic analogue stage compromises the potential of TEAC's superb engineering and digital electronics. Lacks bass energy	DAC7	•	•	•		•	119
A Technics SL-PG340A	150 🖌	No more or less impressive than the old SL-PG320A, this new version is attractive enough if slightly restrained	MASH/PWM				•	•	128
A Technics SL-PG440A	170 (This mix of the SL-PG520 and '420 fails to benefit from the strengths of either and only just achieves recommendation.	MASH/PWM	•			• •	•	124
A Technics SL-PG520A	180 🤇	A cracking player. Superb clarity and dynamics, thrilling but musically involving too	MASH/PWM	•		•	•	•	107
A A Technics SL-PS620A	200	A costlier, tarted-up version of the SL-PG520A that loses very little in the way of clarity, sparkle or in compelling dynamics	MASH/PWM	•		•	•	•	112
Woodside WS2	1095 🤇	Responded well to our jazz and classical selection but sounding bright and grainy with the pop CD's	16-bit	•	•				95
Yamaha CDX-670	290	Yamaha has retained the CDX-660 casework but cut costs with a new multi-task IC that's not entirely de-bugged.	PDM Bitstrm	•	•	1	• •	•	124



CD transports and DACs

CD player can be split into two basic \wedge 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 convertor or DAC. Although most players are contained in a single box, expensive players are usually two box affairs.

Although many of these units will be purchased as matching pairs, a DAC can also be used to upgrade an existing CD player. Thus an early machine with a satisfactory transport can be rejuvenated by adding an outboard DAC.

The columns on the right indicate the facilities available on a transport or DAC. Remote control is self explanatory. The existence of electrical and/or optical digital in and outputs is pretty fundamental to transports and DACs, as a rule electrical outputs are the most desirable. Class 1 transports are those with an output whose crystal clock accuracy that's

better than ± 50ppm (parts per million), certain DACs won't lock onto transports with a lower clock accuracy. DAC type shows the specific convertor chip employed. In much the same way that an amp's output is not indicative of its sound quality, the chip used in a DAC isn't the only determining factor in a CD player's sound. Phase inversion in the digital domain can make quite a big difference if you've got a high resolution system and golden ears.



CD trans	spa) r	ts	Eleci Remote co	trical digit	Optical digi	tal output	Class 1	Ue No.
Product	£Price	9	Comments						334
🔺 Arcam Delta 250	750	G+	Arcam's best effort yet is a new design based on the Philips CDM9 transport; specification includes Sync Lock facility.		•		•	•	130
A Counterpoint DA-11E	1495	VG	By rights this transport should be highly incompatible yet it delivers a remarkably vivid and natural sound.		•	•	•	•	130
🔺 Meridian 200	895	G+	Broadly compatible and offering a light, fresh and very bubbly sound that is both natural, engaging and unfatiguing		•	•	•	•	96
TEAC P-2	3500	G	Beautifully styled and constructed but sound is bleached and generally less inspiring than that of the P-10		•	•	•	•	96
TEAC P-2s	4300	A+	The latest version of Teac's luxury P-2 transport sounds as over-engineered as it looks.		•	•	•	•	130
🔺 Theta Data Basic	1990	G+	A mild-mannered transport capable of marvellous results with lively-sounding outboard converters.		•	•	•	•	130
Wadia 8	3195	G	Includes a budget version of Teac's VRDS mechanism in a fancy case; just too expensive for the performance on offer.		•		•	•	130

DACs

			<i>E</i> 0.				
DACs			Electrical dig ou	^{tical} digital o		Class 1 T	e No.
			ntrol	Put	"Put	1357	No.
Product	£Price	Comments		N. P.	V		
Arcam Black Box 50	450 V	A very measured and sophisticated sound from a DAC that leaves plenty in reserve to accommodate future upgrades.	Hybrid	•	•	•	127
Audio Alchemy DAC-in-the-Box	200 G	Despite its slightly veiled sound this giveaway DAC may still rescue the oldest of players from obsolescence.	18-bit	•	•		127
Audio Alchemy DDE v1.0	420 V	A very sweet and seductive sounding unit that gives good results with a wide range of CD players/transports	Bitstream	•	•	•	101
Audiolab 8000DACmkll	750 G	Just as smooth and refined as its predecessor yet, sadly, still manages to obscure the passion or fire of music.	DAC7	•	•	•	127
Audio Note DAC 1	600 G	An oddball DAC with manual de-emphasis switching. Needs a high preamp input impedance if bass is not to suffer.	20-bit	•	•		127
Audio Synthesis DSM-M	1234 G	A weighty but neutral and highly calculated performer, best suited to transports like the P-10, despite Sync Lock facility.	20-bit	•	•		.113
Beard DAP-1	1250 A	Clad in a wooden case this marriage of digital technology and valves has hit the rocks, a disappointingly flat sound	16-bit	•	•	•	113
DPA Digital Little Bit II	400 G	A new on-board mains filter promotes a smoother and richer sound at the expense of some life and vitality.	SAA7350	•	•		127
🔺 DPA Digital Bigger Bit	695 G	With either P-10 or Meridian 200 transports it delivers a very taut and dynamic sound, bathed in an open acoustic	DAC7	•	•		103
A Meridian 563	695 G	Warmer but no less detailed than the earlier 200-series, the 563 really comes into its own with top-flight CD transports.	Crystal	•	•	•	127
Meridian 606 DAC7	1350 G	By refining the 203's sound further Meridian have also tempered its vibrancy and 'life', Fickle with other transports	DAC7	•	•	•	101
Micromega Duo BS2	600 G	Has a tendency to sound light, airy and 'fast' but it can also become a little hard or - fatiguing with some digital outputs	SAA7321	•	•	•	101
Micromega Microdac	300 A	Described as a modest but entertaining performer, achieving its sweetest balance with Arcam's D170.3 transport.	SAA7321	•	•		113
A Mission DAC5	300 G	Another modest DAC but one capable of a lean but clean and detailed sound that's typical of the DAC7 breed.	DAC7	•		•	113
A Musical Fidelity Tubalog	499 G	The animated character of the Tubalog ensures it's a great upgrade on budget CD players.	18-bit	•			127
A A QED Digit	139 G	Bearing in mind its expressive but very forgiving performance the Digit is almost embarrassingly cheap	PDM Bitstrm	•			113
Select Systems Dacula	400 G	The overly warm and heavy bass of this DAC is quite atypical of the Crystal Bit Stream DAC.	Crystal	•			127
A Sugden SDA-1	749 G	A pleasant surprise from the fuddy-duddies of audio, judging by its 'masses of high resolution detail and tremendous dynamics'	TDA1541	•			113
Woodside DAC1	909 G	Fine but slightly dated and costly package in performance terms - but flexible, musical and t well built	16-bit	•	•		87
Woodside DAC2	509 G	Offering a sharp and dynamic sound, all the more captivating for its lack of graininess and 'tizz'. A reliable upgrade	16-bit	•			101

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SUA 600K	
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SL 1200	£POA
SL DD33	£POA
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RS BX747K	
RS BX646K	
RS BX404K	
RS TR777K	
RS TR515K	

RS TR474K	£POA
RS TR373K	£POA

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Transport/DAC combos

			THE DIRECTORY	Electrical optil		Ho	Tra		Lefe	
Transpor	rt/		DAC combos	Remote cu	al digital out	ariable out	thone outp	ntry ke	ISSUE NO	10
Product	£Price		Comments	Vela	V		To	VA		7
Arcam Delta 250/Black Box 50	1200	VG	A very sophisticated combination that sounds silky-smooth without appearing soft or sugar-coated. A bargain two-box player.	Hybrid	•	•	•		• 13	33
Audio Alchemy DDS/DTI/XDP/P5	2 2047	A+	A multi-box combination with a Bit Stream DAC that is fundamentally more inspiring than its partnering transport.	DAC7	•	•		•	• 12	20
A Cyrus Discmaster/Dacmaster	1900	G+	A powerful-sounding and perhaps slightly heavy-handed combination that cuts right to the heart of its music.	20-bit		•			• 13	33
DPA Digital T-I/PDM2mkll	3245	G	An ingenious combination that includes a clock-feed from the DAC to CD transport. Capable of astonishing results	DAC7	•	•	•		• 12	20
DPA Digital T1/PDM 256	3890	G	A highly advanced duet with adjustable dither facility. Sadly its different settings only usher-in different compromises.	Bit Stream	•	•	•		• 13	33
A EAD T-1000/DSP-1000	2195	VG	A two-box player based on Pioneer's Stable Platter CD transport. Its music always sounds fast, furious and fascinating.	20-bit	•	•	•		• 12	20
Linn Karik/Numerik	2495	G+	Partnering Linn's Numerik DAC with its Karik CD player (as transport) provides a dry, dynamic but also slightly dirty sound.	20-bit		•			• 12	20
Meridian 200/263	1390	G	Now updated with Crystal Bit Stream technology, this popular duet has unfortunately lost much of the charm and poise of the original.	Bit Stream		•			• 12	20
Meridian 500/563	1670	A+	Combined with its own 500 transport, the recommended 563 sounds disapointingly thin, brash and uncomfortable.	Crystal	•	•	•		• 10	33
A Meridian 602/606	3100	VG	Meridian's top-of-the-range two-box player looks and sounds both distinctiue and elegant, the perfect partner for a cultured system!	DAC7	•	•	•	•	• 12	20
A Monarchy Audio DT-40A/M-33	3090	VG	An intriguing combination that provides a beefy and enthusiastic performance via its balanced AES/EBU connection.	20-bit	•	•		•	• 13	33
Proceed PDT3/PDP3	5214	G+	The third in a series of unusual transport/DAC combinations and a pairing that retains a powerful, confident and rugged sound	20-bit	•	•			• 12	20
A PS Audio Lambda/Ultralink Two	4900	VG	In direct contrast with its appearance, this duet positively sparkles with colour and resonant detail.	20-bit	•	•	•		• 13	33
A Teac P-700/D-700	1500	VG	They may lack the resolution of high-end colleagues but still sound warm, bubbly and perpetually entertaining.	20-bit	•	•	•		• 12	20
Teac P-2s/D-2	6000	A-	Teac's VRDS statement looks a million dollars but sounds rather thin and uninvolving. A great disappointment.	18-bit	•	•	•	•	• 10	33
Theta Data Basic/Cobalt 307	2696	G+	A cautious and slightly over-refined combination that fails to make the best of either component.	Hybrid		•	•		• 10	33



DAT players

AT, or digital audio tape, has been on the market for quite some time now but has never really 'made it' as a consumer medium, probably due to the fact that very little prerecorded software has been made available. In the last year or so it has began to carve itself

a niche at the top end of the market replacing reel

to reel tape recorders as the audiophile's tape based medium.

The DAT standard specifies a 48kHz sampling rate, which is higher than CD, so direct copying in the digital domain is only possible on those machines with dual sampling frequencies, ie 48kHz and 44.1kHz. Some machines also record at 32kHz

to give a longer recording time for a given length of tape, this is shown in the LP mode column.

The optical and electrical in/outputs in the column headings are for digital signals, analogue in/outputs are universal. The AES/EBU and S/PDIF socketry is for connection to professional components and typically DAT machines with this

DAT players

DAT pla	yeı	rs		Rel	note con	Dotical in ntrol	At Citrical II	SEBU IN	SPDIF III	ISSU	e No.
Product	£Price	e	Comments		7	7	7	T.	T	7	
JVC XD-Z1010TN	900	A+	Ambitious but ultimately disappointing deck with an opaque musical delivery and more features than you can shake a stick at		•	•	•	•			111
Panasonic SV-3700	1111	A	Slick, powerfully equipped, this pro DAT has a clear, quick and colourful sound somewhat lacking in weight and substance			•			•	•	111
Tascam DA-30	1199	A+	Interesting pro DAT deck with solid, tangible sound quality which is nevertheless lacking in analysis			•					111



Headphones

here are a variety of different approaches to headphone design. Amongst the more expensive models, electrostatic drivers are used in open-backed phones. The majority of these come with some form of transformer which usually takes the signal from the speaker terminals on the amplifier, but some can run from a pair of tape out sockets

The more down to earth (see affordable) models feature dynamic, or moving coil, drivers in circular open or closed backed designs. The advantage of open backs seems to be a correspondingly open sound, but one can also of course hear external noises. Closed-back designs are useful in situations where it is necessary to block out background noise, but they aren't

generally as good sonically.

Another means of distinguishing different types is the way they sit on your head. There are three styles: circumaural models enclose the ear and rest on the side of the head; supra-aural designs feature a flat pad which presses on the outer ear (pinna); and intra-aurals rest inside the ear itself, and are popular with personal stereos.

Headphones

Headph	one	S	Type Open	Closed ba	Dynam, ck	lectrostal	ISSUE NO.
Product	£Price	Comments	V			T	V
AKG K44	42 A	Good quality personal oriented phone, could have a better sense of space but is musically quite communicative	Supra-aural	•		•	99
AKG K70	30 A	Cossetting on the ears, but not on the brain, thanks to coarse, shut-in sound.	Supra-aural	•		•	133
AKG K135	46 A	The K135s don't live up to the usual AKG standards, though they do have the ability to reproduce rhythm well	Supra-aural	•		•	63
AKG K240 Monitor	82 G	Something of a classic, these AKGs are very user friendly in all respects; sonically on the warm side of neutral	Circumaural	•		•	63
AKG K280 Parabolic	117 G-	A very revealing and unusual twin driver design that uses the same principle as a satellite dish to beam sound into the ear	Circumaural	•			63
🔺 AKG K340	191 E	Heavyweight cans in most respects, the K340 with its electrostatic tweeter is a very revealing headphone	Circumaural				• 75
🔺 AKG K400	118 VG	Comfortable over long sessions. Sound is exquisitely detailed, dynamic and uncoloured	Supra-aural	•			121
🔺 AKG K500	138 G +	Open and clear, they reproduced music with impressive definition, balance is on the light side but transparency is high	Circumaural	•		•	111
AKG K1000	646 E	One of the best dynamics on the market, hooks directly to speaker outputs and makes much of the competition sound lame	Extra-aural	•			• 99



Don't trip up on your speaker cable!

When you invest in good quality hi-fi equipment, why skimp on the cable?

Especially now that Ortofon can offer 3 types of topquality cable for under £10.

Each cable is made up of very fine core copper strands rated at 6-Nines (that's a copper purity of 99.9999% – it doesn't come much better), is flat and flexible for easy installation and features a 'tack-rack' for panel-pin fixing.

Cable Type	Description
SPK 100	Twin-core white cable, each core with 130 copper strands (total 260 strands).
SPK 200	Triple-core grey cable for bi-wiring with twin-core treble (260 strands) and 3-core bass (390 strands).
SPK 300	7-core blue cable having 13 strands per core (each strand laminated). Requires soldering.

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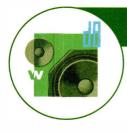


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Headphones continued



	Product	£Price		Comments	V	T	7	V	Y	N.
	Audio-Technica ATH-M2a	28	A	No bass, little treble and acceptable midband from low-weight, comfiortable model	Supra-aural		•	•		133
	Audio-Technica ATH-910	90	G	The closed-back 910s are an improvement on the 909s with a nice rhythmic quality rarely found with headphones	Circumaural			•		55
	Audio-Technica ATH-9000	246	G	Electrets which connect to the amps speaker outputs, it sounds a little too smooth but would suit aggressive amps	Circumaural	•				111
	Beyer DT311	45	A+	Uncharacteriustically tight, unrefined soud quality from otherwise well engineered 'phone	Supra-aural	•		•		133
	Beyer DT411	59	G	A reasonable but not very thrilling headphone that doesn't really offer enough at the price	Supra-aural	•		•		111
	Beyer DT911	199	VG	Probably too revealing for many headphone amps these are very subtle and fine if expensive cans	Circumaural	•		•		111
	Beyer DT990	119	VG	A significant pair of dynamic headphones; they have a smooth and yet revealing neutral sound that is hard to criticise	Circumaural	•		•		55
	Jecklin Float Electrostatic	399	E	These electrostatics have an openness of sound rarely found in the breed, with good dynamic range to boot	Circumaural	•			•	55
	Jecklin Float Model One	75	G+	Whilst very unusual in appearance, the Floats give remarkable sound quality and openness at a reasonable price	Circumaural	•		•		55
	Jecklin Float Model Two	99	G+	Helmet shaped and pretty unflattering but open sounding and comfortable in the long term. te lack of adjustment	Circumaural	•		•		63
	JVC HA-D690	40	A	Competent but rather undistinctive cans, a bit middle of the road and well suited to aggressive sources	Supra-aural		•	•		111
	JVC HA-D910	65	A	Broadly acceptable if unexciting design with low level losses and some colourations	Circumaural		•	•		121
	Kenwood KH-1000	20	A-	First step up from a true mini: a near miniature which is cheap, comfortable and inoffensive	Supra-aural	•		•		121
	Koss TD/60	30	A-	AM radio like bandwidth limitations and colourations, and rather flaky build	Supra-aural		•	•		133
	Maxell HP-3000	30	P	Solid, smoothn sounding but congested and undynamic. Includes in-lead controls.	Supra-aural		•	•		133
	Pioneer SE-400D	37	G-	Acceptable if unexciting all-rounder, with good long-term comfort levels.	Supra-aural		•	•		133
	Ross RCH-300CD	20	P	In-lead controls are the highlights of this shoddy, sometimes agressive sounding design.	Supra-aural		•	•		133
	Sennhesier HD320	40	E	Superb value: articulate, accurate and musically effective, but location on ears can be uncertain.	Supra-aural	•		•		133
	Sennheiser HD440 II	35	A+	Still the one by which others at the price are measured, though now slightly leaden sounding, cold treble	Supra-aural	•		•		121
	Sennheiser HD 540II	120	G+	A good but not great headphone that due to its high impedance and efficiency should work well with most sources	Circumaural	•		•		111
	Sennheiser HD560 Ovation II	140	VG	Characteristic slightly heavy sound, but still the benchmark at this price level. High class sound and comfort	Circumaural	٠		•		121
-	Sony MDR-CD1000	170	G+	A fine sounding and comfortable headphone that's likely to work well with most sources	Circumaural		•	•		111
	Sony MDR-CD3000	350	G+	Better than most of the headphone outputs around so hard to make the most of, potentially up there with the electrostatics	Circumaural		•	•		99
	Sony MDR-CD350	30	G	Very impressive, possibly the most open sounding cheap closed back can around, lightweight in balance but transparent	Circumaural		•	•		99
	Sony MDR-CD450	45	G-	Fair acoustic isolation and comfortable curcum-aural construction, moderate sound quality	Circumaural		•	٠		133
	Sony MDR-CD550	60	G+	A very competent headphone, creates a remarkable sense of space for a closed back design and sounds natural to boot	Circumaural		•	• *		99
	Sony MDR-CD750	90	G+	Reasonably comfortable and eminently listenable these Sonys have characteristically good bass power and relaxed hf	Circumaural		•	•		111
	Sony MDR-CD850	100	A+	Very comfortable, and reasonable sound - better than most sealed designs - though hardness intrudes	Circumaural		•	•		121
	Stax Gamma pro/SRD-X pro	678	E	The Gamma pros are like a stethoscope for your hi-fi, revealing subtleties that many loudspeakers fail to resolve	Circumaural	•			•	63
-	Stax Lambda Signature/SRM-T1	1644	E	The Signature when combined with the SRM-T1 valve driver must be the most transparent headphone available	Circumaural	•			•	72
-	Stax SR Gamma	239	G+	The next model down the Stax range from the Lambda, the Gamma is an excellent headphone with little to criticise but the price	Circumaural	•			•	55
	Stax SR Lambda Pro/SRD-7SB	674	G+	An industry reference, frighteningly revealing, bringing across more information than loudspeakers costing twice as much	Circumaural	•			•	55
	Stax SR Lambda Pro/SRM-1	1239		Extracts layers of information that other headphones only hint at. The SRM-1 has more edge than the SRM-T1	Circumaural	•			•	75
	Technics RP-F10	100	A	Another very comfortable sealed model, modest sound isolation and uneven sound favouring bass	Circumaural		•	•		121
	Vivanco SR606	40	G+	Although slightly overblown at times, this model is easy on the aers and essentially enjoyable.	Circumaural	٠		•		133
	Vivanco SR808 Classic	55	G	A new mid price reference from a new and interesting source. Good all round, no obvious shortcomings	Supra-aural	٠		•		121



Loudspeakers

ast item in the hi-fi chain, to some extent the loudspeaker is merely the slave of what has gone before, capable only of reproducing a signal as good as it is fed. Nevertheless the distortions (colorations and stereo effects) introduced by loudspeakers (and rooms) tend to be more immediately obvious than those anywhere else in the chain, so careful choosing according to taste is very important.

The average loudspeaker consists of a smallish

enclosure, much of which may have begun life as part of a tree, plus a couple of drive units hidden 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. Variations on the above formula are specifically identified in the entries. 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 does it go), shown as 'bass from', for the given box size. After that such subtleties as coloration (or lack of it) and dispersion come into the equation.

Careful placement of the loudspeakers within the room is as important as the initial choice of model. See siting columns for guidance. For good stereo they need to be more or less the same distance from nearby walls. Models not ticked as 'floorstanding' will require rigid stands.



Loudspeakers

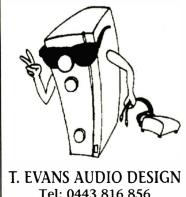
	£Price	1	Comments						
Energy Aegis 1	452	G	Rich and slightly heavy balance doesn't mask fine mid/treble coherence and transparency. Entry level for all-metal drivers	39x21x26	28	84		•	118
Energy AE1	950	G	Amongst the best miniatures around, shows exceptional mid focus and coherence, but is pricey and could be more agile.	29.5x18x25	48	84		•	102
Energy AE3	1650	G+	Solid, authoritative and impressively accurate - if a shade ponderous and slow	63x26.5x37	23	85		•	86
L100	100	A	Loud and lively budget wall-mount is bigger and beefier than most of the competition, if lacking some subtlety and refinement	33.5x24x21.5	30	87	•		94
L105	170	A-	Pretty enough in appearance, sonically the AL105 doesn't really make the grade at the $\pounds150$ asking price	37x24x21	45	87	•		78
L110	220	G-	Compact bookshelf model is a little dry and mid forward, but bass is extended and solid	40x24.5x22.5	28	86		•	102
L120	420	A	Pretty well balanced if slightly mid forward, but sound quality is a little disappointing for the price	63x28x27	30	88		•	• 98
S 200	220	A-	Small and solid as a brick, this micro-miniature has limited bass and bright balance, but sounds agile and communicative	25.5x14.5x15	50	85	•		106
Caliper Signature	3995	G+	Power hungry full range ribbon panels have remarkable transparency and delicacy, loudness and 'grunt' are a bit lacking	122x70x6.5	30	81		•	• 81
elta 2	300	G	Pretty luxury compact sounds a shade forward and coloured but has dynamic and lively bass for its size	37.5x22.5x27.5	40	87		•	94
	Energy AE1 Energy AE3 100 105 110 120 5 200 aliper Signature	Energy AE1 950 Energy AE3 1650 100 100 105 170 110 220 120 420 S 200 220 aliper Signature 3995	Energy AE1 950 G Energy AE3 1650 G+ 100 100 A 105 170 A- 110 220 G- 120 420 A S 200 220 A- aliper Signature 3995 G+	Energy AE3 950 G Amongst the best miniatures around, shows exceptional mid focus and coherence, but is pricey and could be more agile. Energy AE3 1650 G+ Solid, authoritative and impressively accurate – if a shade ponderous and slow 1000 100 A Loud and lively budget wall-mount is bigger and beefier than most of the competition, if lacking some subtlety and refinement 105 170 A- Pretty enough in appearance, sonically the AL105 doesn't really make the grade at the £150 asking price 110 220 G- Compact bookshelf model is a little dry and mid forward, but bass is extended and solid 120 420 A Pretty well balanced if slightly mid forward, but sound quality is a little disappointing for the price S 200 220 A- Small and solid as a brick, this micro-miniature has limited bass and bright balance, but sounds agile and communicative aliper Signature 3995 G+ Power hungry full range ribbon panels have remarkable transparency and delicacy, loudness and 'grunt' are a bit lacking	Energy AE3950GAmongst the best miniatures around, shows exceptional mid focus and coherence, but is pricey and could be more agile.29.5x18x25Energy AE31650G+Solid, authoritative and impressively accurate – if a shade ponderous and slow63x26.5x37100100ALoud and lively budget wall-mount is bigger and beefier than most of the competition, if lacking some subtlety and refinement33.5x24x21.5105170A-Pretty enough in appearance, sonically the AL105 doesn't really make the grade at the £150 asking price37x24x21110220G-Compact bookshelf model is a little dry and mid forward, but bass is extended and solid40x24.5x22.512040Pretty well balanced if slightly mid forward, but sound quality is a little disappointing for the price63x28x2712040Small and solid as a brick, this micro-miniature has limited bass and bright balance, but sounds agile and communicative25.5x14.5x151313995G+Power hungry full range ribbon panels have remarkable transparency and delicacy, loudness and 'grunt' are a bit lacking122x70x6.5	Energy AE3GAmongst the best miniatures around, shows exceptional mid focus and coherence, but is pricey and could be more agile.29.5x18x2548Energy AE3165G+Solid, authoritative and impressively accurate – if a shade ponderous and slow63x26.5x3723100100ALoud and lively budget wall-mount is bigger and beefier than most of the competition, if lacking some subtlety and refinement33.5x24x21.530105170A-Pretty enough in appearance, sonically the AL105 doesn't really make the grade at the £150 asking price37x24x2145110220G-Compact bookshelf model is a little dry and mid forward, but bass is extended and solid40x24.5x22.528120420APretty well balanced if slightly mid forward, but sound quality is a little disappointing for the price63x28x27303 \$200220A-Small and solid as a brick, this micro-miniature has limited bass and bright balance, but sounds agile and communicative25.5x14.5x1550aliper Signature3995G+Power hungry full range ribbon panels have remarkable transparency and delicacy, loudness and 'grunt' are a bit lacking122x70x6.530	Energy AE3GAmongst the best miniatures around, shows exceptional mid focus and 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AE1950GAmongst the best miniatures around, shows exceptional mid focus and coherence, but is pricey and could be more agile.29.5x18x254884•Energy AE31650G+Solid, authoritative and impressively accurate – if a shade ponderous and slow63x26.5x372385•100100ALoud and lively budget wall-mount is bigger and beefier than most of the competition, if lacking some subtlety and refinement33.5x24x21.53087•105170A-Pretty enough in appearance, sonically the AL105 doesn't really make the grade at the £150 asking price37x24x214587•110220G-Compact bookshelf model is a little dry and mid forward, but bass is extended and solid40x24.5x22.52886•120420APretty well balanced if slightly mid forward, but sound quality is a little disappointing for the price63x28x273088•2 S200220A-Small and solid as a brick, this micro-miniature has limited bass and bright balance, but sounds agile and communicative25.5x14.5x155085•aliper Signature3995G+Power hungry full range ribbon panels have remarkable transparency and delicacy, loudness and 'grunt' are a bit lacking122x70x6.53081••



THE DIRECTORY

Loudspeakers continued

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Inudena	nko	THE DIRECTORY Stee Hund	Bass Sen	Site clo Sitivity (HZ)	Seto	Floc Free Spo	TSta.	Issue No.
			(cm)	(42)	ab)	Vall	Ce	ing No.
Product	EPrice	Comments						A Carl
ATC SCM20	1461 G+	Massively built, invariably informative but the rather forward presentation can be uncomfortable	44x24x31	28	82			• 8
Audio Note AN-E/B	1300 G+	Lovely coherence, great midband dynamics and transparency, extended bass and high sensitivity — pity it's so darn ugly!	80x36x28	20	91		•	10
Audio Note AN-J/B	799 G+	Light damping and local unevenness adds some coloration, but doesn't spoil the very lively, dynamic and coherent sound	58.5x33x24.5	25	90		•	11
Aura SP-50	400 A	Two very tasty drivers rather outclass the cabinetwork; a capable but slightly dull compact stand mount	40x22x25	30	87		•	12
B&W 2001	120 A	Cunningly concealing its (very real) limitations, this is just about the smoothest and best balanced miniature around	29x18x21	48	87		•	11
B&W 2003	190 A -	Flashy and assertive ghetto blaster styling is not reflected in the rather bland, if well balanced sound	43x21x25	30	88		•	12
B&W DM620i	399 A+	Good material value, this compact floorstander has a beautifully voiced midband, less happy bass tuning	77x24x32	40	89		•	• 12
B&W Matrix 801	3500 G+	Lacks the transparency of the best panels, and the drama of the best dynamics, but is something of an acoustic tour de force	77/99x56x43	<20	86	•	•	3
B&W Matrix 805	845 G	Stylish, with remarkable imaging properties, good balance and low coloration, though less successful at musical communication	42x26x22.5	30	87		•	9
Bose 305	430 G -	A bit of an oddball, fine dynamic liveliness and a good room match more than make up for the strange stereo imaging and treble	28x45x23	40	88	•		7
Bose 401	500 A	Cheaply built but distinctively styled semi-omni floorstander suffers from heavy midbass but still sounds lively and open	78.5x30x28.5	28	89		•	• 11
Bose 901 MK6	1650 A	The pre-equalised multi-driver 901 is cleverly engineered to deliver exceptional loudness	33x54x32	28	89		•	8
Boston HD5	139 A	Tiny and prettily shaped miniature has an attractive lack of boxiness, but is a little short of drama and dynamic drive	25x16x18.5	30	86	•		11
Boston Acoustics SW10	449 G -	Clever powered subwoofer system integrates well and improves system loudness and power handling	50x28.5x42	35	NA	•	•	• 12
Cabasse Bisquine	600 G+	Classy French large bookshelf speaker has great coherence and dynamic grip, but a rather mid-forward overall character	48x26x30.5	30	91		•	11
Cabasse Skiff	1500 G+	Large floorstanding three-way gives great sensitivity and bass extension with fine dynamic grip	100x30x36	25	92		•	• 12
Canon S-30	180 A+	Clever and unusual moulded design has attractive lively coherence, along with 'wide imaging stereo' effect	27x22.5x23.5	50	88	•		11
Canon S-50	250 A+	Only a small cone miniature at heart, the fascinating styling and extended sweet spot feature make it utterly original.	30x24(diam)	48	84		•	1(
Castle Chester	650 G+	A brilliant throwback, using horn-type approach to provide startling midrange dynamics and coherence.	94x23x27	45	87			•
Castle Durham	250 A	Like the slightly larger York, the very pretty presentation is not reflected in a similarly sweet sound	40x22x24	48	88		•	1
Castle Howard	999 G+	Ably fills the price/size/sound gap between Chester and Winchester; a spacious semi-omni with a rich, laid back balance	104x23x35	25	87		•	• 13
Castle Trent II	190 A	Very classy finish for the price, plus a sound that passes muster without setting anything much alight	33.5x18x20	50	88	•		12
Castle Winchester	1499 G+	Unconventional and beautifully crafted, large for its bass extension but engagingly agile and attractively open and airy	114x24x47	25	87		•	• 9
Castle York	349 A+	Pretty little real wood compact has an engaging transparency, good balance and fine timing, could do with more authority	43x22x26	30	86			11
Celestion 1	109 A	Pretty basic performance but at a very basic price — it all sounds a bit scrappy and untidy, but its heart's in the right place	27.5x16x21	50	87	•		11
Celestion 3 Mkll	130 A+	Smooth and polished by budget speaker standards, if a bit laid back for some tastes	31x18.5x20	45	87		•	13
Celestion CS135	139 A-	Compact hideway passive subwoofer lacks serious bass extension; for high sensitivity speakers only	52x19x34	45	88	•	•	• 12
Celestion 15	389 G	Big box and bang for your bucks, short on subtlety and control, but long on both enthusiasm and perceived vinyl wood grain	103x20.5x25.5	28	90		•	• 1
Celestion 9	269 A	Nicely presented and fair material value, with impressively flat bass-to-mid balance	49.5x20.5x24	30	89		•	1(
Celestion SL12Si	629 A	Elements of fine sound quality, but this 'grown up' SL6 variation has a lumpy response alongside its improved power handling	53x20x27	50	85			
Celestion SL600Si	820 G	Has certain remarkable qualities that some will find irresistible, but needs careful system and room matching	27x20x23	52	82		•	
Celestion SL6Si	429 A+	This stereotype luxury compact can sound a bit dull and congested, but really opens up on Slate Audio stands; favours CD	37.5x20x25	30	86			
Celestion 300	1099 G	Splendid bass extension and fine panel-like openness and transparency, but dynamics and timing are suspect, balance very laid back.	100x21x31	<20	86	•		1
Dali 102	230 A	Attractive bookshelf model has fine midband focus and bass extension, but treble's a bit restrained and bass a bit detached	37x21x25	30	86			1
Dawn Chorus FS	698 G	Compact floorstander with superb coherence but rather forward midband. Would suit smaller rooms best	91x26x21	30	86			•
Dynaudio Contour 1.3	1199 G	Heavyweight luxury finish bookshelf model has good scale and weight but is pricey and a bit ponderous	38x20.5x29	28	86			13
Epos ES11	395 G+	Integral baffle/driver to give a remarkable combination of low coloration, transparency and speed; bass is a bit shy	37.5x20x25	45	86			9
Epos ES14	595 G+	Substantial stand mount delivers delightful midrange focus and delicacy with good bass control. System sensitive	49x22.5x29	25	85			9
Faraday FS1	225 A+	Concrete box on a budget, works surprisingly well despite cheap drivers, wood veneers here Direct sale only	47x27x28	45	86			1
Faraday FS5 .	575 G	Pricey and ugly, but with its own sonic charm, thanks to substantial influence of the concrete enclosure has upon the sound	46x27x26	28	90			1(
Faraday Siren	375 A -	Interesting if ugly high mass concrete cabinet is let down by imbalance of ageing driver combination	46x27x27	48	87			
GLL Maxim	119 A	Budget miniature offers well balanced strengths and few weaknesses at a very realistic price; a bit feeble	26x17x20	30	85			13
Harbeth LS3/5A	539 A	Still a classic miniature, though not to every taste, and none the better for the recent update under our listening conditions	30.5x19x16	60	81			1
Harbeth HL-P3	479 G	Very limited loudness but impressive full-range scale from uncoloured and very well balanced but time-smeared sub-miniature	31x19x17	23	82			1
Harman-Kardon LS 0200	150 A	Laid back to a fault but entertaining nonetheless, and a big box for the price	38x21x29	30	86			13
Heybrook Prima	130 A+	Neat and discreet miniature delivers fine coherence, pace and timing, though balance is a trifle forward and bass a bit light	29x19.5x18	50	86			11
Heybrook Quartet	555 G	Beautifully presented and built large bookshelf model with good sensitivity and a lively, forward sound	41x24x23	48	89			12



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Walkin' the dog

Just when you thought it was safe to go back into the demo room . . .

The PIONEER A400 GTE

From the same designer that brought you the Iso, Argo and Alecto, a cost effective conversion that will transform the performance of your A400X. You will gain faster transient response, greater resolution, improved imaging, increased tonal accuracy, and far greater bass authority. The sound becomes far smoother at high frequencies without resorting to band width limiting.

See the review in this, and other national magazines, against the standard model.

THE COST OF £141.00 INCLUDES RETURN CARRIAGE AND INSURANCE

"Don't agonise over this upgrade - it simply builds upon the existing strengths of the A400X to realise the amp's fullest potential to date"

WHF? APRIL 1993 **PIONEER A400X**



THE DIRECTORY

Loudspeakers continued



	Product	£Price	Comments	7	ž	-		20	9	
-	Heybrook Sextet			00.07.00	05	0.5				100
			Engagingly coherent and a highly analytical, partly due to distinct and t always comfortable upper-mid forwardness	96x27x20	25	85			•	102
	Heybrook Solo	189 A		36x23x22	28	01	•			90
-	Heybrook Trio	359 G	Same drivers as HBS1 in prettier real wood enclosure give a sweeter and more forgiving if less committed sound	47x24x25	45	89		•		118
	Impulse H7	785 A	Ultra-compact horn has fine midband contrasts but very little bass and detached treble; gives amplifiers a hard time	87x15x30	45	85	•		•	132
	Infinity Kappa 6.1i	995 A	Good extension and laid back balance from high-tech drivers in classy cabinet, but bass is fat and slow and dynamics unconvincing	97x30x24	25	89		•	•	132
	Infinity Modulus	795 A	Carefully conceived and beautifully built. Undeniably attractive in the mid and treble, it failed to handle the bass as well	30x18x26	45	84		•		86
	Infinity Reference 10	200 A	An engaging and lively sound from a prettily finished and substantial small bookshelf size model	36x23x23	50	87		•		98
	Infinity Reference 20	300 A	Well presented and balanced with good bass control, but somehow lacks convincing cohesion and agility.	46x27x24	27	88		•		102
	Infinity Reference 30	400 G	Budget price floorstander has good overall balance and bass extension, but is rather coloured and uneven	86x27x24	25	89			•	122
	Infinity Infinitesimal sub	499 A	Cute but pricey amplified subwoofer is too small to deliver real bottom octave grunt	34x34x34	40	NA				128
	Jamo 707	900 G	Superb styling and cosmetics but indifferent build and engineering quality; decent balance apart from detached bass	105x26x39	25	88				132
	Jamo Cornet 40.3	130 A	Pretty presentation and a strong box, but poor driver fixing. Decent if bright sound	32x20x22	48	86				130
								-		
	JBL Control 1 Plus	250 A	Sub-miniature with forward midrange and real bass; highish price partly justified by near-indestructible Pro build	23x15.5x14	50	89	•			90
	JBL L1	479 G	Good power handling, decent transparency and deep but current hungry bass from a compact and solid enclosure	40x21x25.4	47	87		•		121
	JBL ti1000	1500 G	Ultra-engineered, beautifully crafted bookshelf model. Performance compromised by over enthusiastic midbass output from port	44x30x28	45	89		.•		118
	Jordan JH400	590 A	Piano finish hexagon has single full range driver and controversial sound, with uneven balance but delightful mid coherence	33x24x30.5	50	83		•		106
	JPW AP2	180 A	Offers real wood veneer at a bargain price; performance is cleaner but broadly comparable to P1 Vinyl overall	43.5x25.5x26	45	86		•		106
	JPW AP3	225 A	Pretty good stereo and well balanced overall it had its own character which is well suited to vinyl replay	52x25x29.5	57	90	•			46
	JPW Gold Monitor	80 A	Great sound for pound value through bass and midband, but the top end's rather coarse	27x18x18	50	85				130
	JPW Minim	79 A		27.5x18x19.5	28	85	•			82
	JPW Mini Monitor	60 A	Ultra cheap Richer Sounds special is lightweight and short of welly, but a snip for surround sound use	27x18x17	50	85				122
	JPW P1			44x25.9x26.1						59
		155 A			60	89				
	JPW P1 Vinyl	135 A	A lot of highly competent loudspeaker for the price, with a safe sound that's unlikely to disappoint.	43.5x25.5x26	32	87		•		102
	JPW Sonata	115 A	Well balanced and integrated, offers fine sound if limited bass and dynamic range, plus real tree wood at a nearly silly price	32x23x20	55	86	•			71
	JPW Sonata Plus	135 A	This luxury variation on the redoubtable Sonata theme features a metal dome tweeter, and isn't the better for it	32x23x21	30	87		•		90
	JRT AD1	500 G	A fair share of cosmetic deficiencies do little to spoil the impressive coherence and timing	59.5x28x36	28	86	•			86
	JRT AD1 Micro	389 G	Delightful life and coherence, gives surprising impression of scale; some aggressive tendencies but very open to system tuning	28x17x21	50	87	•			94
	Jordan JH400	504 A	Piano finish hexagon has single full range driver and controversial sound, with uneven balance but delightful mid coherence	33x24x30.5	50	83		•		106
	KEF 104/2	1595 G	A reference point for dynamics, preferred without KUBE, suited to many rooms. Good stereo, high sound level	90x28x41.5	50	92			•	60
	KEF K120	169 A	Physically pretty and sonically competent but undistinguished bookshelf size model has good sensitivity but limited extension	34x20.5x26	45	87				106
	KEF Q30	349 A	Fine focus from Uni-Q driver, but lacks drive and time coherence; acoustically smaller than it looks	73x19x29	44	88				126
	KEF Q80	569 A			45	87				106
				85x24.5x26.5						
	KEF Q90	739 A	Generous floorstander has even balance and decent extension but fails to communicate excitement and involvement effectively	90x25x32	25	88		•		118
	KEF AV1	2499 G	Awesomely built, finished and powerful subwoofer lacks the subtlety and unintrusiveness for top class hi-fi applifications	43x56x50	<20	NA	•	•	•	128
	Kenwood LS-770G	260 G	Impressively communicative bookshelf model has fine vigour, scale and dynamics, if not the smoothest sound around	48x27x25	25	89		•		106
	Kenwood LS-500G	500 G	Japanese designed and built luxury compact delivers an invigorating and exciting sound; an interesting contrast to some lazier models	45x23x26	48	89		•		118
	Legend II	200 G	Liveliness, coherence and fine information retrieval justifies the odd looking moulded baffle construction	37x21x30	48	88	•			122
	Linn Index II/KuStone	374 G	Stand and speaker looks and sounds very good, good bass extension and control, fine dynamic range. Clean, clear if a shade slow	44x21x23.5	28	86	•			90
	Linn Kaber	1298 G	Dry, bright balance emphasises superb dynamic range and transient precision, but can sound unforgiving	89x19x29	25	85	•		•	118
	Linn Keilidh	579 G	Stunning timing and coherence and awesome bass drive, especially with ceramic plinth; sounds a bit shut in	83x20x27.5	22	87			•	114
	Living Voice Air Partner	11990 E	Formidable horn design with astounding transparency, dynamics and speed. Its idiosyncracies are compensated by sheer energy	165x64x92		101				117
	Lumley Monitor Reference 3	895 G		87x27.5x28	30	90				106
								-		
	Lumley Monitor Reference 4	375 A	All metal diaphragm and real wood at fair price; balance uneven — upper mid forward with suspect bass tuning	36x17x23	44	86				126
	Magneplanar SMGa	668 A	Tonally 'rich', in the right room it proved a satisfactory musical experience	122x48x4.5	56	85		•	•	46
	Meridian Argent 1	995 G	Beautifully built, finished and shaped, has fine bass extension and virtual absence of 'boxiness'; needs a big amplifier	33x27x27	28	83		•		98
	Meridian Argent 2	875 G	Beautiful high-tech 'large compact' delivers extended, smooth and neutral sound with fair speed. Slate Audio stands essential	48.5x21x29.5	23	85		•		94
	Meridian M30	950 A	Pricey active speaker, easy on the ears and worth considering especially where space is at a premium	38.5x18x32	40	NA		•		46
	Mission 753	700 G	F Gorgeous presentation and potential for open transparency. Floorstander with lots of drivers that gives lots of loudness	90x22x30.5	45	88		•	•	114
	Mission 760i	130 A	+ Attractive little wall-mount miniature has livelier dynamics and bass drive than most of its type, but sounds as little shut in	29.5x18x20	48	87	•			110
	Mission 760i SE	150 A	Tweaked 760i variation is one the prettiest and best balanced babies around; a demanding amp load	29.5x18x20	50	87				130
	Mission 764i	480 A	Generous and handsome floorstander looks fine material value for money, but good scale sound has lazy tendencies	89x25x32	22	86			•	118
	Mission 765i	680 A		102x25x33	22	91			•	110
	Mission 751	300 A	Attractive luxury miniature has great sonic potential, but our our review samples have been marred by sample variations	32x17x27	45	86				126
	Monitor Audio MA1200 Gold II	1200 G	Pricey but classy floorstanding variation on MA800 theme; beautifully voiced midband, heavy midbass	93.5x17x27	28	85		•		122
	Monitor Audio Studio 6	800 A		35x22x25	45	86				118
	Mordaunt-Short MS-10	130 A	Hi-tech baby has fine bass/mid integrity but the top end is less appealing	30.5x18.5x21	50	86		•		130
	Mordaunt-Short SW-1	150 A	Prettily finished and inexpensive passive subwoofer is only really useful with sub-miniature speakers	24x58x25	40	85	•	•	•	128
	Morel Bassmaster 602	1200 G	Superbly built compact stand-mount, did well in listening tests but suffers (enjoys?) upper midband peak	24.5x40x22.5	25	84		•		114
	NAD 801MM	100 A	A rather undistinguished sub-miniature with low sensitivity and indifferent sound quality	27x18x18	48	84	•			130
	NAD 804	320 A		75x20x26	25	89		•	•	126
	NVA Cube 1	720 G		33x32x32	52	85				71
	NVA Cube 2	480 G		28.5x27x28.5	48	85				82
	and the second se			60x32.5x32.5	28					78
	NVA Cubix	1400 G							- 1	
	Naim IBL	895 G		80x18x15-20	30	84			•	94
	Naim SBL	1708 G	Impressive scale, full bandwidth, coherent, attractively discrete, coloured midband, very well balanced and agile	88x26.5x17-27	25	86	•		٠	102

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	Product	£Pric		Comments	1	3	10	d//	*C.0	9	0
4	Neat Petite		1.0	Far from perfect, but one of the most entertaining and enjoyable speakers around, colorations notwithstanding.	30.5x20x18	33	86	•			102
1	Origin Live OL2A	469		Compact floorstander sounds open, transparent and evenly balanced; needs a big amp but enjoys hard driving	82x19x19	25	85				122
	Origin Live OL1	499		Luxury miniature has very good overall balance, sacrificing sensitivity to achieve remarkable bass extension for the box size	30.5x19x21	25	82				10
	Pioneer S-4UK		A+	Carefully developed minimalist audiophile design has some vigour but suffers an intrusive upper mid peak	37x21x28	50	87				12
	Polk LS70	1200			96x31x37		91				
	Polk RM 1000W	349		High sensitivity and lots of loudness potential, but in-room balance has far too much midbass boom; mid and treble are very laid back		22			-		13
	Professional Monitor Co LB1			Not a true subwoofer at all, but rather the bass section of polk's elegant upmarket three box speaker system	31x52x33	45	90	•		•	12
			G+	Delightful smoothness and transparency, though bass extension and sensitivity are both limited	53.5x18x26	33	86		-		11
	Professional Monitor Co AB1	1600		Bulky stand-mount transmission line has lovely panel-like transparency, slightly shut in balance, and needs a big room	79x27x43	22	89		•		11
	Quad ESL-63	2384		This classic electrostatic may not be punchy in the bass, but has strengths that some can't live without	92x66x27	34	84		•	•	6
	Rega EL8	298		Kyte drivers in compact floorstander give more bass but a shade less coherence; good for small rooms and budget systems	75x16.5x21	55	86			•	12
	Rega ELA	405		Very compact floorstander with integral stand has serious coherence and dynamics, but a measure of brightness and untidiness	84.5x20x30	30	86			•	11
	Rega Kyte	198		Has splendid timing and coherence, sounds very explicit and informative, if a bit bright and short of grunt	31x19x20	50	87	•			11
	REL Strata	499	G+	Outstandingly value and performance active subwoofer adds serious bass unintrusively to any small speaker system	52x42x31	<20	NA	•	•	•	12
	Rega XEL	1040	VG	Looks good, measures well and sounds great too; balance is bright but even, with delightfully bass-to-mid coherence and timing	102x21x33	40	89	•		٠	13
	Rogers LS2a/2	229	G	Balance is a bit warm and rich but 2a/2 has delightful mid-to-treble coherence and transparency, and more welly than Mk1	35.5x23x22	30	84		•		1(
	Rogers LS4a/2	300	A+	Civilised but a trifle lazy, this large bookshelf model hasn't quite the timing or agility to be particularly engrossing	43x25.5x25.5	25	86		•		1
	Rogers LS6a/2	399	G	Largish stand-mount is well built, measures well, good material value, but sounds a bit heavy and lacklustre	51x28x29.5	22	87		•		1
	Rogers LS8a	499	A+	A mixed bag, with plenty of scale and welly but lacking the subtlety, clarity and agility delivered by some rivals	89x25.5x25	48	91		•		1
	Rogers Studio 3	450	G	Pricey LS3/5A-derived wall-mount sub-miniature is excitingly coherent if a bit lightweight; no real loudness capabilities	31x19x17	30	83	•			1
	Rogers Studio 7	880	G	Latest variation on classic BBC-monitor theme looks old fashioned but has beautifully voiced, laid back sound	63x30.5x30.5	30	88				1:
	Roksan Ojan 3	895	G+	Squat, stylish and black, with unusual tweeter decoupling; great bass extension and flat but somewhat uneven balance	78x28x45	<20	85			•	1:
	Royd Topaz	173	A+	Cheerful, articulate and essentially communicative miniature can also sound a trifle scrappy and shut in; well worth trying	30.5x20.5x19	50	87				1
	Royd Abbot	-	A+	Engaging and dramatic dynamics and fine transient coherence are hampered by a rather coloured mid-forward balance	83x20x34	43	88				1
	Ruark Templar		A+	Compact floorstander with striking baffle has decent bass/mid but dull treble; could tame over-bright system	73x19x27	25	85				1
	Ruark Talisman 2	700		Less ideologically committed than some compact floorstanding rivals, its key strength lies in fine all round compromise	86x25x31	30	86				1
	SD Acoustics Ribbon	2950				30	91				
	SD Acoustics SD1			Amplifier sensitive, Ribbon is a lively and loud hybrid marred by some colorations; some like it, others don't	152x30x(15-30)						8
		1650		A large scale, airy and unusually detailed system with excellent dynamics. A warmer balance than original model	123.5x38.2x32	50	90			•	6
	SD Acoustics SD3	399		Port firmly blocked, the new SD3 has the agility and charm of a quality miniature, with good bass extension but low sensitivity	38x19.5x29	25	83		•		10
	SD Acoustics SD4	699		Tall slim floorstander has fine balance, good bass extension and lovely open midband transparency	100.5x20x30.5	25	85		•	•	11
•	SD Acoustics SD5	1235		Bass tuning and coherence suspect but forward midband is delightfully smooth; high class drivers include ribbon tweeter	112x20x30	30	86		•	•	13
	Shahinian Arc	1062		Unusual and occasionally wonderful small floorstanding omni; too bright but exceptionally coherent and revealing	69x35x25	24	85		•	•	11
	Snell JIII	770		Dated styling belied by fine sensitivity and bass extension, and a lively if slightly untidy and not quite coherent sound	58x33x25	30	89		•		11
	Spendor S20	579		Maintains Spendor's tradition for peerless mid-to-treble coherence and perspectives. Bass is rather unconvincing.	38x22x26	25	83		•		10
	Spica Angelus	1295	A	A little bass shy and soft in the bass and lower mid, otherwise tidy, extremely lively and fluid, if uneven overall	116.8x53.3x26	50	86		•	•	6
	Spica TC50	649	G	This triangular-profile 'grown up' miniature is a shade boxy and laid back but has good rhythmic and musical integrity	40.5x33x29	55	88		•		7
	Spica TC50SE	849	G	A heavily UK-modified TC50, the SE sounds less boxy and more spacious, but lacks some of the urgency of the standard model	40.5x33x29	55	88		•		1
	TDL NFM	120	A-	A disappointing underperformer in our tests, at a price that's not very nice either	27x18x18	50	86	•			13
	TDL RTL3	400	A+	Bargain price floorstander has rich, heavy and bright sound with good scale and fine basic neutrality	92x20x38	25	88		•	•	13
	TDL Studio 0.5	499	G	Tiny floorstanding transmission line has good agility but doesn't provide the coherence or even balance of Studio 1	55x20x30	40	85				9
	TDL Studio 1	699	G	Genuinely extended bass from a compact enclosure, very detailed but a shade clinical and detached in presentation	76x23x33	25	84		•	•	-
	TDL Studio 1M	899	G+	Transmission line helps bring the best from metal cone driver: lovely transparency and fine bass extension	81x23x33	<20	84		•	•	1-
	TDL Reference Monitor	1999	G+	Fine solidity and good accuracy, with great bass extension. Needs a big room and can sound a bit lazy and a shade tinkly	118.5x30x47	28	85		•	•	-
	Tannoy 603 II	140		Pretty looking but altogether rather dull sounding mini-hexagon is less effective than larger brethren	33.5x22x16	45	86				1:
	Tannoy 607 II	220		Large bookshelf, smart hexagonal box has fine bass for the price, but treble sounds rather shut in	50x32x24	25	88				1:
	Tannoy 609 II		A+	Large bookshelf size model with dual concentric driver has fine balance and scale with low coloration	50x32x24	22	86				1
	Tannoy Westminster		G+	These awesome horn loaded speakers are remarkably controlled and impressive, if only suited to a few pockets and rooms	Huge	38	96	•			(
	Technics SB-EX2	180		Nicely presented, well built and decent size enclosure sounds solid but somewhat dull	48x23.5x27	20	86				
	Technics SB-RX50		A+	A smooth and well balanced loudspeaker, its minor weakness being a mildly excessive low bass	48x30x26	40	86				
	Thiel SCS	1069		Luxury piano-gloss compact sets class-leading standards for coherence and communication, can sound a shade dark and shut in	40x22x23	45	87				1
	Street and the second				94x27x27	30	86			•	
	Thiel CS1.2	1219		Elegant compact floorstander has fine balance and dynamic range, but transient timing and dynamics are less convincing	31x16.5x23	28	86			·	1
	Totem Model One	995		Utterly delightful but exasperatingly expensive luxury miniature sets the benchmark for its size This compact American flooretandor's alegant stangard haffle arrangement contributes to a refracting freedom from havinges							
	Vandersteen 2Ce		G+	This compact American floorstander's elegant staggered baffie arrangement contributes to a refreshing freedom from boxiness	100x30.7x25.6	23	87			ŀ	
	Visonik David 6001	163		Sharp styling but the complex grillework worsens a sound which starts off with too much top and not enough bottom	20x12x13	130	87	•	-		-
	Wharfedale 425	0	A+	Large bookshelf size 505 heir shows fine control and a conservative balance ideally suited to quality systems on a budget	40x27x26	45	87		•		1
	Wharfedale Delta 30.2	100		Has a bigger main driver than many, and so packs a bit more welly and loudness. Coloration is rather obvious, but timing is good	38x22x17	48	88				_
	Wharfedale CRS3	0	A+	Loads of fun — a remarkably coherent and lively performer at any price; pity it doesn't look prettier	38x22x18	50	88				1
	Wharfedale Diamond V	130	A	This miniature is smoother than most, but rather stodgy with it, inspiring little enthusiasm among our listeners	27x18x20	50	86	•			1
	Yamaha YST-SW50	199	A	Bargain price amplified subwoofer is too small for serious bass freaks, but does a fair job for the price	48x21x33	35	NA	•	•	٠	
	Yamaha NS 1000M	1200	G+	Living up to its monitor label, and tonally well suited to digital material, it's superbly crafted and capable of high levels	67.5x37.5x32.5	40	90	•			
											-



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CLEARANCE ITEMS

Loudspeakers:	
Boston A60, was £139.95	
NOW	£89.95
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	£289.95
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Infinity Ref. 20, was £249.95	
	£149.95
TANNOY 615 Mk1(bk) was £749.99	
	£549.95
Tannoy 613 Mk1, was £599.99	
	£448.95
Tannoy 603 Mk1, was £129.99	
NOW	.£94.95
W'dale DIA.IV was £119.95	
NOW	£59.95
Mission 763i, was £379.90	
	£279.95
Mission 764i, was £479.90NOW	
Mission 765i, was £679.90NOW	CE 40 0E

Amplifiers:

Kenwood KA3020, 3050R, 4040R	
	TO CLEAR
Marantz PM32 Amp, was £139.90	
NOW NAD 2400 Power-amp, was £419.95	£99.95
NOW	6250.05
NAD 2100 Power-amp, was £299.95	
NOW	£259.95
NAD 1000 Pre-amp, was £199.95	
NOW	£169.95
Pioneer A400 was £279.95	0010.05
NOW Rotel RA-940BX, was £249.95	£219.95
	£189.95
NOW Rotel RA-930BX, was £175.00	
NOW	
Sony TAF170, was £109.95	
NOŴ	£84.95
Sumo ULYESSIS, was £449.95	
NOW.	£299.95
CD Players:	

 Aiwa XC750, was £199 95.
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 Aiwa XC950, was £249 95.
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 Kenwood DPM6650, was £269 95.
 NOW £19395

 Biometr PD5801, was £279 95.
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The following suggested system package includes the NAD 5120 Turbtable. Alternative items: ie CD Player/Turntable/Cassette deck are available options

SPEAKERS	Missian 760i	Tannoy 603 II Celestion 3 II Mission 760 ISE	Mission 761ı Tannoy 605II B&W DM600ı	Tannoy 607 NAD 802 Mission 780	Mission 762i Mission 780SE BW.DM6 10i	Rogers LS4A2 Tannoy 60811	T/T & C.D. PLAYER OPTIONS T/T Dual CS435. add £10.00 Dual CS503-2, add £50.00 Dual CS505-4, add £80.00 Project .5, add £25.00 Project 1, add £55.00
AMPS Kenwood KA3020	£309.95	£324.95	£344.95	£374.95	£409.95	£459.95	 CD Aiwa XC300, add £30.00 Denon DCD615, add £60.00 Kenwood DP3050, add £80.00
Kenwood KA5040R	£309.95	£324.95	£344.95	£374.95	£409.95	£459.95	Marantz CD53, add £80.00 Marantz CD63, add £130.00
Marantz PM40SE	£329.95	£344.95	£364.95	£394.95	£429.95	£479.95	NAD 501, add £60.00
Pioneer A300X	£349.95	£364.95	£384.95	£415.95	£449.95	£499.95	NAD 502, add £100.00 Tech, SLPG440, add £50.00
Pioneer A400	£399.95	£415.95	£435.95	£465.95	£499.95	£549.95	Many others available on reques

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Amplifiers

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Aiwa XA950 Denon PMA480R Harman Kardon HK6250 Marantz PM44SE Mk2 – NEW!

	Technics SLPS620A Yamaha CDX570	5	2
	Cassette Decks:		í
	NAD 6100, was £299.95 Kenwood KX5030, was £199.95		
	NOW	5	2
	Aiwa ADF450	§	2
	Aiwa ADF810 3HD		
	Denon DRM540		2
and the second second	Denon DRS810 3HD		
	Denon DRW 760 Twin		
1000	Kenwood KX-5050 Marantz SD53		9
the state of the s	Marantz SD63		
	Marantz SD415		
Sector 1	Nakamichi DR3	\$	1
	NAD 602	5	
	Sony TCK-611S 3HD	5	2
and the second	Technics	STO	С
	Yamaha KX-380		2
	Tuners:		
£229.95	Denon TU260L		2
£219.99	Denon TU580RD/RDS	5	2
£279.95	Marantz ST53	5	2
£199.95	Marantz ST40/50L	TO	С
£239.95	NAD 402 NAD 4225, was £159.95		2
£299.95	NAD 4225, was £159.95	NOW	2
£199 95	Botel BT930AX	5	2

Rotel RT950BX ... Sony STS311LB

AV AmpSrtecevers: Denon AVC3020 7729.99 Denon DRA345R £249.95 Denon DRA345R £249.95 Denon DRA345R £319.95 Kenwood KAV6500. was £699.95 NOW £499.95 Kenwood KAV6606 RDS £349.95 Kenwood KAV6050 RDS £349.95 Kenwood KAV7050 RDS £329.95 Marantz F873& 63 STOCKED NAD 705 £329.95 Yamaha RX V470 £399.95 Yamaha SPE 2200 £369.95 £149.99 £199.95 £179.99 £329.99 £169.95 £349.95 E199.90 £249.90 REDUCED TO CLEAR £179.95 £229.95 £449.90 STOCKED £329.95 £399.95 £369.95 £449.95 £899.95 £269.95 Yamaha DSP E200 Yamaha DSP A500 Yamaha DSP A1000 £299.95 £375.00 199.95 **Turntables:** Turntables: Dual CS303-2. Dual CS303-2. Dual CS505-4. NAD 5120 NAD 533-Rega 250. Project 2 Ort. 604 cart. Project 2 Ort. 604 cart. Project 2 Ort. MCl cart. Soundab & KAM (DISCO) Systemdek 11X5900 exc T/A Technics SL 1210 Mk2 Thorens TD180 + AT91 Thorens TD186 V1 + AT95E £129.95 £179.95 £229.95 £119.95 £145.00 £185.00 £249.95 **STOCKED** £329.95 **STOCKED** £179.95 £299.95 £269.95 259.95 149.95 119.95 229.99 159.99 299.99 249.99 229.95 229.95 260.90 209.90 349.95 199.95 289.95 OCKED 169.95 Loudspeakers: LOUGS CALASS Bose AM3 Mk2 STOCKED Bose AM3 Mk2 STOCKED Baw DM600i, 610i, 620i STOCKED Baw DM600i, 610i, 620i STOCKED Celesiton STOCKED Celesiton Control Control Control Control Celesiton Pro 200/300/400 STOCKED Mission 760i E109.95 Mission 760i/SE £129.90 Rogers LS8A E429 5 Rogers LS8A E499.95 Tannoy SIXES Mk2 STOCKED And many others, call for further details 119.99 219.99 169.90 L FAR 169.95 119.95 £179.95 £199.95 £179.95

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Suggested Systems

CD Players:

Aiwa XC300 Aiwa XC750 Denon DCD615 Denon DCD1290 Kenwood DP2050

Kenwood DP7050 Marantz CD53

Marantz CD63 Marantz CD52SEmk2 NAD 501 NAD 502

er PDM60 Pione

Rotel RCD965BX

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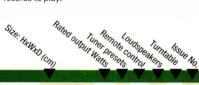
Svstems

ystems is a generic title that we've chosen to describe any form of complete system package. Fundamentally what we're talking about here is midi and mini systems, you know those all singing all dancing, lights blazing systems that hi-fi snobs are allergic to.

Sold on the basis of their abilitiv to play virtually all mediums at the flick of a remote control switch stack systems offer a plethora of features, and the dearer the system the more complex they tend to

become. With things like double cassette decks, multi preset tuners, CD players and graphic equalisers supplied as standard the big boys of the stack world offer such luxuries as Surround Sound, separate chassis for different components and occasionally a record player. They usually have a few line inputs for extra sources and a few are available without loudspeakers. As the latter are often the weakest part of a stack system buying good quality speakers separately will bring

worthwhile improvements. The section headings for stack systems include size of the complete stack without speakers and rated output per channel - where a system has more than two channels this is indicated in the comments . Tuner presets and the existence of a remote control are self explanatory. A blob in loudspeakers shows that they supplied, an "o" indicates that they are optional. The final column is for those of you with records to play.



Systems

Product	£Price	Comments		Ť		,	Ť	
Denon D110/S	870 6		37x27x33	40	30		0	125
Goodmans System 700	600 A		69x35x37		20		•	• 125
JVC Adagio G7	799 A	Wondrous 2-speaker surround movie sound system, but a very uneven package elsewhere. Four by 20W output	42x28x28	20	40	•	•	125
Kenwood HD-1000	1000 E	Mini lifestyle system, well built with minimalist facilities and exacting performance standards all round	30x27x35	40	30	•		131
Marantz 1020	1000 G	Component lifestyle system which is as elegant on audition as it is to look at	22x42x32	30	20	•		131
Onkyo L-909	1200 G	Simple yet flexible lifestyle mini system suffers iffy cassette deck set-up, but otherwise satisfies	38x28x32	40	30	•		131
Philips FW91	999 A	F Good looking and performing package rendered expensive by inclusion of DCC deck	37x26x32	60	30	•		125
Technics SC-CH950	1000 A	Classy if rather bland allrounder includes useful Dolby Pro-Logic AV capabilities	42x27x34	60	39	•	•	125



Tuners

he radio medium operates at a much lower profile than TV, but in areas outside pop music the BBC service is the envy of the world. Live Prom concerts can rival all other sources from a hi-fi perspective.

Only the FM (VHF) bands give stereo hi-fi sound, though AM (MW & LW) are useful for certain transmissions in the UK.

Something of a hi-fi afterthought, tuners are often selected merely to match a chosen amplifier

cosmetically. However, the task they carry out is far from simple, combining the skills of RF (reception) and audio (signal processing) engineering. The importance of the former will depend on local reception conditions, but money invested in a high quality outside aerial system is well spent.

Tuners come in two basic types. Analogue models tune gradually (and usually manually) across the bands, and can have analogue or digital displays; they are often preferred for sound quality, and are certainly best for AM bands. Digital tuners offer convenient automatic tune facilities and preset memories.

The 'Presets' column heading shows how many different frequencies a tuner can memorise for instant station access. FM, LW and MW shows which wavebands a tuner can access. 'Signal strength meters' are useful for aerial alignment. 'Automatic tuning' means that a tuner can seek out signals for you.

Tunorc

Tuners			A	Sig	nal stree	Manua ngth meta	tonatic tuning	× 4	6.
	ODvice		Presets	FM	in A	w met	uning	Uning	SUE NO.
Product Aiwa XT-003	£Price	Comments	20						93
	120 A	Economically designed and built in the UK, but trade-offs have a marked influence on FM and AM sound quality.	30 24	•		•			
Aiwa XT-950	150 A	Decent enough performance all round given the modest price, though RF tweaks have limited value		•	•	•	•••		129
Arcam Delta 280	350 G		20 39	•					120
Audiolab 8000T	700 V			÷		·	-	_	
Aura TU-50	300 G	Tonally neutral, but with rather poor imaging and a certain woodenness to the sound.	16			-		_	109
A Denon TU-260L	120 G		20	•		•		-	93
A Denon TU-580RD	220 G	Fine feature package including remote and RDS, plus excellent RF performance and decent sound quality	30	•		·	• •	•	120
Harman Kardon TU9200	219 A	The listening panel appreciated its liveliness, but found it a little muddled.	32	•		•	•	•	109
Harman Kardon TU9400	299 G		24	•		•	• •	•	93
Harman Kardon TU9600	499 G	Good bass and detail, and good - perhaps slightly enhanced dynamics	24	•		•	•	•	109
JVC FX-362	140 A	Disappointing all round performance — watch out for aerial input overload in strong signal areas. Tuning knob unspecial	40	•	•	•	•	•	129
Kenwood KT2050L	150 A	Decent RF capabilities despite simple front end. Sounds a bit bright and ergonomics are a bit complex	30	•	•	•	•	•	129
Kenwood KT-3050L	170 A	Excellent RF performance and plenty of features including RDS, but did sound rather ordinary under our conditions	39	•	•	•	• •	•	120
Linn Kremlin	1995 E	Controversially good sound at a very high price. The reviewer's saving up but you should check it out for yourself	80	•			• •	•	120
A Magnum Dynalab FT101	825 G	Although expensive for its fairly minimum set of facilities, its excellent sound makes up for what it lacks elsewhere		•			• •	_	. 72
Marantz ST-53	170 A	Sweet sound could well satisfy audiophile sensibilities, but selectivity is not great	59	•	•	•	•	•	129
A Meridian 604	1350 🗸	G Unique digital convertor makes most sense in Meridian system context; smooth sweet sound with fine front end	30	•			• •	•	120
A Naim NAT 01	1453 E	There may be better sounding tuners in the world, but we have yet to hear one		•			•	_	50
A Quad FM4	434 G	Fine sound, excellent ease of use, good build and finish and a more than satisfactory technical performance	7	•			• •		50
Quad 66	532 G	Very pretty and compact but technically unadventurous. Smooth sound but only makes sense in Quad system context	19	•			• •	•	120
A Rotel RT-930AX	175 G	A competent rather than exciting performer, with low audible interference though slightly compressed and muddled sound.	20	•	•	•		•	108
Sherwood TX-3010C	120 A	Lots of features and fine RF discrimination for price. Sound is communicative but inconsistently tacky	30	•		•	• •	•	120
A Teac T-X4030	120 A	Not exactly special, but still a well balanced, tolerable and capable allrounder at a very reasonable price	20	•		•		•	129
Yamaha TX-350L	130 A	Enticingly pretty and compact presentation but performance isn't great; beware of aerial overload	40	•	•	•		•	129



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Turntables – cartridges

artridges fall into two groups: high output models, capable of working directly into most amplifiers and categorised as having a normal (N) output, and more expensive low and very low output models (L, VL). Stereotypically, low output cartridges use the moving coil principle of operation, have better mechanical integrity and tighter tolerances, and give better performance but at much higher cost. With CD now the dominant medium many amplifiers are no longer equipped with the necessary phono input for a cartridge and a separate phono stage is necessary. Valve designs need either an extra head amp or transformer to cope with the low output of moving coil cartridges.

Cartridge/amplifier interfacing can be very subtle, but even basic high output MM designs

benefit in overall balance from optimised amplifier capacitance loading. The mechanical characteristic of cantilever compliance ('springiness') needs to be considered in the light of the effective mass of the tonearm, and to achieve a good match compare the effective mass requirements figures with the actual effective mass of specific arms. 'turntables' and 'tonearms' sections.

Turntables – cartridges

		Arm				
		^m effectiv	0			
Turntabl	es ·	- cartridges	mass (g)	Output	MA	MC ISSU
Product	£Price	Comments	V	V		V
Arcam C77	30 A+	A sensible moving magnet package with good bounce at a competitive price	6-16	N	•	
Arcam C77Mg	40 A	Punchy sound quality with plenty of extra energy to liven things up. The solid body seems well worth the extra £10	4-8	N	•	
Arcam E77Mg	60 A	Our sample had a disappointing stylus, but gave a coherent, rich and laid back sound, with good 'scale'	3-8	N	•	
Arcam P77Mg	73 A+	Preferred to its cheaper partner by virtue of a better tip. Channel balance could have been better	4-9	N	•	
Audio Note IO IIV	1395 E	One of the best, giving 'an extraordinarily relaxing midrange clarity', needs a transformer	8-18	VL		•
Audio-Technica ART1	850 VG	This is a delicate and very fluid-sounding MC that tracks well, offers very low distortion and exceptionally good separation	9-18	L		•
Audio-Technica AT-420E	36 A	Better suited to pop recordings, this MM bears some of the sonic hallmarks of the Linn K5	7-14	N	•	
Audio-Technica AT-95E	20 A	Clear, dynamic if richly balanced, the magnetic '95E is a definite Best Buy	8-14	N		
Audio-Technica OC-5	130 G	For the price, it's unusually effortless and detailed, but it tends to become rather relentless and tiring after a while.	5-14	L		
Audioquest AQ 404i-L	500 G+	Slight harshness detracted from the performance of this otherwise clear-sounding and detailed cartridge	8-16	L		•
Audioquest AQ 7000	1295 G+		6-20	L		•
Denon DL103	100 A+	Good performance in bass and general 'life' is seriously let down by its spherical stylus which kills subtle details.	9-22	L		
Denon DL110	70 G	Firmly recommended as a fine all-rounder, this high-output MC model is likely to perform well in nearly all circumstances	6-16	N		
Denon DL160	90 G	Although listeners just preferred the 110, its brother here proved a twin in lab tests and is still "thoroughly competent"	6-16	N		
Denon DL304	200 VG	Uncolored, detailed, neutral, superb tracking; top notch altogether, and a top notch bargain too.	4-12	L		
Dynavector 17D2	298 VG	Clear, detailed, neutral and generally very informative - excellent.	6-18	L		
Dynavector XX-1	698 G+	Good, but not immensely competitive at the price, and not helped by comparison with the low output version	7-15	N		
Dynavector XX-1L	698 VG	Very clear, very detailed, no troubles with tracking; response lift around 20kHz seems to do no harm	7-13	L		
Empire Benz Micro MC-Gold	150 G	Nothing is obviously wrong, but nothing is stunningly right either. Safe, but perhaps a little too safe	7-17	L		
Empire Benz Micro MC-Silver	150 G	Ultimately not the peer of the MC Gold is more appropriate to the sort of equipment it's likely to be partnered with	8-18	N		
Empire Benz-Micro MC-3	800 G+		5-12	L		
Glanz GMC-10LX						÷
	80 A+	Bearing some of the hallmarks of the '10EH, the '10LX is still less competitive in the sonic stakes	7-15	L		÷
Glanz GMC-20E	129 G+		5-10	L		•
Goldring 1012	50 G	Slightly harsh sound but plenty of life and quite good detail. Some very high frequency coloration apparent	6-12	N	•	
Goldring 1022	70 G	As with 1012, a touch harsh; detail and transient purity improved, though, and it goes well with electric guitarl	5-11	N	•	
Goldring 1042	90 G	Not terribly subtle, and not such good value alongside 1012 and 1022. Quite lively, though	7-12	N	•	
Goldring Elan	20 A	A lightweight and frisky-sounding MM that appears to be based upon the same body as the Nagaoka mm4	7-15	N	••	
Goldring Elite	200 G	The basics are right, and it will cheerfully tackle any source material, but its sound possesses a certain dirtiness	8-18	L		•
Goldring Eroica H	100 G -	More confused and coloured than low-output LX, high output less of an issue these days	8-15	N		•
Goldring Eroica LX	100 G	Not the most subtle cartridge in the world; can sound edgy at times, but lively and informative	8-14	L		•
Goldring Excel	549 G	Errs on the warm and heavy side of neutral. Strong bass lines are its forte, but resolution of subtle treble details is weak	6-13	L		•
Goldring Excel GS	600 G+	True high end quality in its lack of colorations, but tracking seems indifferent and high levels tend to sound rough and edgy.	9-20	L		•
Linn K5	49 A+	Not as crisply focused as the costlier Linn magnetics, the K5 offers a smoother presentation	7-16	N	•	
Linn K9	98 G	Linn threw this model into the leading pack by beefing up the Basik's bodywork and adding a super stylus	6-15	N	•	
London Maroon	199 A+	Now manufactured under the London brand name this Decca cartridge is as iconoclastic as ever	9-20	N	•	
London Super Gold	339 A -	Immediate and detailed, but very coloured, very nonlinear and questionable effect on records. Devotees swear by it	9-15	N	•	
Milltek Aurora	299 G+	An overall feeling of relaxed ease characterised this clear and atmospheric Kiseki-built cartridge	8-16	N		•
Ortofon 510	32 G+	For the price, a good blend of virtues weight, clarity and neutrality.	3-11	N	•	
Ortofon 520	55 A+	Very sensitive to load capacitance this new Ortofon maintains the company tradition for a lively, effervescent SQ	7-16	N	•	
Ortofon 530	85 G+	Very clean and assured sound; transients not quite perfectly pure but plenty of detail.	4-11	N	•	
Ortofon 540	110 A	Graced with FGII stylus but possessed of too high a compliance for broad arm matching. It could also sound a little unforgiving	3-8	N	•	
Ortofon MC10 Super	85 G	"What a delightfully sweet-sounding cartridge this is " we said	5-15	L		•
Ortofon MC15 Super	110 G+	A good all-rounder, with outstanding performance in detail retrieval, even if it can be very slightly bright and close-up	10-24	Ĺ.		•
Ortofon MC3 Turbo	110 G	Not terribly subtle, but it obviously doesn't aim at that. The 3 Turbo is bright, cheerful and bouncy - take it as it comes!	10-24	N		•
Ortofon MC3000 Mkll	950 E	Low levels of body resonance are a real ear-opener. Nothing to criticise elsewhere; one of the very best	9-16	VL		•
Ortofon MC5000	1500 G	Review sample could not be fully run-in, limited tracking ability, bright and forward sound, though imaging is excellent	12-20	VL		•
Rega Bias		Difficult to mount in some arms due to its shallow build, the bias offers a gentile, refined SQ	4-10	N	•	
Rega Elys	74 G	Clearly superior to the Bias, despite their common heritage, the Elys is both more detailed, accurate and musically convincing	8-15	N		
Roksan Corus Black	130 G	Recognisably related to Corus Blue, but distinctly more civilised and smoother.	7-12	N		
Roksan Corus Blue	75 G	Roksan-specified modified Goldring 1012; slight harshness detracts from otherwise good sound.	7-12	N		
Shure ME97HE	55 A+		8-20	N		
Shure V15 VMR		Initial listening gave promising results, but extended familiarity gave the feeling of a lack of energy and a "shut-in" sound	5-12	N		

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KENWOOD

KA1030 65 watts per ch. KA 4050R NEW, 70 watts per ch. Remote KA 5020 80 watts per ch. KA 5050R NEW, 90 watts per ch. Remote KA 7050R NEW, 100 watts per ch. Remote KAV 8500 HOME CINEMA "What HiFi?" Award Winner KA 2060R, NEW, 65 watts per ch. Remote KA 3020SE, 50 watts per ch. KA 3060R, NEW, 80 watts per ch. remote KAV 3700, NEW, A/V ProLogic Amp KAV 7700, NEW, AV ProLogic amp with DSP

SONY

TAF 211B, NEW, 30 watts per ch. TAF 244B, NEW, 60 watts per ch. TAF 442E, NEW, 80 watts per ch. UK sound TAF 542E, NEW, 90 watts per ch. UK sound TAAV 570B, NEW, Dolby ProLogic Home Cinema Amp

CD PLAYERS

TECHNICS

SLXP 150, SLXP 330, SLXP 440, SLXP 550, SLXP 570, Portables SLXP 330, SLXP 330, SLXP 440, SLXP 550, SLXP 570, Portables SLPG 340A, NEW, ASHP Player SLPG 440K, NEW, ASHP 40gital servo SLPG 740K, NEW, Asth 40gital servo SLPG 840K, NEW, advanced MASH KENWOOD

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DP 3050, NEW, 1 bit model DP 5050, NEW, 1 bit model DP 7050, NEW, 1 bit model DPM 6060, NEW, 6+1 multiplayer DPR 4060, NFW, 5 disc multiplayer

SONY

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CASSETTE DECKS

TECHNICS

RSBX 404K, NEW, Dolby B/C + HX Pro RSBX 646K, NEW, 3 Head Deck with HX-Pro RSBX 747K, NEW, 3 Head Deck with HX-Pro, Class AA

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KXW 8060, NEW, twin deck with HX-Pro

SONY

Single Decks TCFX 211B, NEW, Dolby B/C TCK 215B, NEW, budget full logic deck TCK 415B, NEW, 3 head deck TCK 511S_NEW_3 head with Dolby S TCK 611S, NEW, 3 head, 3 motor deck with Dolby S TCW 445B, NEW, Dolby B/C TCW 545B, NEW, auto reverse deck \TCW 6455, NEW, auto reverse deck with Dolby 5

SPEAKERS

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TECHNICS

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MZR1 + MZE2, NEW, portables MDS 501, NEW, full size, mini disc player MDS 101 for minisystems

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STS211B, NEW, with 30 presets STS 311B, NEW, with RDS – EON STS 505ES with RDS

RECEIVERS

TECHNICS SAGX 130K, 60 watts, 30 presets SAGX 550K, NEW, Dolby ProLogic SAGX 230K, 80 watts, VCR input SAGX 350K, NEW, ProLogic **KENWOOD**

KR-A4050 with RDS KRV 6060, NEW, model with Dolby ProLogic and RDS KRV 7050, NEW, model with Dolby ProLogic RDS + DSP SONY STRD 311B, NEW

STRD 511B, NEW, ProLogic model STRD 611B, NEW, ProLogic model Dolby ProLogic, kit, NEW, total surround package



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THE DIRECTORY Turntables – cartridges continued

	es £Price		THE DIRECTORY - cartridges continued	Arn effective ma	³⁵ (4)	Output	MM	MC	Sue No.
van den Hul Grasshopper IIIGLA			Undoubtedly one of the finest cartridges available, it has tremendous bandwidth, energy and finesse		6-10	L		•	122
van den Hul MC One	975	G+	This extended all the positive qualities of the '10 but added greater authority and scale worth it for the extra money		6-12	L		• •	60
van den Hul MC One/High	1100	G+	Slight softening on transients was the only real flaw, but it didn't quite seem to have that special touch one expects		8-15	L		•	84
van den Hul MC Two	1300	G+	Connected directly to any standard MM input it rewards with a highly detailed yet fluid and musically convincing portraya	al _	6-13	N		•	72
van den Hul MC10	775	G+	A neutral balanced performer giving transparent midrange, fine depth and focus with firm extended bass. Gosh!		5-10	L		•	60
van den Hul MM1	275	G+	If woody midrange coloration could be tamed, the excellent imaging and admirable security would make it excellent		7-15	L		•	103



Turntables and tonearms

pecialist turntables are what high fidelity sound is all about, CD may offer silent backrounds 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 (sub-£350) tend to be supplied with matching tonearm, and often include a 'starter' cartridge. Still better quality is found at higher prices amongst the

separate motor units and tonearms. Careful partnering and set-up is essential for these components, but 'sympathetic' combinations exist.

The columns show from left to right, 'arm effective mass' relates to cartridge compatibility with regard to compliance (springiness) and is explained in the 'Cartridges' introduction. 'Suspended suchassis' - decks which have some form of internal isolation, generally in the form of

springs but occasionally more solid materials such as rubber. 'Manual' and 'Automatic' refer to the operational tendencies of the deck/arm combination - automatic high end turntables are as rare as hens teeth. 'Cartridge' - if one is supplied. 'Belt drive' as opposed to direct drive is the preferred method in most quality decks. An 'Electronic PSU' offers switchable speed change and a 'smoother' power supply for better sound.



Turntables

	Product	£Price	•	Comments		N.			Y		V	
	Alphason Sonata/HR100S MCS	1785	G+	Good sound in all areas - bass, clarity and neutrality all in the top class and bettered by very few decks at price	13	•	•			•	•	79
	Dual CS-503-2	160	A	Not wholly inspiring; generally coarse and wooly sound is at least not offensive, but easily bettered by the CS505-4	10			•	•	•		91
	Dual CS-505-4	200	A	Consistent sounding and well isolated turntable. It is slightly lacking in balls, compensates with a consistently unmuddled presentation	10			•	•	•		103
	Kuzma Stabi/Stogi Reference	2000	G+	Beautifully made solid oak plinth, the Stabi also sounds very clear, detailed and extended. Stogi Reference is very capable.	12	•	•			•		91
	Linn Basik	299	A +	Strong midband analysis and imagery, clean if sharp treble is matched to a good if occasionally wooden bass	10		•		•	•		103
-	Linn LP12 Basik/Akito	904	G.	Trails the full LP12 significantly, but pace, rhythm, timing etc. still in top class, and bass tauter than of old	10	•	•			•		103
-	Linn LP12-Lingo/Ekos	2642	G+	The classic reference is improved by the Lingo but charming character remains. Ekos is well made and suited to many decks	9		•			•	•	91
-	Michell Gyrodec	697	G	Sweet and natural sounding player, well suited to Rega RB300. Aesthetics, and the acres of clear acrylic are very distinctive	NA	•	•			•	•	55
	Michell Syncro	325	G	A happy blend of qualities endows the stylish Syncro with a blend of subtlety and force - the mailed fist in the velvet glove	NA	•	•			•		67
	Pink Triangle Anniversary	1495	E	Possibly the most detailed, clear and neutral deck around. Likeness to master tape is uncanny	NA	•	•			•	•	91
	Pink Triangle Export	890	E	The PT TOO with built in PS. Retains features of great transparency and neutrality. Review sample had highish motor noise	NA	•	•			•	•	91
	Rega Planar 2	185	G	A remarkable product at the price, surprisingly articulate and confident	11.5		•			•		48
	Rega Planar 3	250	G	A long time leader in its category, the '3 (with excellent RB300 arm) sounded nicely 'musical' in a balanced and coherent manner	11.5		•			•		48
	Roksan Radius/Tabriz zi	740	G	Design is subtle, refined and easy on the eye. Musically it offers exceptional performance with a minimum of fuss	9		•			•		103
	Systemdek 1.920	235	A-	The motor unit is derivative of the Rega Planar 2 with a Moth arm. Up tempo even bright at times but never lacks enthusiasm	12		•			•		115
	Systemdek IIX/900	230	G	A high performance budget turntable which is particularly strong at fine detail resolution and imagery	NA	•	•			•		103
	Systemdek IIXE/900AP	388	G+	The acrylic platter'd IIXE is one of the most capable budget decks on the market, good resolution, dynamics and timing	NA	•	•			•	•	103
	SME Model 20A	3763	E	Supplied with Series V arm. Engineered to last a lifetime, giving excellent stereo and detail retrieval.	10.5	•	•			•	•	118
	Thorens TD-3001/TP90SF	760	G	Excellent middle ranking esoterica, with strong all round abilities rather than excellence in particular areas	NA	•	•			•	•	103
	Thorens TD166 VI/UK/RB250	280	A-	Refined and articulate sound with well focused imagery, suitable for use with good MM and budget MC cartridges	11.5	•	•			•		103
	Thorens TD2001	650	G-	Similar to TD320 but much dearer - why? Sound is comfortable but not very detailed	15	•		•		•		91
	Voyd 0.5	3368	E	Halfway between standard and Reference Voyds with the latter's platter and bearing. Superb finish, colourful and dynamic sound	NA	•	•			•	•	72
	Voyd Reference	5950	E	Voyd's flagship, equipped with three substantial motors, a Lexan platter and brute PS. A strong contender for world's best	NA	•	•			•	•	C91
	Well Tempered WTAT	1690	G+	Intriguing/challenging design. Musically it is not ideal, but has a limpid quality and a lack of artificiality that sets standards	7.5		•			•		67

Effective mass (g) Height adjustment Parallel tracking ISSUE NO. Pivoted Tonearms Product 10 C86 490 VG S-shaped arm sounds smooth, but nevertheless reproduces transients with fine attack . Alphason HR100S 12 79 1000 VG Large, solid and well made arm, gives exceptionally clear sound with just a hint of brightness 🔺 Kuzma Stoqi Reference 9 67 1297 VG Superb, state of the art design which builds significantly on predecessor Ittok's strengths 🔺 Linn Ekos 🔺 🔺 Moth arm 12 60 95 G+ The ultimate budget arm? Refined, detailed, sweet and natural 11.5 60 🔺 🔺 Rega RB300 139 VG Despite its modest price it sets exceptional performance standards and could be used on many high end turntables 9 91 . 🔺 Roksan Tabriz 190 G+ Targetted at the Xerxes, this is a good alternative to the Rega arms in many cases - a trifle bright 568 VG Beautifully made and finished, fully adjustable, a highly neutral performer 10 79 A SME 309 . 828 VG Superb engineering and finish with a finely balanced sound, impressive stereo focus and low colouration 10.5 60 A SME Series IV 1233 E Excellent in all respects, this arm arguably sets the standard for pivoted arms regardless of price 10.5 60 A SME Series V

Personal messages

The Golden Ratio, and a pair of high-class miniature speakers with unique placement, have inspired Paul Messenger to experiment with different speaker positions. He's moved all his furniture and even stuck his head up the chimney.

R egular readers will be well aware that I'm not a great fan of mini speakers, and view any that come my way with pricetags over £1,000 with the deepest suspicion. I feel the market for such expensive tinies is itself small, but as Acoustic Energy,

ProAc and subsequently Totem and Sonus Faber have shown, there are customers who want top quality performance alongside minimal bulk.

And even though a bigger loudspeaker will deliver more for the same investment, top quality miniatures have real strengths which no big box can match (provided loudness and bass welly are low priorities). The cabinet is the weakest link in most speakers' armour, and the greater the panel area, the

more unwelcome the contribution. Ergo, if you minimise the cabinet and spend lots of money on engineering it elaborately, you will often end up with a better sound.

The miniature speaker that has been tickling my eardrums most pleasingly these past few weeks is the Audio Physic *STEP*, which is crafted in Germany and is being imported via AanvilAudio, **2** (0359) 240687, part of the Essex University connection.

The first surprise is that something this small can actually cost £1,300, although that does include a pair of exceptionally neat and purposeful stands, and the end result is undoubtedly stylish in a sombre, understated way. The second surprise was a diagram (see box), which recommended placing the speakers virtually in the middle of the room, and my head (in my room, at least) up the chimney.

Since I derive great interest from any unusual aspects of speaker/room interaction, I adopted the position and was very impressed by the sonic results, although the arrangement is totally incompatible with my lifestyle, especiallywhen the fire is lit during the winter. It does sound remarkably good for at least two obvious reasons, and I daresay there may be some people who could handle such a layout.

What it means is that the speakers are about as far from the room's reflective walls as possible, and the result is spectacularly effective clarity and stereophony. Listening with the head close to a wall helps to reinforce the bass, by getting close to the nodes of the room standing waves. Conversely, placing the speakers on the anti-nodes as suggested, should help minimise the excitation of these main room modes.

Even when more conventionally sited, the STEP has considerable charm. The lack of scale and weight is occasionally obvious with some material, but for the most part it simply sounds delightfully open and free from boxiness. It also has a dynamic freedom which is quite remarkable from something so small—provided you don't get enthusiastic with the volume control.

But back to that unorthodox placement.Irecentlyreceived an interesting leaflet on speaker placement by George Cardas of Oregon USA, which covers broadly similar ground. The background information is very sketchy here, but again the recommendation is to mount the speakers well clear of walls and in precisely predetermined positions.Presumably to minimise the effect of the room as before.

This time the listener is also sitting well clear of room boundaries, and the room is arranged the 'normal' way round, speakers facing down the

The high-quality miniature Audio Physic *STEP* loudspeaker (above) — and where you can stick it (in your listening room, that is).

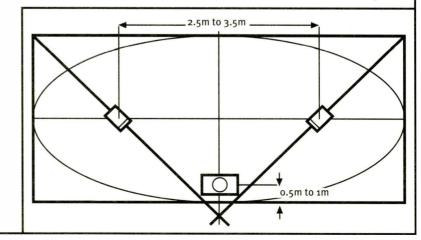


length rather than across the width, while the ideal locations of speakers and listener are determined mathematically according to the rules of the Golden Ratio or Fibonacci sequence.

The practical implementation is to apply the ratio Phi (0.618:1 or 1:1.618) to the spacings between speakers, listener and room boundaries. The speaker is assumed to be at the acoustic centre of the main drivercone (which is debatable with ported systems). Both speakers and listener should be 0.618 of the ceiling height in from the end walls, and the speakers should be 0.276 of the room width in from the side walls. Damping at first reflection points is also recommended.

Cardas also refers to the AES (Audio Engineering Society) 'Golden cuboid' ideal listening room, based on the same mathematics, which is 10ft high, 16ft wide and 26ft long – coincidentally quite similar to my own 8.75x14x18-24ft listening room.

Both these siting/seating arrangements are only applicable to speakers with bass alignment for free space (away from wall) positioning. Both are oriented towards extracting the maximum stereophonic performance, and I'm not saying that they will work with any given situation or personal preferences. But they do provide two possible kick-off points with some rational basis, when confronting one of the most difficult and least well understood areas ofhi-fi sound reproduction.



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Rotel's original RCD-865 whipped up a storm, especially from Philips which was a trifled miffed at someone else pipping it to the post with its own technology! And then there were the golden-eared reviewers who thought bitstream would never amount to much anyway.

We know better now of course, and so do the UK arm of Rotel which has spent the intervening two years working on its replacement - the RCD-965BX. Visually it's hardly a departure from the original, though the satin-black alloy fascia with its clear fluorescent display is a little softer on the eye. Extra features include index skipping which joins traditional track skip, search, repeat, random and program play options. There's a new slimline remote too, an attractive little handset that adds direct track access to the tally of widgets.

Inside it's all change with Philips' new SAA7323 PDM DAC replacing the SAA7320 used before. The 7320 family are all single-ended DACs using a total of 256 times oversampling and second order noise-shaping. Nevertheless the SAA7323, with its 352kHz dither, is much closer in execution to the 7320 than the

intermediate 7321. Meanwhile Rotel has a completely new and wholly symmetrical board layout for this combination of SAA7310 decoder, SAA7323 DAC and analogue filter.

Lab report

This player conforms to accepted standards with a nominal 2V output, though its performance elsewhere is still far from conventional. In particular although the SAA7323 DAC avoids the sporadic highlevel idle tones of the SAA7320, various fixed signals, including the CLV reference tone of 7.35kHz, are still present. This drone is visible on the -70dB plot and, naturally enough, compromises the signalto-noise ratio to the tune of about 5dB or

Meanwhile the 3D plot highlights the

third and fifth harmonic distortions that mark the 7320 family while extended hum products can be seen to influence the player's frequency response at low levels. Interestingly, the new 1Hz noise modulation test reveals the 965BX to be the least affected of the group even if figures for linearity and stop-band rejection are far from state of the art.

Sound quality

There was no mistaking the calibre of this player, which was greeted with unanimous applause from our panel. Yet if one over-riding feature of its sound struck our listeners, other than its generally engaging character of course, then this was its sheer poise and elegance in handling all percussive sounds. Whether it was the lone cymbal from Mary Black Columbus, the harpsichord from Pachelbel's Canon, or the vibes and pe cussion from Marty Paich, all possesse an uncommon delicacy and clarity.

This sense of control and integration of even the most complex passages seems almost intuitive, for though the music has a comfortable 'at home' feel, the overall presentation is far from over-civilised or dusty. Our listeners complimented the player for its bubbly but incredibly refined performance, the music sparkling with enthusiasm and vitality but always tempered with a remarkably realistic sense of

More importantly, although our listenproportion. ers were duly impressed with its technical proficiency, they were utterly transfixed by the sheer conviction and passion of the music itself.

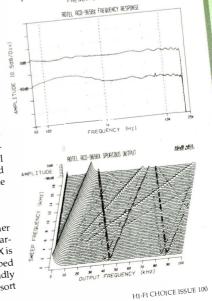
Every group test has its star performer and, this time around, it's Rotel that carries home the honours. The RCD-965BX is a shrewdly balanced player, equipped with a sensible range of facilities, solidly built and engineered to produce the sort

of sound that many high-end products wouldn't have a hope of achieving. This is a Best Buy with knobs on.

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TEST R	20Hz	1 KHZ	20kHz 0.00dB
Channel Balance Channel Separation THD vs Level, 0dB -30dB -60dB -80dB	0.01dB 92.6dB -95.5dB -79.1dB -51.4dB -24.2dB	0.01dB 101.4dB -93.6dB -76.7dB -47.6dB -24.0dB	96.4dB -70.8dB -66.6dB -40.1dB -17.6dB -6.25dB
Dithered, -90dB Resolution @ -66dB -80dB -90dB -95dB -100dB	-4.95dB	-11.2dB -0.07dB -0.60dB -3.52dB -1.62dB -1.05dB 2.075V	-0.08dB -0.83dB -3.85dB +0.95dB
Peak Output Level, L	ĩ	2.077V 0.32dE	6
Relative Output Lev Output Impedance Radio Frequency Si 1Hz Noise Modulati CCIR IMD, 0dB Suppression of sto De-emphasis Accu Si KHz 16kHz Si N Ratio (A-wtd), wio emp, 0L wio emp, 1L Digital Output Crystal Clock Ac	puriae on pp-band II rracy, 1kh w emp, ⁰ SB SB SB	2080hm 2.1mV MD 1z	 (a) 11.3MHz 0.91dB .95.5dB .95.2dB 0.04dB 0.00dB .001dB .93.1dB .93.6dB Coaxial +8.8ppm secs £300
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