HI-FI MAGAZINE IN THE WORLD DECEMBER



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CD

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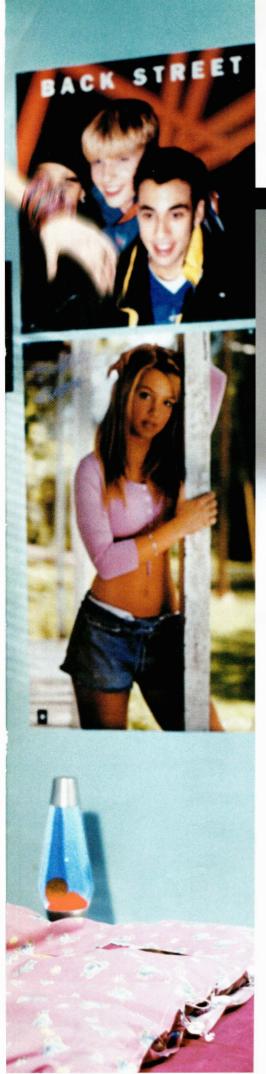
Ten CD and amp combos that sound as good as they look

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HI-FI MODELS OVER 1000 RATED





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### NEW PRODUCT INFORMATION

We welcome information on all new and upgraded products please send all press releases to the Editor. The magazine is obliged neither to review nor return unsolicited products, and does not accept responsibility for unsolicited copy

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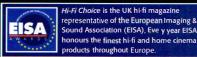
This publication may not be reproduced or transmitted in any form in whole or in part without the written permission of the pu ers. While every care has been taken in the preparation of this journal, the publishers cannot be held responsible for the accuracy of the information contained herein, nor for any consequence arising. All judgements have been made in the context of equipment available to Hi-Fi Choice at the time of review. 'Value for money comments are based on UK prices at press time (which are subject to fluctuation) and only apply to the UK market. This issue brought to you with the aid of the Black Dalek. (And the gold chrome-effect one.) Don't worry, they're only Rolykins.

### OVERSEAS LICENSING ENQUIRIES

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# EDITOR'S NOTEBO

**OPINION** 

Jason has been

aettina envious of the kit his contributors have been enjoying.



elcome to the December issue of Hi-Fi Choice. I know it's only October, but publishers have this knack of throwing the schedules into disarray at times, and if all goes to plan you'll be able to get hold of a February issue at the end of December. In other words we're doing 13 issues this year, and it looks like taking till next summer before we get back to the

familiar month-early cover date. Still, this means you get to see more gear and hear about which stuff is worth trying earlier than ever.

We've also changed our cover. We thought it was about time that people who don't read the mag often got to see how gorgeous real hi-fi can look. After all, if our competitors in the gadget market can get away with jaw dropping pictures of hi-fi, why can't we? I hope you like it as much as we do.

### **SYSTEMATIC**

Car journalist and hi-fi connoisseur David Vivian has been getting to grips with system synergy this month. We sent him ten matching CD player and amp pair-ups and asked him which ones were greater than the sum of their parts. It makes very interesting reading. While he doesn't disagree with previous Mega Test findings, there are several instances where a brand's CD player is much stronger than the amplifier and vice versa. The most controversial aspect of the review being the conclusion that you are not necessarily getting instant synergy by buying all your electronics from one company. The test starts on page 55, so why not have a read.

### WHEREFORE WADIA

Shortly after the last issue closed, I heard the sad news that Wadia, the American CD player specialist, had gone into liquidation. Wadia was something of a pioneer as far as CD technology was concerned, being one of the first to use high oversampling rates and outboard converters. It has always been at the forefront of high end CD technology, so much so that Pioneer and latterly Technics have used its ideas in their attempts to extrapolate higher frequencies from CD and thus produce a more natural sound. Wadia players always sounded more energetic and dynamic than the alternatives, a quality that won them devotees across the hi-fi world.

It seems likely that the company's demise was caused by its reluctance to jump on the multichannel bandwagon, Wadia didn't even have a processor on the market, let alone DVD player, though both of these were in the pipeline two years ago. It's unfortunate that being one of the best in the two channel world is no longer enough to sustain an innovative brand, but it's a warning to all the other specialists out there: you can't ignore the market.

The latest word on Wadia is that the assets and name have been acquired by majority shareholder Shared Ventures which is looking for a buyer as I write. Anyone out there got a few hundred thousand to spare?

### **EDITOR'S CHOICE**

We've managed to find rather more spectacular new products than usual this month.

### he Marantz SA-1

(page 80) is not only a remarkable SACD player, it's also the best CD player that Paul Miller and his panel have encountered. It's not often that Paul gets this excited about a product, and I'm rather miffed that I didn't get to hear it myself. The other Paul has been

getting equally excited

about the new Naim NAP500 (page 88), a behemoth of a stereo power amp that looks like turning Paul into a classical music enthusiast, such is the delicacy of its touch. If I could've carried it up the stairs, I would have borrowed that too.

> I did manage to get my hands on something rather nice however, namely the Dynavector DRT XV1

cartridge (page 87). This groove-tracking jewel has stereo imagery to die for, but don't audition it if you can't afford it!



# Reviews





55

### **ONE-BRAND SYSTEMS**

Does great hi-fi have to be black?

Not according to our single-make

Super Test – ten CD/amp combos

deilver style, synergy and sensational

sound in one easy bite.



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# MP3/DIGITAL AUDIO PLAYERS

Where now for MP3? We consider the future with a test of six next generation players.

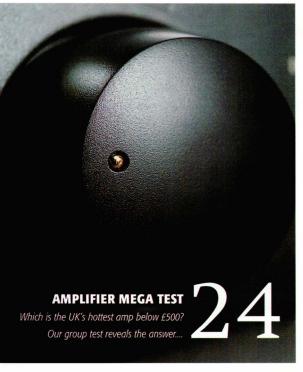


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### **B&W CDM SPEAKERS**

Looking for a high quality compact speaker, or a floorstander around the £1,000 mark? B&W's CDM-1NT or CDM-7NT might just fit the bill.





# Opinion

### **EDITOR'S NOTEBOOK**

Jason Kennedy reports on this month's happenings and Editor's Choices.

### **PAUL MESSENGER**

The times they are a-changing. Paul's macro market view explains how.

### PHIL STRONGMAN

Phil reveals more classic tunes on vinyl and CD.

### **DAVID VIVIAN**

Hi-fi is a complex and emotive subject.

Some magazines just don't understand...

# PAUL MILLER'S OASIS OF SANITY

Marantz's first SACD player is a stunner. Paul explains why it sounds so good.

### **JIMMY HUGHES**

Did Nick Hornby base High Fidelity on our Jimmy? Could just be...



### **NEW TECHNOLOGY**

Ever thought of storing you music on hard drive and playing it back through your hi-fi? Check this out...

This feature might just change the way you listen to radio. For good.

### The latest news asteroids

from the great hi-fi universe



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Help

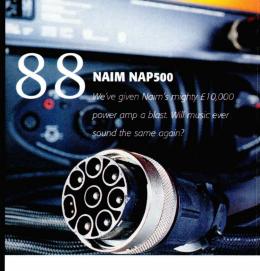
Got a hi-fi problem? Not sure what to buy next? Don't get you cables in a twist - read Help instead.

You chance to have your say. Views and opinions in black and

### Hi-Fi )irectory

A complete listing of current hi-fi 118 kit reviewed by us over the years with ECs, BBs and Recs.





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How to accesss our reviews and features via back issues, the internet and photocopies.

# NDWS & VIEW

Roving reporters Tim Bowern and Jason Kennedy bring you the latest hi-fi news.

### **NEWS IN BRIEF**



TAG MCLAREN'S awesome F1 AvantGarde loudspeaker (above) has been joined by a more compact, full range model. The Proteus is designed for use in multi-channel systems either as a centre speaker in cahoots with the full size F1s or with other Proteus speakers to make a matching package. Priced at £7,950 each (or £8,450 in non-standard colours), the speaker incorporates two 180mm bass units, one 150mm midrange unit and a 20mm silk dome tweeter in a glass fibre/resin composite enclosure. **2** (0800) 7838007

KUDOS loudspeaker stands have made a welcome return. One of our favourite stands for years, the S50 (£115) and \$100 (£380) are now being manufactured by Neat Acoustics. The less costly stand is identical to its previous incarnation but the \$100 has been improved with a reinforced resin base-plate and a new aluminium collar between column and top-plate. The result, claims Neat, is the ultimate support for highperformance speakers. @ (01833) 631021

**SAFESTREET** has re-launched its Internet Shopping Centre. Users can pick from 140 virtual shops across 19 product categories, including home entertainment, audio/visual and in-car audio. Each shop stocks up to 15,000 products and the site supports The Which Web Trader Scheme, which protects consumers when shopping on the Net

Website: www.safestreet.co.uk

PHILIPS has further consolidated its position at the forefront of new digital technologies with the acquisition of a 12 per cent share in Digimarc Corporation, the world leader in patented digital watermarking technologies and applications. Together, Philips and Digimarc will found a new company with a particular focus on securing the digital distribution of audio and video. In a separate announcement, Philips has unveiled new SACD hybrid disc production facilities developed as part of a joint initiative with Sonopress. The production line has been installed and manufacture should now be under way. **2** (020) 8689 2166

REL has unleashed the Q400E, a £1,000 active subwoofer described as "a Q200E on steroids". It incorporates a

# 21st century Icon



Has NXT's flat speaker technology finally come of age? Cyrus certainly thinks so, with the launch of its £1,900 Icon loudspeaker. The

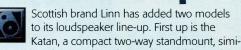
NXT-owned brand has combined its parent company's SurfaceSound technology with a conventional moving coil bass driver to deliver a 10-octave range. The result is a futuristic-looking floorstander described by Cyrus as "the first truly high-end application of NXT".

If all this sounds a little close to electrostatic hybrids that have been around for years, Cyrus begs to differ. Unlike those existing designs, the Icon doesn't attempt the feat of seamlessly combining dipole and monopole sound sources – the bass driver and NXT panel have complementary radiation patterns at the crossover point, which is set at 400Hz. This is much lower than that most two-way speakers, keeping the transition well away from the ear's most sensitive frequency range.

Its maker claims the Icon supplies the best of both speaker technologies employed: room-filling projection and reduced room interaction from the SurfaceSound panel coupled with high levels of detail and a solid, extended bass. A big sound from svelte enclosures is said to be the cumulative effect.

NXT panel speaker technology offers a discrete solution to myriad industries. But in the world of hi-fi, it has yet to prove itself. The Icon might just do the trick. Cyrus Electronics 2 (01480) 435577

# **Double Linn-up**



lar in size to the popular Tukan and touted for multichannel use. Its specification boasts a "new technology" wide-dispersion tweeter and a polypropylene-coned mid/bass unit, with magnetic shielding to permit placement next to a TV.

Much is made of the £600 Katan's versatility: it is said to perform well whether stand mounted, wall mounted or placed on a bookshelf, and is configurable for either passive or active use. A choice of reversible-link connection boards at the back automatically configure the appropriate input links for the desired application.

The second new speaker, the Ninka, proffers a

similar set of facilities. A two-way floorstander with a base price of £895, the Ninka is designed for both two channel and multi-channel applications and features a pair of polypropylene mid/bass cones in tandem with the same "new technology" tweeter. Linn claims its performance outstrips the similarly sized Keilidh, currently the firm's most popular model. Linn 2 (0500) 888909





## **Nu-Vista no more**



Musical Fidelity has brought the curtain down on its Nu-Vista range with the launch of a new integrated amplifier. The Nu-Vista M3 is

intended as the ultimate nuvistor valve based amp.

According to its designer, the chief criterion was to achieve absolute sonic neutrality while delivering unburstable reserves of power. It is effectively a preamp and a pair of monoblocks in a single case - both power amps have their own PCB, heatsink, choke regulation and mains transformer. The essential circuit design is culled from the original Nu-Vista pre and power amps but is said to be improved, boasting slightly less feedback and lower distortion.

The result is an integrated amp delivering more than 275 Watts per channel, with a price tag of £2,995. Musical Fidelity boss Anthony Michaelson is confident of its quality: "The sensation of listening to it is one of complete relaxation, since [it] does not impart any character of its own to the sound".

Musical Fidelity 2 (020) 8900 2866



# **High end Onkyo**



Onkyo is hoping to break into the high end via a new brand name, Integra Research. This highly aspirational new name has got together with

two highly respected US brands to build a set of components that is intended to compete with the very best.

The Integra Research name will exist independently of the parent brand. Its first products are a DVD-Audio player, multi-channel processor and seven channel power amp. The RDV-1 DVD-A player (£2,200) incorporates a low jitter clock made by Apogee Electronics, a stateside version of dCS inasmuch as it makes digital kit for both studio and home. It also features the gamut of multi-channel badges: THX Ultra, dts, DD and MPEG.

The RDC-7 processor/preamp has the same badges on its very solid fascia, as one might expect of a £3,500 unit. This is a 192kHz/24-bit ready THX Surround EX design with 7.1 channels and Apogee clock. The meat in this particular audio sandwich is the £5,000 RDA-7 power amplifier. This incorporates technology from US amp specialist BAT and produces seven times 150 Watts from a low negative feedback design with dual 1kVA toroidal transformers.

All three are available as a package for £10,000.



# **Cool blue NADs**



Style has become a vital ingredient in audio design, even for specialist hi-fi manufacturers. And as if to reinforce the point, we've just got

wind of a new range of stylish separates from NAD, a brand better known for a 'sound before looks' philosophy.

The Life Design Series kicks off with two mid-priced, mid-sized components aiming to mix hi-fi performance, multichannel versatility and unobtrusive convenience. First up is the L75, a DVD player claimed to incorporate audiophile-grade components along with a 10-bit video DAC. Then there's the L55, a matching multichannel receiver delivering 40 Watts to five channels or 60 Watts in stereo. Processing modes include DD, dts and Dolby Pro-Logic, and there's an RDS-equipped AM/FM tuner.

Both components should be available now, priced at £500 each. According to Stephen Calder, MD of NAD distributor Lenbrook UK: "The problem with so many attractive, smaller sized systems is that, frankly, they just don't sound as good as they look." Perhaps this new range will prove an exception.

Lenbrook UK 2 (01908) 319360



# Tiny speaker, big Aego



Acoustic Energy is making its first foray into the lifestyle market with the Aego 2 subwoofer and satellite package. This extremely compact com-

bination retails at £299.95 and is aimed squarely at music enthusiasts who want discreet speakers.

Designed to run off personal stereos, mini and micro systems, computers and even games consoles, the Aego is a neat solution to the ever-constricting nature of modern living. The Aego2 is the first of a range that will grow to encompass surround sound, the existing subwoofer featuring built-in amplification for a centre channel. The satellites' appeal is enhanced by their zinc alloy construction; these things have a pleasing solidity. They use phono sockets instead of speaker terminals and have wall mount potential as well as the ability to sit on a shelf or table. The subwoofer incorporates amplifiers and a single control for volume, though no remote.

Despite their diminutive stature AE is confident about sound quality, claiming "an unbelievably huge soundstage" due to the design being "optimised to take advantage of human psycho-acoustic perception traits". Acoustic Energy 2 (01285) 654432, www.aego.com



#### **d NEWS IN BRIEF**

300mm long-throw driver and a 400 Watt MOSFET amp in a heavily braced enclosure and features RFI's usual high level of user adjustability. MkIII versions of the company's upmarket Stadium and Stentor subs have also hit the streets, priced at £1,500 and £2,500 respectively. **2** (01656) 768777



VIDEOLOGIC is launching the first digital radio tuner to break the £300 barrier. The DRX 601E (above) is a fully specified DAB tuner priced at £299, complete with remote control. It undercuts its nearest rival (Technics) by a full £200 and is expected to be available by the end of October. **2** (01923) 277354

SSI claims its portable MP3/digital audio player offers the greatest capacity yet. The NEO 25 is one of a growing breed incorporating a hard drive for storage (see pages 94-95) and is available in a number of different versions - top of the line is the mighty 20GB version (\$699 US), claimed to have the capacity to store 650 CDs at once. 12GB and 6GB versions are also available, and each unit can be used to store other digital files like pictures. email and documents in addition to audio. Both PC and Macintosh platforms are supported, and a USB cable is supplied. www.ssiamerica.com

NAD'S portfolio continues to grow with the launch of an affordable stereo power amp - the C270. Delivering 120 Watts per channel this £400 model is said to be identical to the power section inside NAD's recently introduced C370 integrated amp (£450) - the two can be bridged to produce a whopping 300 Watts continuous power into 8 Ohms. 2 (01908) 319360

MP3'S rival digital audio file format, AAC, has been selected as the preferred format for commercial music Internet downloads by two of the Big Five music labels - BMG and Universal Music Group. AAC was codeveloped by Dolby and is said to offer better sound quality and copy right security than MP3. See pages 94-95 for more info.

**2** (01793) 842100

**PANASONIC** claims its latest MiniDisc personal is the smallest and lightest recording model available... again! The SJ-MR200 measures 7.8x7.1x1.6cm (WxHxD) and weighs just 94g without batteries What's more it's also extremely economical in its power consumption - Panasonic claims it'll run for up to 38 hours without a battery change. It costs £200.

☎ (08705) 357357

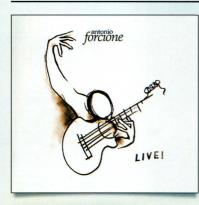
LINN has unveilled a hard drive storage system. Linn describes the Webenabled Knekt Kivor as "a modular recordable source product providing access on demand to the contents of many hundreds of full bandwidth, uncompressed CDs, LPs and radio broadcasts". On a similar note, Veda Products has been appointed UK distributor for Imerge's SoundServer range of hard drive equipped multiroom components. Linn 2 (0500) 888909, Imerge 2 (01954) 783600

# NEWS & VIEWS

# PREVIOUSLY UNHEARD

Phil Strongman digs out rare and classic tracks appearing on CD or virgin vinyl for the first time. May the groove be with you.





### **ANTONIO FORCIONE Live!**

Forcione is one of the few modern guitarists whose talent exceeds the hype. This mesmerising set, recorded live in London's Vortex in March, should convince all but the deaf. Forcione's fretboard stretches wall-towall. Quite simply, excellent.

Naim CD

Music OCOCO Sonic OCOCO

### **GLEN MATLOCK Open Mind**

A Sex Pistol? In *Choice*? But the Pistol who was fired for liking the Beatles also wrote *Pretty Vacant* thus starting the new wave of lan Dury, Sting, U2 et al. He's also spent two decades cutting rock 'n' roll albums and now he's pretty damn good at it. It does take two or three plays but then this really shines. Peppermint CD

Music OCOCO Sonic OCOCO

### **AL STEWART** Year of the Cat

This went platinum, thanks to Stewart's breezily 'surburban soul' voice and some well recorded session men. The quality end of the easy-going pop-rock market – done with a vocal style that has inspired many. Simply Vinyl 180 g LP

Music OOOOO Sonic OOOOO

### **BLONDIE** Parallel Lines

A 22-year-old disposable piece of pop which has stood the test of time. Mike Chapman's productions swing from *Heart of Glass* disco, through *Hanging on the Telephone's* power-pop punk right on down to the edgy art student angst of *Will Anything Happen*. All three genres blend well with that crisp vinyl ease which perfectly showcases Debbie Harry's softly raw voice. Simply Vinyl 180 g LP

Music 🛇 🔾 🔾 Sonic 🔾 🔾 🔾

### **CHUCK MANGIONE Finest Hour**

Like other jazzy legends of the trumpet, Chuck M preferred the flugelhorn and, like Donald Byrd and Miles Davis before him, he did great things with it. *Bellavia* and *Main Squeeze* are both included, while the megahit *Feels So Good* still makes you feel good. Verve CD

Music OOOOO Sonic OOOOO

### **ASHTON, GARDNER & DYKE The Best Of**

Those who think that Resurrection Shuffle makes AGAD one-hit wonders will be surprised by the diversity and talent here. There's blues, rock, ballads, honky-tonk and the definitive comment on 60s beat bands, the touching Ballad of the Remo Four. Repertoire CD

Music 🛇 🔾 🔾 Sonic 🔾 🔾 🔾 🔾

### **SUREFOOTER** Southern Effect

Explosive 'rinsin' noises via dance's front-line – techno, jungle, rave and the other stuff young turntablists blast out nightly. Surefooter are as underground as it gets, but never mind the tunes, just watch those woofers flap.

e.footer.co.uk CD

Music OOOOO Sonic OOOOO

# GLEN MATLOCK PHILISTINES OPEN MIND





# **Cubist revival**

With the European launch of Sony's Playstation2 delayed until November, Nintendo has seized the moment to reveal its competing next generation games console. Formally code-named Dolphin, the GameCube is a state of the art 128-bit/405Mhz video game unit that looks like one of those cute ultra-micro systems currently hot property in the high street.

So why is this relevant to a hi-fi magazine? Because the disparate worlds that make up the home entertainment industry are converging. Choice of storage media is the key: the Playstation2 uses DVD and will play both CD and DVD-Video (movie) discs as well as games software. It's a one-box home entertainment machine and so could pose a threat to traditional mass-market audio/visual products.

As ever, Nintendo has chosen a different route. The Japanese gaming giant has teamed up with Sony's great rival Matsushita (Panasonic/Technics) to produce a proprietary version of the latter's caddy-encased DVD-RAM disc, touted as the future for recordable DVD. That means it won't play ordinary CDs or DVDs, *a la* 

Playstation2, but its software could be recordable. It also accepts Matsushita's SD solid state memory card, opening up a new world of interconnectivity between the GameCube and other digital devices like cameras, mobile phones and perhaps MP3-style digital audio players. Interesting stuff, but you'll have to wait a while before you can have a go — it's unlikely to see daylight in Europe until the end of 2001.

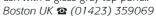


# **Boston's new box**



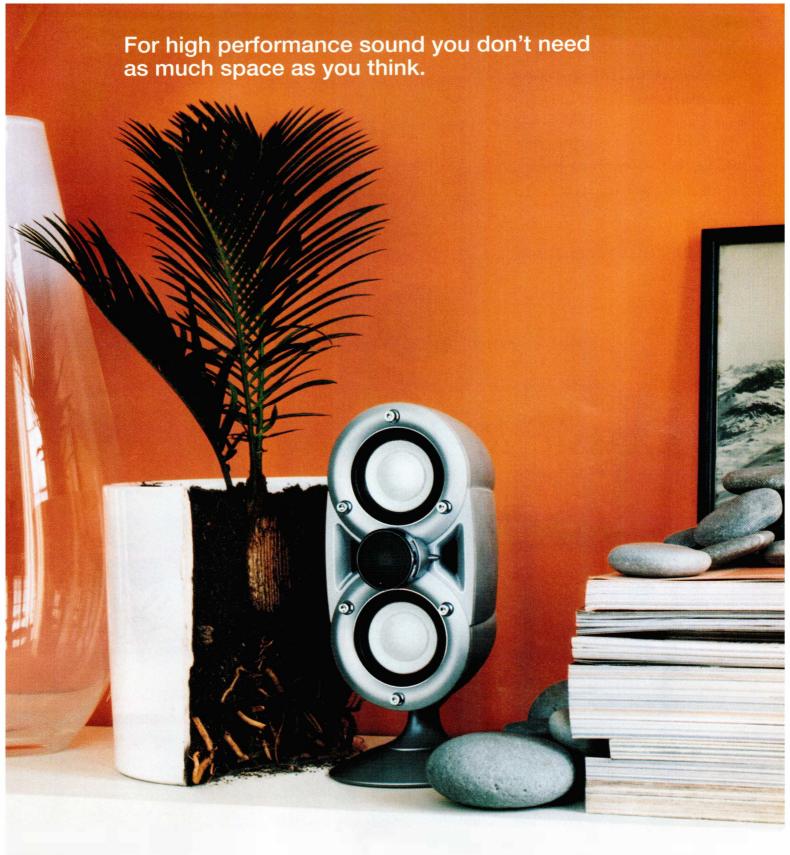
Monitor loudspeakers are designed to be accurate and informative, and the new VR-M50 from Boston is no exception. Priced at £699

per pair, this 23cm high standmounter sports a real wood cabinet, a 133mm mid/bass driver with a die-cast aluminium basket and a 25mm aluminium dome tweeter. More die-cast aluminium is used for a heat sink attached to the tweeter's back plate, said to dissipate heat quickly and efficiently for trouble-free operation even at very high power levels. The main driver is ported at the rear, the cabinet features heavy internal bracing, and gold-plated binding posts facilitate bi-wiring or bi-amping. Two finish options are available: cherry or black ash with a gloss grey top panel.









### pascal

Try Sony's award-winning Pascal speakers for size. 50 years of audio expertise condensed into a sleek case measuring just 86x169x130mm. Small. Perfectly formed. Yet beneath that cool aluminium surface beats a heart of pure fire. The world's strongest magnet, Neodymium, delivers enough drum and bass (and violin and flute) to make all of your crystal ornaments rattle. They're the perfect little speakers if you want to get the most out of your music and movies. You may have limited space, but why have limited sound?

-go create sony

Born out of the Classic multi-award-winning Select range, the new XS Series sets new standards in performance, style and price.

The entire range has been subtly reengineered to class-leading proportions to house the latest generation of equipment with ease.

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SOUNDSTYLE



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New

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# PAUL

Hang onto your statistical hats, my friends, because Paul

# MESSENGER

is something of a closet analyst and he's been looking at the way things are in the hi-fi business.

do enjoy marketing statistics, a sad admission which I blame on a misspent adolescence, in which the Top 20 seemed much more interesting and significant than the periodic table of elements. Every year, as autumn approaches, the BPI (British Phonographic Institute, representing music industry interests) publishes its

Statistical Handbook, filled with interesting data about the music biz,

with a few titbits on audio hardware thrown in for good measure.

This year's edition only covers data up to the end of 1999, so it isn't

exactly the very latest news, but it does show the long view of developing trends. The stats on the audio hardware market (sadly ignoring the loudspeaker end of things completely) cover the last five years, and the 'long view' perspectives often add something to the more immediate 'year-on' changes.

The broad picture shows that 1999 wasn't a bad year for audio as a whole, with year-on sales up one per cent by value and seven per cent by volume. However, that all-encompassing umbrella includes the portables and packaged system sectors, both of which are rather larger than – and apparently did rather better than – hi-fi separates.

Separate hi-fi components are actually outsold something like ten-to-one by portables and systems, but that has long been the case. And if you look at what each sector is worth

financially, hi-fi separates represent around 23 per cent, of a total market close to £1bn. (It would probably be over 30 per cent if speakers were included.)

receivers. 1998 was not a good year for receiver sales, down 29 per cent by volume and 26 per cent by value over 1997. 1999, however sees a complete reversal, with sales up eight per cent, and total value by a whopping 29 per cent. DVD was driving demand for the more upmarket digital 5.1 multichannel devices, rather than the cheaper Pro-Logic units. Receivers have got to be one of the indicators of multichannel growth, but it wouldn't do to overstate the case, as they're still a small segment of the market. Separate tuners still sell more strongly, while amplifiers (including some A/V models) outsell receivers more than four-to-one.



1999 was the first year in which static MiniDisc recorders outsold cassette decks.

The other striking statistic from this data is that 1999 was the first year in which static MiniDisc

The year-on stats show hi-fi separates down some three per cent by volume and four per cent by value over 1998, which would seem to indicate a fairly stable and mature market. Scratch beneath the surface, however, and all sorts of things are going on.

Indeed, hi-fi dealers have actually been doing quite nicely recently, selling lots of DVD players (which are classed as video products and therefore don't feature in a hi-fi separates breakdown), and a steadily rising proportion of surround sound speaker systems too.

According to the British Video Association, DVD players notched up sales of a remarkable half a million units in the format's first two years on the market. Many of those DVD players are probably simply connected to the family TV, and many consumers are apparently still unaware that they can also replay CDs. But besides generating huge business on their own behalf, one suspects that DVD players are partly responsible for a 16 per cent fall in CD player sales, which dipped below 300,000 units for the first time in years. It appears that the cheaper end of the CD market has suffered most, as the average selling price has gone up from £236 to £247.

Even stronger evidence of the DVD effect is seen in the statistics on

recorders outsold cassette decks, the former cresting the 100,000 unit barrier for the first time as the latter fell below it. Sadly the breakdown doesn't separate CD recorders from CD players, so it isn't possible to track the impact that CD-R/RW is having. While the statistics might suggest that MD is steadily supplanting cassette, in point of fact MD has actually managed to grow the total recorder market by more than 60 per cent over the past five years. And I wouldn't be at all surprised if CD-R/RW didn't do something similar over the next few years.

The music business statistics aren't too encouraging, with overall sales up one per cent, thanks entirely to the singles rather than the album sector. Not too surprisingly, the broad popular spectrum shows a slow but steady decline in rock, compensated by growth in both dance and R&B/hip-hop sales.

Classical album sales were down 20 per cent year-on, mainly because of 1998's substantial *Titanic* movie soundtrack contribution, but classical's four per cent is still larger than jazz, blues, folk and world music put together. I was also mildly depressed to find that the top selling jazz album in 1999 was Miles Davis' *Kind of Blue*– a great album, no question, but hasn't everyone got several copies by now?

# Jukebox Jury

Ashley Norris investigates a totally new concept in music mass storage.

goodbye to our CDs.

or the past few years, industry experts have predicted that one day we'll live without CDs and that all our music will be archived on enormous sold state hard disk players. If their prognosis is right you are now staring at the future of audio. The Audio ReQuest ARQ1 is the first of its type in the world. It teams up a CD player with codec

technology that enables music to be archived in MP3 format on its built-in hard drive. You simply load a CD and press record. Its talents don't stop there either. It will also play CD-ROMs containing MP3 files, hook up to a PC to download MP3s, and archive vinyl, cassette, radio or any other audio format via its phono line inputs.

Of course it wasn't on its own for long. A smaller, cheaper version without the PC compatibility called the Music Store is also on sale (see p96). This has the wonderful advantage of doubling as both a home deck and a large-ish portable. In short, you can take your CD player and your CD collection away with you in one neat PlayStation-sized box. Diamond Multimedia, originators of the Rio series of MP3 players, will also have a home-based deck available shortly, while even dyed in the wool hi-fi brand Linn will soon unveil a similar machine called Kivor.

You get the feeling that Audio ReQuest has blown so much of its money on the player's features that it almost forgot about the styling. It's an austere, almost industrial looking unit with a blank fascia, save for the CD loading tray on the right and an LCD display on the left.

The back of the player isn't for the faint-hearted either. In addition to standard audio sockets, the player sports parallel and USB ports for PC connection, plus a VGA connector for hooking the player to a PC screen and even a keyboard socket. Getting the player up and running wasn't difficult though. As this model is only available via a US-based website, you'll need to add a UK mains lead (fortunately it features auto voltage switching).

I suspect that although the player has great potential for PC owners, many of its buyers will use it ostensibly as a jukebox/storage facility for

their CDs, and maybe even tapes and vinyl. This presents problems in that if you have over 100 CDs stored on a hard drive, how on earth do you remember what's been archived? Fortunately this is where some smart

software comes into play. Navigator View lists all the songs, artists, albums and playlists stored on

the hard drive. Accessing them is as easy as a point-and-click via the remote control handset. Ideally you should have the player connected to a TV and use its screen to see the display. If your hi-fi is a long way from your set, however, the information is just about readable on the small LCD screen.

Another advantage of hooking up the player to the screen is the chance to see the fruit of the Player View software, which contains information about the song, a graphic equaliser, and some very strange animation to accompany the music.

Recording CDs is very simple. Once you've inserted a disc, its details appear on the screen. You then click on a track or the whole disc. The player has a default compression rate of 128kbps - this is MP3 quality standard - and while it'll be fine for tinny PC speakers, it's not for serious audiophiles. On the plus side, you'll be able to record around an hour's worth of music in about 20 minutes, and store up to 320 hours of music on the 17.3 gig hard drive.

Much better was music recorded at the maximum quality of 320kbps. However, again don't fool yourself that you are getting a spot-on copy of the CD original. There's inevitably a tailing off at both ends of the frequency spectrum, along with some distortion at the higher end. The downside is that, at this rate, the amount of music you can store plummets to about 120 hours.

As a standalone hi-fi unit, the Audio ReQuest ARQ1 simply doesn't





You are not paying for sonic fidelity. You are spending your money on a player that will archive your music collection in one place - a jukebox if you will. You are also paying for a degree of integration with your PC, which may or may not prove useful. So, while we can only applaud Audio ReQuest's innovation, there is still plenty of work to be done before we say goodbye to our CDs.

At present Audio ReQuest doesn't have an agent in the UK but the ARQ1 can be purchased on the internet for \$799.95 plus shipping. AudioRequest www.request.com



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### **HEAT SEEKERS**

### **MARANTZ** DR 6000 £499.90

Jason Kennedy is charmed by this top-notch CD recorder.

his is about the most appealing CD recorder we've come across. The champagne anodised front panel and slim section make it the sort of recorder anyone would be proud to have in the living room. As with all Philips based recorders, it's fully CD-RW (rewrite) ready, but unlike earlier examples this has the ability to accept text via the mobile phone style keypad on the remote. So in theory you never need look at the small type on the back of the caddy to identify a track – just check the display.

In use, the DR 6000 is as straightforward as your average CD-R. There's the usual synch and manual record options, plus a 'make CD' feature that does it all in one hit. It has a useful four second input buffer so that synch recordings don't start just after the first note, and even with analog recordings it's possible to have track numbers automatically inserted, as long as there's a 2.7 second gap between tracks.

It's not as highly featured as some of the competition: you can't do much in the way of recording with the remote, and there's no timerfunction, but the latter especially is pretty rare despite its appeal to the radio enthusiast.

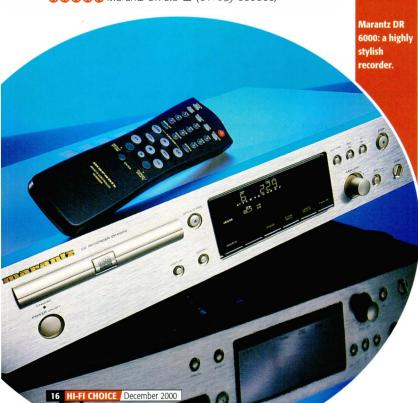
### **SOUND QUALITY**

Where the Marantz scores over most CD-R/RWs is its quality as a plain CD player. I really enjoyed the sound this player made. It's sweet and smooth but has plenty of resolve, openness and detail. It has the hallmark good timing that the brand trades on, but none of the forwardness that can come with it. I guess those who prefer a gungho sound might find it a little relaxed, but at the price it's a winner on this score.

Recordings were pretty much spot-on; the only difference I detected was in level. Although no level adjustment is suggested when making a synch recording, the copies came out a little quieter than originals. But that's no big deal, and my manual efforts made at OdB were pretty much exact.

All in all, a very nice machine. It copies well and plays back very nicely. If you're after a well built and easy to enjoy CD-RW machine, consider spending the extra on one of these.

♦ (01753) 680868, Marantz UK Ltd





Cyrus CLS70: note bolts between stand and speaker.

### CYRUS CLS70 £800.00

Jason Kennedy checks out the first Cyrus speaker in a long time.

uite a momentous occasion this. It's the first Cyrus speaker in 15 years. A sure sign if ever there was that there has been a complete breakaway from the cosy environs of sister company and speaker specialist Mission. The CLS70 is an unfashionably squat speaker with a rather nice set of driver trims that more than make up for its shape. The real maple veneer is rather tasty too, and the overall package is distinctly stylish. If you're not keen on nude drive units, there are attractive perforated metal grilles to cover them with.

While the CLS70 looks like A N Other compact two way, there is more to it than meets the eye. The 15 litre cabinet incorporates laminate damping, the material doing the damping being bitumen sandwiched between MDF panels, which should help keep the structure from adding its own signature to the overall sound. What looks like trim on the front baffle is in fact die-cast alloy as far as the woofer (165mm) and gas flowed port are concerned, and it continues inside for the basket on the big driver. The cone itself is described as hybrid paper, but we're not told what the other elements are.

The problem with speakers that don't stretch to the floor is that you need a stand, and these are usually black and ugly. So Cyrus has built dedicated stands for the CLS70 and finished them in matching silver. The Tripod (£200), as it's known, is a hefty three-legger with bolt holes so that the speaker can be rigidly attached — a pretty drastic move with little in the way of precedence.

### **SOUND QUALITY**

This may not be a big speaker, but it's got the bass weight of something far more intimidating, a factor no doubt influenced by those stands. But that is not its real strength. This speaker is all about life and energy, music fairly zips out of them – but not, I hasten to add, in a bright or aggressive way. The positioning encouraged in the manual – parallel to the wall, and about a foot away – doesn't give the image precision that one expects of a compact box, but it does give great width to the sound and there's no shortage of depth either.

Overall this is a rather convincing speaker that seems to suit other brand's electronics as well as its own, which seems a good enough reason to give it a high rating.

♦ Cyrus **1** (01480) 435577

### PRO-JECT Debut £125.00

### A real bargain for vinyl fiends. Just like Jason Kennedy.

his is a complete £125 record player that works straight out of the box. That's all you need to know.

However, that doesn't fill these column inches, nor does it mention the array of seven shiny coloured finishes that it comes in, which include blue, green and silver as well as the violet shown. Otherwise this is a basic turntable built around a wooden plinth, with little in the way of suspension save for springy foot mountings. Both speeds are available if you open the lightweight metal platter and lift the belt from one pulley to the next, and there's just the one switch - on/off. Well, it's all you really need.

What makes this seem particularly good value is the incorporation of a ready aligned Ortofon OM-5 cartridge on the basic tonearm. This unit would usually cost £25 on its own and should withstand many hours of use, and even abuse - it looks reasonably robust.

Included in the package are basic cartridge alignment and downforce gauges - devices that are essential, and increasingly difficult to buy, if you ever feel like fitting a new cartridge. Alternatively you can replace the stylus on the OM-5, however, which is easy.

### SOUND QUALITY

The fact that this turntable plays records without serious distortion is a result in itself at this price. It's all very well making a CD player in China for this sort dough, but building a deck in Eastern Europe is quite a feat.

That said it's no Rega Planar. I didn't have one to hand but I imagine that such a deck could probably reveal a bit more detail and present a more substantial picture. But the Debut is no slouch; it resolves ambient detail better than affordable CD players and recreates plenty of space and 'air' around cymbals and other high notes. Disc noise is perhaps not as well suppressed as it might be, but neither is it intrusive with most material. And as usual with LP, timing has a persuasive feel that makes up for the player's limited potential in the bass.

All in all, this is a capable and entertaining deck which gives you more than you've a right to expect at the money.

**♦ 11166 ♦ 11166 ♦ 11166 ♦ 11166** 



### JBL XTi20 £400.00

### Jason Kennedy finds some speakers that love the incognito life.

his rather attractive new JBL is the base model in a four strong range of eight sided speakers from this American hi-fi stalwart. The real beech veneer cabinet with its extra set of facets make this a rather attractive piece of, dare I say it, furniture, which should enhance its chances of blending in with the contemporary living room.

The XTi20 is equipped with JBL's trademark titanium dome tweeter coupled to a 165mm laminated pulp bass/mid driver in a 7kg box with threaded inserts for spikes. The latter seem a bit out of place on an obviously stand-oriented speaker but I guess they do no harm. Specs supplied suggest an average amplifier load and, of the suggested power range of 25-60 Watts, we would recommend something from the higher end.

The angle with the XTi range is that it's JBL with some UK input, vis a vis the balance or voicing. In the past JBLs have had quite a different balance to their British competition, something that appealed to some but apparently not enough.

### SOUND QUALITY

**Not exactly** 

deep purple,

but that don't

mean it

The XTi20 is a speaker with genuine integrity, something that the floorstanding competition struggles to achieve at this price point. It has a clean, clear balance that's strong on detail, if potentially a little exposed for the more forward source and amp com-

bos around. It requires smooth rather than lively ancillaries, which is fair enough, you're always better off with a transparent speaker in the long run.

Bass is rather impressive too, extended and solid for such a compact unit (38.2cm tall). While not as tuneful as some of the serious competition out there, this extension is very worthwhile in terms of creating a believable picture of sonic events. And I can't listen to a lot of music without it.

This little JBL also plays rather nicely at low levels, which is useful in most households, maintaining detail and rhythmic coherence. While their compact nature and solid build mean that they can 'disappear' into the soundstage with little difficulty.

**☆☆☆☆** Gamepath **☎** (01908) 317707



# DAV

Not so fresh from his expeditions into the intriguing world of

# VIVIA

systems synergy David has found that according to some, system building is as easy as ABC.



hich? magazine, the mouthpiece of the Consumer's Association, interests me for three reasons. One, it claims to be the consumer's friend. Two, it has always managed to make cars sound as fascinating as a blown light bulb. And three, it gives the

impression of knowing as much about hi-fi as a field mouse.

Thing is, its self-image is that of a beacon of reason and fairness. It isn't susceptible to bribery, codswallop or that particular brand of frankly laughable navel gazing practised by all specialist journalists, especially those who've been studying their subject for decades.

So, as I mopped the sweat from my brow after finishing this month's ten-way CD-amp combo group test - an engrossing, frustrating yet, ultimately, enlightening exercise - I was delighted to see how much simpler and more straightforward things are over at Which? where, for its September cover story 'Sounds great - tune into the

best separates and speakers', it sorted out the thorny question of system building in the space of six breezy pages with the aid of a few stars, blobs and half blobs. But then that's hardly surprising.

In Which?world, life is acted out in glorious back and white. Cars are either reliable or unreliable, their owners satisfied or unsatisfied.

Factors such a handling, ride and driver enjoyment are sometimes mentioned but seldom explained or put in context. Nothing, it seems, must be allowed to obscure 'the truth'.

And if you think this is an arrogant, dismally two-dimensional take on such a multifaceted and richly interactive experience, Which? would doubtless argue that too much information blunts the edge. It would rather concentrate all its resources and energy on the nitty gritty than indulge in a kind of specious entertainment for overgrown boy racers.

To which I am tempted to say, fair enough. For many people, a car is merely a way of getting from one place to another. It actually lends itself quite well to simplistic forms of analysis such as might be applied to rating toasters or washing machines.

Hi-fi, of course, is entirely different. People don't buy expensive audio hardware because they have to, but because they want to. Its only true function is to entertain us during the moments we aren't (or maybe are) exploiting the hugely mundane functionality of other machines. Its unique position could hardly be more obvious.

But in Which?world, hi-fi is just another consumer durable. All CD players sound pretty much the same. What's more, they always have. The only differences between them is how much they cost and how many knobs they have. So it follows that the best CD players are the cheapest ones with the right number of knobs. You think I'm making this up but I quote from the September issue: 'There was little difference in sound quality, so we recommend the cheapest CD player



Synergy? Don't even go there. brands included Denon, Marantz, NAD and Sony.

> Incidentally, Which? has been pedalling this myth about CD players for years. A while ago I asked a friend who now works on the magazine - but used to be a colleague on a car title - if I could sit in on one of their listening sessions to see if I could spot any changes in sound quality as they went from player to player. They declined. Naturally. As a specialist hi-fi journalist (a bearded weirdo operating at the very margins of reality... hey, it's a living) I could have contaminated the

> > distilled purity and clarity of their thinking.

Or it could be, and this is my hunch, that it's too hard to do it properly. Describing sound quality generally isn't easy. Nailing the nuances that make a difference even

harder. Synergy? Don't even go there.

Which? didn't. No need. Putting together a separates system is actually ridiculously easy. Just purchase the Best Buys that have the right number of knobs for your needs and connect them together. Real hi-fi without tears or having to endure the tosh spouted by frankly subversive publications such as this.

So three cheers for the wisdom, insight and perspicacity of Which? When it comes to assessing the relative merits of hair curlers and waffle makers, I doubt there is a more respected publication in the world. As for hi-fi advice, you'd be better off trying to lip read what your goldfish is telling you.

Don't swallow what we tell you either, of course. Listening for yourself at a specialist dealer is the only way. You might even buy an expensive CD that sounds wonderful. More fool you.

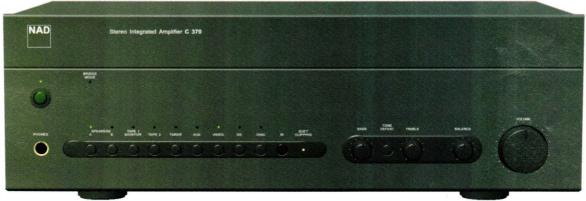






\*\*\* \*\* WHATHI-FI? NAD C350 October 2000





\*\*\*\*\* WHATHIFF? NAD C370 Supertest winner September 2000

### Modesty prevents us from quoting the rest of these reviews, but you get the idea!

When the time came to update the heavyweight members of our amplifier range, we knew it would be no easy task - just the kind of challenge our engineers relish and the breathtaking results have just scooped the coveted What Hi-Fi?

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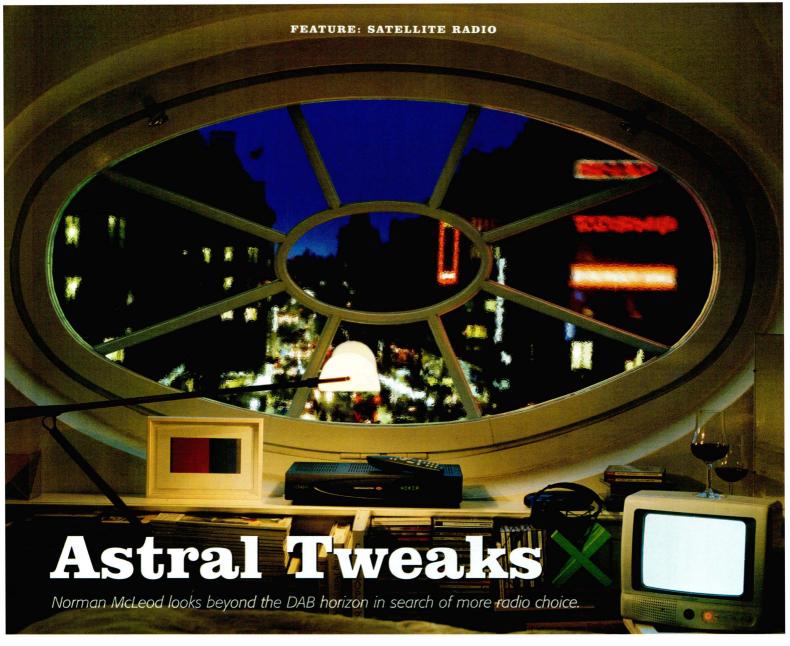












hey might not know it, but a lot of people out there are already receiving digital radio. It's available to almost three million homes in the UK – not courtesy of DAB, but as a free byproduct of connecting to the Astra 2 satellite to receive Sky digital television. By hooking up the audio output from the Sky box to their hi-fi system, digital viewers can become digital listeners.

The range of programming on the Sky satellite includes the BBC national networks, the World Service and Radios Scotland, Wales and Ulster – plus most of the digital-only channels heard on DAB, such as Core and Planet Rock, as well as digital versions of AM services like Virgin. Quality-wise, the transmission is generally running the same bit rate and subject to the same quality constraints as DAB.

As a way of experiencing digital radio on the cheap, the Sky option – £40 if you subscribe or £100 if you don't – is an easy way to connect. But this approach isn't perfect: the subsidised Sky box is specifically designed to access Sky services, and has to be connected to a telephone line to report its status to Sky HQ. All sorts of problems start if it can't see the Astra 2 satellite or if you try to tune it into non-Sky services. And the dish supplied by Sky isn't big enough for any other satellite.

However, people prepared to pay the full price for a digital satellite receiver, without the Sky tie, can point it at the satellite of their choice and pick up a plethora of free-to-air radio channels from Europe. Many of these are of better quality, both musically and technically, than anything coming from the UK. And the language barrier is not much of a problem, when many public-service radio channels contain largely uninterrupted music with little or no DJ chatter or commercials.

Radio is at its most useful when it is broadening our musical experience, and listeners prepared to go beyond what the UK has to offer can find a whole new world out there. Many French, German and Swiss channels seem to take much more care over their broadcast quality than their UK counterparts, and although a full-price digital satellite receiver can cost between £300 and £400, it's still cheaper than a DAB receiver and offers much greater potential programme choice.

Ultimately, the quality of sound is more dependant on the transmission than it is on the receiver used to intercept it. Going digital has not changed the fact that some radio stations sound a great deal better than others, due to factors outside the listener's control. But it is thought that the Sky boxes may not perform as well as a dedicated DAB receiver, or a quality satellite receiver which has been manufactured with audio performance in mind.

### Dishes of the day

There are more than 40 satellites receivable in the UK by someone with a big enough dish and the will to seek out the obscure, but there are three main ones worth thinking about. The new satellite, Astra 2, is located at an orbital position of 28.2 degrees east, and is used by the new digital dishes for Sky. As far as radio is concerned, it's UK services only.

"Listeners prepared to go beyond what the UK has to offer on digital satellite can find a whole new world"



The third satellite group worth mentioning is located at 13 degrees east: it's the Eutelsat/Hot Birds 1-5, traditionally an alternative analogue position for European TV viewers. From this position about 25 unscrambled analogue TV channels are still available, including BBC World and the cultural Franco-German channel Arte, but there is also a very wide choice of European digital radio available here. There's also a certain amount of analogue radio.

### Setting up

The little 45cm dish supplied by Sky installers is just big enough to pick up UK services from Astra 2. To get digital services from the other two positions, however, requires at least a 60cm dish – preferably an 80cm one if multiple feeds are envisioned, or you're in the North or Scotland. It is possible to fit more than one LNB to a dish in such a way that both the 19.2 and 13 degree positions can be received, but you will also need a special switch at the dish to enable the receiver to select the appropriate LNB, or two separate cable runs to the receiver.

### What you need

- A large enough dish for the location and the satellite you require.
- An LNB of the right type to cover the channels you want.
- A receiver capable of working to the standards transmitted.
- A transmission that is 'in the clear' or capable of being decoded by your system.
- $\blacksquare$  An experienced installer.



Panasonic is the familiar brand among DVB receiver makers.

### Turn on, tune in...

Tuning in an analogue satellite radio service is fairly straightforward: the radio channels are borne on subcarriers alongside the TV sound, which are identified by frequency and sometimes used in pairs for stereo. Finding them is a matter of selecting the appropriate combination on the audio options of the receiver.

But analogue choice is likely to become more limited in the future, although the potential quality of an analogue satellite service is actually better than FM radio. This is because the Zenith stereo system used on terrestrial FM radio, which limits the audio response to 15 kHz, increases noise and distortion, and generates inter-channel crosstalk, is not used on satellite. Left and right channels each have their own subcarrier, so separation is complete. But broadcasts can be noisy and sibilant if great care is not taken by the broadcasters.

Getting started on digital is a tad more complex. Not only do you have to know the frequency and polarisation to use, but there is also the matter of the symbol rate (27500, say), the FEC or Forward Error Correction, which is a fraction such as 2/3 or 3/4, and a code known as the PID to be entered in some cases. Some receivers will seek out all available channels automatically, but if the one you want is not found a manual search will often come up with it. Many digital receivers have programme guides downloaded from the satellite with which you can navigate the stations.

In many cases it is worth using a specialist dealer to get all this sorted out for you, unless you have a satellite guru to hand who knows what you want and has done it before. There is a wide choice of equipment from well-known manufacturers like Amstrad, Nokia, Pace and Panasonic, and it's worth investing in a copy of one of the satellite magazines to see comparative reviews and channel listings. My own experience with a Nokia Mediamaster DBV9600S (now superceded by the DBV9800) has been most rewarding.

With digital satellite, you can enjoy comparing the quality of hundreds of broadcasts – and there are many more stations set to come. The choice and bandwidth available from the skies is far in excess of that available from the ground. In the words of one of my correspondents: "My digital satellite receiver is easily the best audio investment I've made!" You can't get a better recommendation than that.



# LETERS

Hi-Fi Choice's 'points of view' page, where hi-fi and music enthusiasts get to tell it like it is.

### LETTER OF THE MONTH

#### **RADIO FROM SPACE**

Like a great number of readers, I suspect, I am intrigued by what I read about the potential of digital broadcasting and attracted by the alternate range of stations that are apparently available and may well increase in the near future.

However I am also rather put off by the high entry prices (still £500+), especially as these are destined to fall eventually. I am aware that analogue satellite TV carries radio channels; and have discovered that digital Sky also transmits 12 or so stations, including all the BBC ones.

I am informed that you can buy or have installed a Sky Digital box and dish for £100 with no subscription commitment, access most terrestrial TV and additionally gain digital radio.

What is your view on the likely quality of going DAB this way, assuming I play through my existing hi-fi system? Will it improve (significantly) on FM, and how would it compare with a stand-alone receiver from the few currently on the market, albeit much more expensive?

If this route is feasible – even as a half-way measure whilst I evaluate (and prices continue to fall!) – are there differences between makes of



units, as my hi-fi experience tells me there will be and how could I establish the 'best buy'? Why has there been no mention of this route in the hi-fi press (as far as I am aware)?

Mark Eley, Berwick, Northumberland

The Editor replies... We are definitely intrigued by the possibilities of satellite ourselves, so much so that we went to the trouble of commissioning a piece that details the options, pros and cons of satellite radio – specifically the digital variety. Read what we have to say in our feature on pages 20 and 21.

all people, know the truth of the matter insofar as the positive 'Mana Effect' is concerned. It therefore surprises me that you would permit such a 'skewed' review to see publication in the magazine.

In recent years, I have tried a number of different support platforms, from the simplistic and inexpensive to the complex. Whilst many have looked good or provided an innovative technological approach to controlling resonance, none have had what I would refer to as a particularly positive effect on the sound. None, that is, except Mana.

Surely any reviewer in full command of his 'golden ears' could come to no other conclusion than to that of the beneficial effect of Mana equipment supports. Can you give us, the readers, assurances that this reviewer is impartial and has no vested interests in one of the other manufacturers?

John Clark via e-mail

### TAPES AND DISCS

In a response to a letter about the confusion caused by some MiniDiscs being advertised with the megabytes as time-length, you mentioned minidiscs coming in 74, 80 and 90 minute lengths.

I would like to get hold of some 90 minute discs, and I wonder if you can tell me who makes them, and who can supply them.

Paul Coghlin via e-mail

The Editor replies... Looks like we got confused ourselves on that one. 90 minute MDs are not available at present, we must have been thinking about cassettes, apologies for any unnecessary confusion.

### IVOR IDEA

Having just read Richard Black's article on equipment supports in

HFC 206, a few thoughts sprang to mind

Whilst many support manufacturers recommend the use of fillers such as silver sand or lead shot, I wondered if anyone has experimented with other forms of damping media in relation to equipment supports or speaker stands?

I was pondering the effect of using proprietory car sound-proofing materials such as the thin rubbery self-adhesive accoustic damping used to cover part of the inside of door panels in order to eliminate 'drumming'. Such material could perhaps be used to cover, in whole or in part, the glass shelves of an equipment rack; or gaffer tape might substitute, albeit less attractively. MDF, being more

rigid, may benefit from a gluedon cloth covering.

As for the legs (or for speaker stands), a simple and probably highly effective means of reducing resonance might be acheived by filling them with silicone mastic or polyurethane expanding foam. Either of these would be easy to apply even to support legs and hollow crossbraces not designed to be filled by other means.

Interestingly, Ivor Tiefenbrun of Linn Audio recommends a certain cheaply available 'Lack' table, £18 from IKEA.

Christopher Baglin via e-mail

### **GOLDEN EARS**

I am saddened to read Richard Black's 'review' of Mana equipment supports. I feel that you, of

### **JEOPARDY**

As a regular reader of Hi-Fi Choice, I was very surprised by the equipment support review in this month's issue. Richard Black is well known throughout the industry for his long-standing views on equipment supports/stands: namely that he favours the Townshend Seismic Sink approach. Given his background, I am astonished that Hi-Fi Choice should put its reputation as an independent and unbiased magazine into jeopardy by employing him to conduct a test of hi-fi supports.

Doing so not only renders the review useless to the consumer (or even worse, leads the consumer to disregard products which might have met their needs perfectly),







Letters page sponsored by



at the heart of it

TDK's audio CD-R range

but also seriously undermines the credibility of Hi-Fi Choice.

Richard Majlinder

#### BENEFICIAL DISTORTION

I am writing to object to the recent review (HFC 206) of the Mana four tier amp stand and soundbase. My initial reaction was how such negative and dismissive comments could be made regarding the distortion effects of Mana equipment, when in the recent (and long) past very many positive things have been said by writers in HFC about, for example, the reference t/t stand.

I recently bought the latter (for my SME 20A), in part as a result of your firm recommendation, and upon listening was very impressed with the effects. If these are, as Richard Black claims, due to distortion, then so be it; although my ears tell me that this form of 'distortion' is beneficial.

Does this then mean that audio engineers are wasting time trying to prevent or reduce distortion, or are their different types of distortion and Mana equipment only introduces one type? Reviews in HFC of the Mana reference t/t support make no mention of this 'distortion' effect. Another recent review, in HFC, of a Mana loudspeaker support was also very positive, loads of praise being heaped onto the product if I remember correctly. Please aim to be more consistent in your reviews.

Alan Armstrong via e-mail

### STAND AS INSTRUMENT

The fall from grace of the Mana stand in the latest issue of HFC seems surprising. Somebody has realised that the thing rings and suddenly it doesn't sound so good. Which makes me fear for the ideal of hi-fi where every detail is explicit and perfectly reproduced against a non-exis-



tent noise floor giving the most objective view of the recording possible. Even if this idea was achievable, clearly the objectivity of even the most experienced listener is rather more fickle. Hifi components are musical instruments, and the best ones behave like musical instruments, i.e. in ways that are not measurable or easy to understand but which nevertheless delight us. Mana stands are musical instruments. Sure they ring - it's just that they do it in a way which is synergistic with the instrument placed upon them. I gave up on the pursuit of ever decreasing increments of detail a while ago. I would rather my hi-fi thrilled and moved me. When I start worrying about the brand of cufflinks the tymp player was wearing when he brushed against the cymbal, I know something's been lost. It reminds me of what Linn was saying (amongst other things) about ten years ago - if it sounds good it is good.

Malcolm Bell via e-mail

### MECHANICAL FILTERING

It is incorrect to conclude that because stands ring that they do not transfer energy away from the equipment. Stands are designed to remove energy from the equipment and stop groundborne energy reaching the equipment, not in just one direction as is stated.

If equipment is not microphonic then what other mechanisms are there for stands to work?

When a stand resonates it is dissipating energy which is a largely good thing. All stands act as filters to a greater or lesser extent. Mechanical filter design is a complicated and difficult process which clearly shows that some frequencies will be attenuated and some will be damped. Experience shows that

> quency peak amplitude generally results in lower amplitudes for other frequencies which is likely to be beneficial to the stand's performance.

The explanations given above should make it clear that just because a stand resonates does not mean that it is a bad stand.

It was inevitable that one day there would be a review that does not portray Mana stands as amazing. There are some people out there who don't like the stands and there was always going to be a reviewer who didn't.

If all that is required is an air bladder, then a simple stand can be constructed from two heavy masses (e.g. paving slabs) separated by an inner tube from a kids bicycle. Physics labs all over the World use variants of this approach to isolate equipment so that very small distances (fractions of a wavelength) can be measured. In theory this sounds like the perfect solution for hi-fi stands, but there is more to it.

Ian Wright via e-mail

The Editorr eplies... Richard Black's review of the Mana Acoustics equipment support in issue 206 is not a Hi-Fi Choice volte face on the subject, it is the other side of the coin. In the past we have praised Mana stands for the quite dramatic effect they have on the sound of a system. This time around we identified a possible cause of this effect, an effect which Richard did not find as appealing as previous reviewers.

We use Richard because we trust him and have absolute faith in his integrity. He would not let his acquaintance with any manufacturer have a bearing on the outcome of his work. When he's not working on hi-fi, Richard spends a lot of time recording and creating classical music. In this respect he is more aware than anyone else at Hi-Fi Choice of the real sound of music. As a result, he is less easily swayed by euphonic colourations in audio equipment.

Ultimately, the Mana Acoustics support in issue 206 received a fair and balanced review. That it was not rated as Recommended or Best Buy (as in previous reviews of other products from the Mana range) is no different to any new product from any respected manufacturer coming out more or less well than the last model from that brand reviewed in Hi-Fi Choice. As ever, let the final arbiter in this debate be your own ears.

Richard Black replies... Mr

Armstrong has guessed it: there are indeed many forms of distortion of which resonance is only one, perhaps one of the less important: but it's still an effect. I'd rather hi-fi had no effect. With due deference Mr Bell, there is an important difference between musical instruments and hi-fi, in that the former create sound while the latter merely re-creates it. 'No effect' is an absolute and definable: it's also unachievable. Subjectivity comes in when one considers the reactions of

different individuals to different kinds and degrees of departure from 'no effect'. You like resonance, I don't - but it's still there and I'm not the only one to have done measurements to prove it.

As for my tastes causing bias: where does one draw the line between taste and bias anyway? If I had no tastes it could only be because I knew nothing at all about



hi-fi - some qualification for reviewing that would be! And by the way, the audio designer whose explanation of mechanical resonance most influenced me is Arthur Khoubessarian of Pink Triangle.

Resonance is due to lack of damping. Resonant frequency is a function of stiffness and mass: more mass itself does not give damping, only lower resonant frequency. In a simple support, vibration is passed (both ways!) at frequencies below resonance and attenuated increasingly above. But above resonance, damping 'decreases' the attenuation of vibration. The Seismic Sink approach seeks to achieve a relatively harmless sub-audio resonant frequency and minimal damping so that audio-frequency vibration is strongly attenuated.

Most other stands have their primary resonance(s) slap bang in the middle of the audio band, which is why they are very poor at isolating turntables and add their own colorations simply by being in the same room where the music is being played.

Finally, I turn to Mr Wright's comment:, 'a simple stand can be constructed from two heavy masses (e.g. paving or slate slabs) separated by an inner tube from a kid's bicycle' - see HFC of about 10 years ago, where I described exactly such a support. I still use it.

### WRITE TO US

of view on all that is hi-fi. The author of the best missive wins a prize for their efforts. Hi-Fi Choice, Future Publishing 99 Baker e-mail to: jason.kennedy@futurenet.co.uk

# Amplifiers

Looking for an inexpensive integrated amp? Alvin Gold sorts the sonic wheat from the chaff, while resident sonic scientist Paul Miller probes a little deeper...

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elcome to this review of eleven affordable integrated amplifiers, starting at £140, and extending up to £500. For convenience, they have been subdivided

into three groups, up to £250, up to £400 and up to £500. Power outputs vary of course, but all are well below 100 watts/channel, and typically cruise around the 50-60 watt level. For many people in the throes of choosing an amplifier, power output is the be-all and end-all, and we would not wish to underrate its importance. Even an excess of power

can be justified on the grounds that an amplifier that is just ticking over at the highest volume levels required is likely to behave better than one that is constantly being stretched to and perhaps over the edge. But we would still advise some care in this, if only because the specifications given for power output really only tell part of the story, and are often not representative of how amplifiers deliver their power into your loudspeakers. This was indeed a factor with one of the models tested this month, and more generally is much more of a problem with home cinema amplifiers where, as far as power specifications are concerned, anything goes.

Similar warnings apply to other amplifier features, which will come as no surprise to those who have followed amplifier design trends over the years. It is worth reiterating than that tone controls – indeed the whole paraphernalia of gadgets that are often loaded like candy to make amplifiers more attractive – tend to contribute very little to the utility of most designs, and frequently have a negative effect by their mere presence. This is not just the case when the circuits concerned are switched on, but often applies even when they're bypassed, which is not a point that many manufacturers advertise widely, especially when they include a 'direct' or 'tone bypass' feature.

Finally, we should point out once again that the tests that follow are of particular value because we put the review equipment through the most stringent and comprehensive set of hoops in

the industry, from PM's lab test programme, to the hands-on (sighted) listening using a range of loudspeakers. But our tests centre, of course, on the blind panel listening tests using highly experienced and discerning

THE CAST	LIST
Amplifie	rs
Arcam Alpha 8R	£349.90
Creek 4330 SE	£499.00
Denon PMA-255UK	£139.95
Ezo Aria HE	£449.00
Marantz PM-6010OSE KI	£399.90
Musical Fidelity X-A2	£499.00
NAD C350	£299.95
Primare A-10	£499.99
Rotel RA-931 MkII	£189.00
Sony TA-FB940R	£299.99
Yamaha AX-496	£229.95

names. The tests have been further improved from this issue, and thanks to the comparative element that comes from reviewing a large number of amplifiers together, we believe we get closer to how they behave under real world conditions than is achieved elsewhere.

Turning to the first price group, it is ironic but, on previous form, not much of a surprise that the three cheapest models in the test are also among the best equipped. All are equipped with tone controls, the Denon and Yamaha have speaker switching, and the latter even has a variable loudness control, as well as being nominally the most power amplifier on test, and one of only two in the test with a dedicated wide

bandwidth for DVD-A and SACD. The Denon and the Rotel are more modest, lacking remote controls. Both are based on aurally and commercially successful designs, the new models being intended to build on their strengths.

There is also a clear split in the second group. The Arcam has been available for some time, and is a barely changed. It has middle market attributes: medium power, tone controls and remote control, but it has had one important improvement: a new, more aggressive price. The NAD is typical of the marque, and includes similar features to the Arcam, plus soft-clipping and removable pre/power amp links. The Marantz model in this test is the Ken Ishiwata Signature version of the familiar PM6010OSE: yet another purist, low feature-count amplifier whose only concession to luxury is remote operation. The Sony however is a more whizzy design altogether, an apparently quite sophisticated and quite high power model with an SACD/DVD-A input.

In the final group, remote control is featured in most cases – but not the Musical Fidelity, which has a volume control, input switching and nothing else at all. The Primare A-10 is scarcely more gadgety, unless you count the very sophisticated, and accurately channel-matched, volume control, which makes the balance adjust feature virtually redundant. Creek's amplifier is an internally beefed up version of the stripped down 4330, an old favourite, though the options list allows

one of four phono step-ups to be added: MM and MC, at two different quality levels. The Ezo Aria represents audio minimalism, French style, but from the user's point of view it is

style, but from the user's point of view it is a straight line level amp, with a fairly rudimentary system remote control.



The amplifiers were subject to the standard battery of tests, including blind panel-based listening tests in a high grade system chosen to extend the amps fully without being unrealistic electrically or sonically. Hands-on (sighted) listening employed a range of speakers and CD players, and Paul Miller's measurement test programme. Each amp was thoroughly warmed up prior to being auditioned, and kept running during the panel test runs. Two days of panel testing included repeats, with no panel member knowing the identity of the amplifier on test. Volume levels were carefully matched using appropriate test tones and

measuring equipment at the start of each test run.

The system used for these tests included a pair of JMlab Mezzo Utopias for the unsighted tests. For the hands-on testing, which did not involve the panel, other speakers were used, namely Cyrus CLS 70, TLC Maestro 130S, and Tannoy Mercury mX1 compacts. The main CD player used was the Cyrus dAD3 Q24, with some help from a Technics DVD-A10 DVD-Audio player. Cables and interconnects were from Nordost.

### Listening panel

Thanks as always go to the men who contributed their

listening skills and time for the greater good, and the free cheese on toast /pizza. Our celeb list this time included David Inman (Castle Acoustics), Gary Mardell (Gamepath), Steve Harris (TAG McLaren), Roger Batchelor (Denon), Russell Kaufmann (Morel, Densen) and Terry Murphy (Yamaha).

### The music we used

J.S. Bach – Violin Concerto in A Minor Tracy Chapman – For You from Tracy Chapman Ravel – Alborada del Gracioso Marianne Faithful – Broken English from Broken English



# **DENON PMA-255UK**



mplifiers don't come much more straightforward looking than this. The front panel is home to a volume control, bass and treble controls, a source direct switch, a balance control and an input select rotary for the five inputs, all of which are at line sensitivity, and one of which is a tape circuit. The price, just £140. Boring, huh?

Happily, the inside story is rather more interesting than this implies. The PMA-255UK is one of two new models, the other being the PMA-355UK, a higher spec model that tips the scales at £230. The two effectively replace the long running and popular PMA-250SE and PMA-350SE. Denon lays claim to having authored the whole 'UK Design' concept in 1985 with a model called the PMA-707, though there will be others who might take issue with this, notably perhaps Rotel. But this is not really the issue here. The 2000/55 project (as it is described) is intended to refresh the earlier range, and extend its lifespan with improvements and voicing appropriate for local market conditions, and unlike many other UK-optimised designs,

### "This is a sharp and articulate all-rounder with a surprisingly heavy power output."

this one is actually built in Europe. The PMA-255UK in particular uses the chassis and fascia of the 250SE, but the internals are 'bigger, beefier and all new'. Although modestly rated at 30 watts/channel, typical power output is said to be in excess of 45 watts into 8 ohms, and there are claims of superior bass power and drive, and an improved load tolerance compared to its predecessor.

Design highlights include short signal paths, audiophile grade ELNA reservoir capacitors custom made for Denon, new bipolar output devices, plus mute and short circuit protection by relay. In addition there are other high spec capacitors and resistors, and a carefully contrived earthing topology. There's nothing special about external build quality, which employs a standard combination of a bent steel chassis and a plastic fascia, but finish and detailing are typically strong.

#### SOUND QUALITY

'This amplifier gives a big sound, but it's clinical,' wrote one. He also concluded that it was 'tonally consistent, full bodied and capable of a solid drive'. Listener number two concluded that the Marianne Faithful track was 'well handled, with good low frequency resolution', another describing the same recording as 'lacking soul'. He also felt that the Denon lacked the 'weight and solidity of some of the other models that allowed them to hang togethe'.

In the Tracy Chapman track, the Denon was described as sounding 'a bit etched in places', while another called attention to 'a forward presentation and some colouration, and a 'thin midband'. This thinness was also identified in the piano recording by a strong sense of presence at both ends of the keyboard and what was described as a 'hole in the middle'. The Marianne Faithful recording

was 'quite powerful, but lacking in light and shade'. These findings were confirmed in the hands-on testing. This is a sharp - perhaps too sharp and articulate all-rounder, with a surprisingly heavy power output.

### CONCLUSIONS

While plenty of criticisms could be made, this remains an impressive amplifier for such a low price. It may be a little emphatic and edgy at times, but it's certainly not short of detail and precision. You can pay more and get a lot less. Best Buy.



Mayden Laboratories Ltd, Hayden House, Chiltern Hill. Chalfont St Peter. Bucks SL9 9UG. @ (01753) 888447

### THE LAB REPORT

s a redesign of the PMA-250SE, this A new PMA-255UK comes far closer to fulfilling the promise of its predecessor. The former (reviewed in HFC 171) claimed

to have "excellent load capability" but only delivered a peak current of some 9.3A into 1 Ohm or 86W The new amp, by contrast, sustains a thumping great 321W (18A) into 1 Ohm loads even though its continuous 8 Ohm power output is pretty much unchanged at 49-53W across the audiorange. This increases to 70W/4 Ohm and, under dynamic conditions, to 88W, 157W and 250W (11.2A) into 8, 4 and 2 Ohm loads, respectively.

So the PMA-255 is a hearty little ampli-

fier with just a hint of crossover distortion at low power outputs (0.03 per cent at 1W/8 Ohm) beforedecreasing to 0.006 per cent at 50W/8 Ohm. Similarly, high frequency intermodulation distor-

just as the 0.6dB channel balance error (re.

OdBW) could be improved. Overall it's a

worthy successor to the PMA-250. PMi

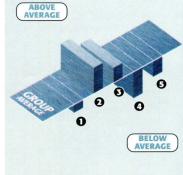
tion decreases from 0.01 per cent at 1W to 0.003 per cent at 30W. This is around ten times lower than the distortion incurred by the PMA-250, suggesting that Denon's latest circuit revisions have been very worthwhile. The amp's response is just -0.1dB down at 20kHz and the weighted

S/N ratio a little below average at 82.5dB,

### **HOW IT COMPARES**

ike the PMA-250, the 255's output Limpedance remains rather high at 0.16-0.17 Ohm, rendering it slightly susceptible to variations in speaker load. Low impedance drive capability is much improved, however.

DYNAMIC POWER OUTPUT	-10%
2 SPEAKER LOAD TOLERANCE	35%
3 AUDIO DISTORTION	20%
4 NOISE	-35%
5 OVERALL COMPATIBILTY	-20%



### SPECIFICATIONS

MANUFACTR'S SPEC	ACTUAL SPEC		
30W	50W		
0.08%	0.01%		
150mV	190mV		
	MANUFACTR'S SPEC 30W 0.08%		

# **ROTEL** RA-931 Mk II



he RA-931 Mk II is a development of the RA-931, which was reviewed in these pages some time ago. The basic nuts and bolts are pure Rotel, and utterly consistent with others in the range. Rotel has always been conservative in the best sense, and doesn't make needless changes, or follow the whims of fashion, unless there is good reason to do so. The essentials, then, are that this is a 35 watt/channel amplifier (8 Ohms) whose input count is three at line level, plus tape plus moving magnet phono, with a tape monitor switch, switchable tone controls, a headphone socket – and that's about it, folks. The control system is easy to understand and to read, thanks to the shaping of the control tops, and build quality is serviceable rather than exciting, but in keeping with the price.

Changes from the original are largely concerned with component substitutions, informed by extensive listening tests. For example, many of the resistors now come from an unspecified UK source, having been chosen on sound quality grounds over the originals. There has also been a change from the originally specified preamplifier opamp to a Burr Brown device, which has better low impedance drive characteristics,

### "This amp gives a good account of itself, even with difficult large-scale acoustic material."

and which offers superior audible resolution, less top end brittleness and a superior bass. A different grade of main smoothing capacitor is claimed to deliver an enhanced bass. with the remaining changes limited to substitution of decoupling caps.

One notable difference unrelated to the above is that the Mk II costs more than the original (which when tested cost £150), after a period over which amplifier prices have generally been on the decline. The cost of the components was given as a reason for this. But another is that many of the components now specified are said to be difficult to obtain, which has forced Rotel to enter into costly long-term contracts.

### **SOUND QUALITY**

It is interesting to note that in our review of the original, we wrote that the Rotel RA-931 was 'dry and lacking in subtlety, and with a propensity to irritate thanks to an excessively sharp top end that allowed rim shots to ring

out, yet which paradoxically sounded dull and forced at other times'. This brittleness is said to have been addressed, and sure enough this is exactly how it came across, along with the fuller bass also claimed for the new model. In fact we are confident this is an altogether better amplifier than the one it replaces. The panel's comments speak for themselves...

'Sweet strings, and a nice, articulate bass – can follow inner parts' (Bach); 'very natural – easy to listen to; no edginess, no colorations' (Tracy Chapman); and 'a good one. Quite close to the [Densen] reference; it sounds good tonally and dynamically' are representative views from one panellist. Another, though less enthusiastic, still concluded that 'the coloration seems to reduce as the tracks went on and timing is OK', though he felt that 'the amp is a little thick, covering up information'.

The hands-on testing gave results closer to those articulated by the first listener than the second. This is a

clean, agile and musical amplifier, one whose compromises are particularly well adapted for use with likepriced ancillaries. It does not favour particular music types, but is more than good enough to give a good account of itself even with difficult large-scale acoustic material.

### CONCLUSIONS

There are manufacturers out there who will put old wine in new bottles. passing the design off as new. Rotel takes the opposite approach, using the old packaging to wrap their new and revised circuitry, and although the results are predictably less glamorous than many, they are also fundamentally more musical. Best Buy.

### **VERDICT** SOUND 00000 BUILD 00000 VALUE PRICE £189.00

An excellent all rounder, and a great bargain buy, this is an amplifier for the ears rather than the eves.

### **■ TWO YEAR GUARANTEE**

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### THE LAB REPORT

espite an impressive pedigree (the RA-930BX and AX), the Rotel RA-931's failure to distinguish itself back in HFC 171 proved something of a puzzle. The fact that this latest RA-931 Mk II seems to

have auditioned rather more favourably, for whatever reason, indicates the product is now back on track. Changes in op-amps and smoothing caps notwithstanding, the RA-931 Mk II measures up just like the RA-931, easily exceeding its 30W rating at 50W through mid and treble, but limited to 45W at 20Hz through increased distortion.

Under dynamic conditions some 71W, 123W, 175W (9.3A) and 155W (12.4A) is available into 8, 4, 2 and 1 Ohm loads,

respectively. The latter two figures do not represent a hard 'clip' in the amplifier's output but are a reflection of a 'creeping' distortion that rises from 0.01 per cent at 1W almost linearly to 0.1 per cent at

> cent at 160W and 150W into and Ohm. Nevertheless, this 931 Mk His not free of 'quirks': distortion proved significantly lower on the left channel, particularly above 2kHz (0.05

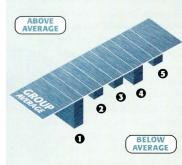
100W into 4 Ohm and to 1 per

versus 0.13 per cent) where the output impedance also dropped close to zero (0.004 Ohm on the left, 0.03 Ohm on the right). So an RA-931 Mk II composed of two left channels would sound different to one composed of two right channels...

### **HOW IT COMPARES**

istortion is higher at both bass and treble frequencies than through the midrange and is higher on the right than left channel. Otherwise, this is arguably the least powerful amp in our test and best suited to sensitive speakers.

1 DYNAMIC POWER OUTPUT	-35%
2 SPEAKER LOAD TOLERANCE	-10%
3 AUDIO DISTORTION	-10%
4 NOISE	-20%
5 OVERALL COMPATIBILTY	-10%



SPECIFICATIONS		
PARAMETER	MANUFACTR'S SPEC.	ACTUAL SPEC.
■ Continuous Power Output, 8 Ohm	30W	50W
■ Distortion 1kHz/8 Ohm	<0.03%	0.007%
■ Input sensitivity (CD/aux)	200mV	190mV

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# **AMAHA** AX-496

he AX-496 is the middle model of three new Yamaha amps, sandwiched between the 60 watt AX-396 and the 100 watt AX-596. The AX-496 delivers a chunky 85 Watts/channel, and is equipped with such niceties as proper 4mm binding post speaker terminals, and remote control operation with a handset that can also operate a Yamaha cassette deck, CD player and tuner - a full system in fact. The Yamaha also boasts a 100kHz bandwidth 'for SACD compatibility'. DVD-Audio is not mentioned explicitly, but probably only because it had not been launched when this amp was announced, at a time when SACD was already in full swing.

Other features are familiar from previous Yamahas, such as leaving only the main controls visible in normal use, with secondary features accessible behind a front panel flap. This is presumably to help please purists and gadget freaks alike, though hiding the minor features away doesn't take them out of circuit. The main visible controls include power, volume, an input select continuous rotary, and two switches - one to select the CD/DVD wide bandwidth input, and another to bypass much of the front end circuitry. The latter includes bass, treble and balance controls, switching for two pairs of speakers, a record output selector (independent of the input select/listen control), and a variable loudness control, a form of level-dependent tone control that is elsewhere an all-but-forgotten relic of a dim and distant past.



### "This might be the amplifier for you, if you're looking for the maximum power output for the price."

### SOUND QUALITY

The panel test results indicated little wrong with this amp, other than a slightly ill-disciplined feel, and a lack of star quality: 'There's a good amplifier in there struggling to get out,' said one. In the Tracy Chapman, the Yamaha was felt to be 'slightly wooden and over-timed, which gave a flavour of its own, but when the vocals soared, the accompaniment was dragged up with it'. Others pointed to a lacklustre performance with this track, however, and a loss of separation between the voice and guitar. Others highlighted good separation and a credible sense of musical flow. The Ravel piano recording was generally liked, though loss of articulation and muddling with complex passages was again highlighted.

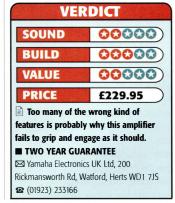
A lack of truly defined independence between parts of recorded

mixes was the main failing of this amplifier. This was noted on a number of occasions, and with a variety of material, but especially with chamber and unaccompanied solo vocal material of various types, where any lack of such qualities tends to take a very obvious toll. The problem appears to be a loss of real transparency, and it is tempting to point a finger at the superfluous tone and loudness controls (or even the speaker switching) as possible culprits, especially as bypassing tone controls almost always gives inferior results to 'straight line' circuits. There's no proof here, of course, but the Yamaha does present a slightly elastic, almost anamorphic or at least constrained view of the material being played. While this went almost unnoticed on the whole with highly produced, narrow dynamic

range pop and rock, this was far from the case with well-recorded acoustic material.

#### CONCLUSIONS

This might be the amplifier for you, if you're looking for the maximum power output for the price. The Yamaha is certainly a powerful design, and the feature set is enhanced by the variable loudness control, if you like that kind of thing. But it wins no formal endorsement here for sound quality, which is strictly average at the price.



### THE LAB REPORT

ike Sony's amplifier, this is another wide bandwidth design conceived to offer a response in line with the 100kHz+ provided by DVD-A and SACD. The fact that output of the average loudspeaker is seriously reduced above 30kHz or so seems to have escaped most people's attention. Anyway, this amp also features an unnecessarily high +44dB gain though, in this case, its S/N ratio is exceptionally wide at 93.7dB - some 14dB ahead of the Sony. Ironically, opening the window this wide can expose the sort of RF-related distortions that lead to a brittle or grey and unin-

Still, the amplifier is very powerful,

offering 110-115W/8 Ohm acrossthe audiorange and 166W, 287W, 373W (13.7A) and 301W (17.3A) into 8, 4, 2 and 1 Ohm loads, respectively, under short-term

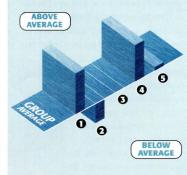
> dynamic conditions. There's evidence of the 'creeping' level-dependent distortion seen with Rotel's amplifier, though this only really grips when the amp is driving low 2 and 1 Ohm loads where THD rises from 0.002 per cent at 1W to 0.1 per

cent and 0.3 per cent at 200W, respectively. Into 'safer' 8 Ohm loads, distortion remains a moderate 0.0025 per cent through bass and midrange. Finally, the channel balance is also a little below average at 0.7dB (0dBW).

### **HOW IT COMPARES**

good capacity to handle medium-A term dynamic peaks means the AX-496 won't easily run out of steam with most speakers. But will the super-wide S/N ratio prove a subjective boon?

1 DYNAMIC POWER OUTPUT	55%
2 SPEAKER LOAD TOLERANCE	-25%
3 AUDIO DISTORTION	0%
4 NOISE	50%
5 OVERALL COMPATIBILTY ©	5%



SPECIFICATIONS			
PARAMETER	MANUFACTR'S SPEC	ACTUAL SPEC	
Continuous Power Output, 8 Ohm	85W	115W	
■ Distortion 1kHz/8 Ohm	0.02%	0.0025%	
Input sensitivity (CD/aux)	150mV	190mV	

teresting sound quality.



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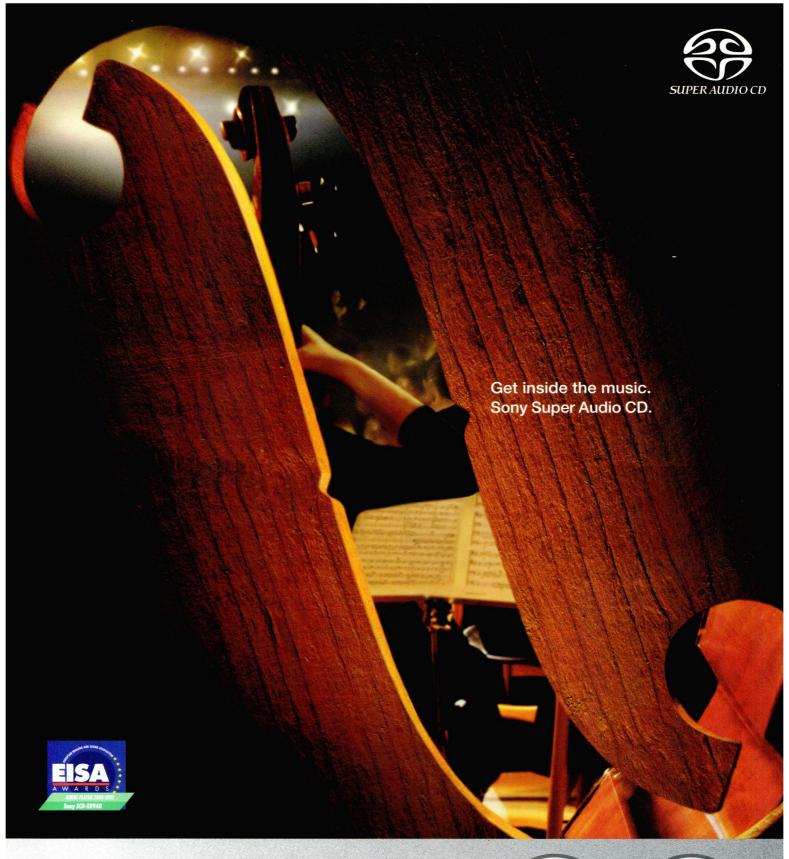
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**ARCAM** Alpha 8R



ere is a re-test of a model first reviewed in HFC 192. At the time it was on sale for £380, but it was dropped this summer to £349.90. Arcam admits to no other changes, though in the lab test programme Paul Miller has identified a change in the output protection, which means less power into low impedance loads. So given that the original test resulted in a Best Buy swing tag, and given the price drop, does the Alpha 8R still retain the gong amongst the current level of competition? This may sound like a no-brainer, but it isn't.

In addition to the usual range of in and outputs, you will find two pairs of speaker output terminals and a switch labelled processor/normal. One of the two sets of speaker terminals is switchable on the front panel, while the other is hard wired to the output devices, and offers a more direct signal path and therefore better sound quality, though the difference is not big. The processor switch converts one input to fixed gain, which means that when an AV processor with its own volume control is connected to the AV/DVD input, the Arcam volume control is

### "The Arcam seems very slightly shy in the treble, and arguably a little warm in the bass."

bypassed, and the processor volume control adjusts all channels. Switch the Arcam to another input, and the volume control operates as usual.

Other widgets include bass and treble controls, with a direct bypass feature, five line inputs, including one tape circuit, and excluding one input that can be switched between line and moving magnet phono settings. Remote control is part of the package, but this is a simple unit that limits itself to adjusting the volume and selecting mute.

### **SOUND QUALITY**

The panel was less impressed with this amplifier than last time around. The Bach violin concerto excerpt was described by one as 'coloured and edgy', and the same piece was written off by another as 'harsh, with a slow, forward balance.' But a third panellist talked of a 'wide image and a powerful sound' in this track, and

he made similar comments about the other test pieces too. The Liszt piano for example was said to 'go loud better than most of the amplifiers on test', though in the Marianne Faithful recording, which in many ways is an excellent amplifier breaker, he describes the sound as 'slightly confusing' in the loud peaks.

The most consistent criticism made by the panel was one of poor timing, and there was some indication of this in the hands-on tests. Certainly in the more testing, wider bandwidth system combinations, the Alpha 8R sounded a little ploddy, and there was little sense of leaning into the rhythm, or the almost aggressive attitude necessary for the Marianne Faithful recording to shine.

### CONCLUSIONS

The only viable conclusions from the panel test are that the Arcam's particular voicing hasn't worn too well

since we last looked at this model. There have been improvements with competing models that cast the Arcam in a less favourable light, and the test speakers are more searching than the ones used last time. Tonally, the Arcam seems very slightly shy in the treble, and arguably a little warm in the bass. On the whole, however, this is quite a friendly balance for low to medium cost systems - borne out by the fact that the Alpha 8R was clearly at its best with the compact

lannoy mX l speal	kers.				
VER	DICT				
SOUND	00000				
BUILD	00000				
VALUE	00000				
PRICE	PRICE £349.90				
Now beginning to	sound as though it				
is reaching the end of its natural lifespan,					
the Alpha 8R is good with budget					
ancillaries, but is no longer one to					
energise the soul.					
■ TWO YEAR GUARANTEE					
☑ A&R Cambridge Ltd, Pembroke Avenue,					
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### THE LAB REPORT

his amplifier was awarded a Best Buy in HFC 192 and there's nothing in this latest version's specification to suggest standards have lapsed. It still delivers 58W, 64W, 59W at 20Hz, 1kHz, 20kHz respectively into 8 Ohm and 85W into 4 Ohm. Under dynamic conditions, this increases to 96W, 170W, 272W (11.7A) and 332W (18.2) into 8, 4, 2 and 10hm loads, respectively, the latter achieved just before the electronic protection cuts in to prevent the amplifier from doing itself an injury. The 8R reviewed in HFC 192 achieved 405W

(or 20.2Afor 10msec and 22.2A for 5msec)

into 1 Ohm loads, suggesting that Arcam

has tightened-up its short-circuit protec-

tion. Arcam's volume control selection is improved but there's still a significant 0.55dB channel balance error with the volume control at 12 o'clock (0.85dB at 9

o'clock) which reduces to 0.35dB in 'direct' mode. Distortion is

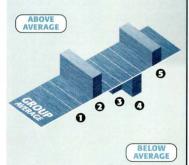
very low at typically 0.002 per cent through bass and low midrange frequencies and now only climbs to 0.05 per cent at very high (20kHz) frequencies. This is certainly less of a 'jump' than

witnessed with earlier iterations of the Alpha 8 and is also reflected in its low IM distortion, typically less than 0.003 per cent from 1-30W. The S/N remains steady at 85.2dB (re. 0dBW) and immunity from RF interference is excellent.

### **HOW IT COMPARES**

mproved short circuit protection has Ilimited the peak current capability of the latest 8R but not sufficiently to prevent it tackling difficult speaker loads. Channel balance errors, though reduced, are still higher than average but the 8R remains a classy act overall.

1 DYNA IC POWER OUTPUT	0%	
2 SPEAKER LOAD TOLERANCE	30%	
3 AUDIO DISTORTION	-5%	
4 NOISE	-25%	
5 OVERALL COMPATIBILTY	20%	



### **SPECIFICATIONS**

PARAMETER	MANUFACTR'S SPEC.	ACTUAL SPEC.
Continuous Power Output, 8 Ohm	50W	60W
■ Distortion 1kHz/8 Ohm	0.01%	0.003%
■ Input sensitivity (CD/aux)	260mV	285mV

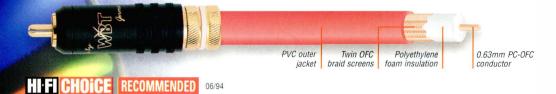
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# **MARANTZ** PM6010OSE KI Signature

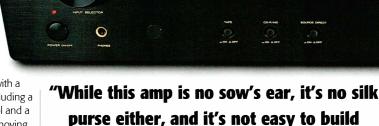
he PM-6010OSE first went under the HFC ear trumpet in issue 196, and here is the KI Signature version, named for Ken Ishiwata. Marantz's resident electronics whizz. In common with the rest of the small but select band of KI Signature models, a number of enhancements have been made to improve sound quality.

The PM6010OSE has a plain aluminium slab fascia, with a thin leavening of controls, including a massive rotary volume control and a four position input selector (moving magnet phono, and three line level inputs). There are three buttons to select tape monitor, a single input described as CD-R/MD, and a source direct feature, which bypasses the balance control and the other switching. Remote control is included.

The package of enhancements over the standard PM-6010OSE includes a complete copper plated chassis, a toroidal transformer with OFC windings, and what are described as a great deal of component substitutions to suit - including capacitors, resistors and rectifiers, all chosen by careful listening. Other features are carried over from the original, including an extruded low resonance front panel, solid independent L/R heatsinks, and a triple Darlington output stage capable of 100 watts into 2 Ohms.

### **SOUND QUALITY**

While there were plenty of specific criticisms, they were quite scattered and – as so often with amplifiers that



satisfying systems around it."

don't tweak the listening bone in quite the right way - the predominant feature to emerge was a general feeling of unease. 'It's too thin,' wrote one panellist, while another described 'big dollops of sound' both referring to the Bach recording. Similarly, Tracy Chapman was felt to have plenty of depth by one panellist, but was criticised by another for a guitar that sounded as though it had only 'three top strings'. The Liszt piano had a 'poor left hand presence and weight', and one of the sum-up comments talked of an amplifier which 'punched quite well, but without enough substance in the middle for the sound to hang together'.

Perhaps the most interesting, and certainly the most striking, comment was from a listener who thought that the Marantz sounded 'over tuned'. This drew wider agreement in aprèslistening discussion, a feature of the

panel tests, and elicited the response from another that 'it sounds as though it is voiced to be an award winner'. This curious criticism, taken together with other observations and the hands-on listening both before and after the panel test programme, are consistent with the picture of a more focussed and hyped up version of the 6010OSE in which the fundamental limitations of the original have not been addressed. The extra resolution of the new model, which is undoubtedly a factor, serves to do little more than highlight the limitations of the original. I share the view that the sound was a little unbalanced in favour of the mid top, and that it lacked a solid physical foundation. As often happens, though, matters improved with smaller, easier speaker loads, and there was also a feeling that the sound didn't really

hang together in a consistent and believable way.

### CONCLUSIONS

A temping conclusion here is that the KI programme is hamstrung because the starting point is not of a top standard, which brings to mind the adage about silk purses and sow's ears. While the PM6010OSE KI is no sow's ear, it is no silk purse either, and it is not entirely easy to build fully satisfying systems around it.

VERDICT				
SOUND	00000			
BUILD	00000			
VALUE	00000			
PRICE	£399.90			
The KI Signature programme gives the basic 6010OSE better resolution, all the				
better to highlight the original shortcomings.				
TWO YEAR GUARANTEE				
Marantz Hi Fi UK Ltd., Kingsbridge House,				
Padbury Oaks, 575-583 Bath Road, Longford,				
Middlesex UB7 0EH.				

### THE LAB REPORT

t +41.6dB, the PM6010OSE is a rela-A tively high-gain amplifier, requiring just 200mV to achieve its measured 75W/8 Ohm power output which, incidentally, is far

healthier than Marantz's 50W specification might suggest (see Creek review). A full 115W is possible into 4 Ohm while, under short-term dynamic conditions, this increases to 103W, 184W, 283W (11.9A) into 8, 4 and 2 Ohm respectively with just 44W available into 1 Ohm before the electronic protection kicks-in. The 103W/8 Ohm figure also bests Marantz's own conservative 80W dynamic headroom which, I might add, also holds up to 92W (+0.9dB) for medium-term 100msec transients.

Although the output impedance varies slightly (0.035 and 0.025 Ohm) between channels, there's clearly plenty of feedback at work here keeping the impedance

> low as 0.002-0.003 per cent are typical across much of its power range, increasing slightlyto 0.005 per centat 10kHz and 0.015 percentat 20kHz (1-50W/8 Ohm). The amplifier's response is flat to within +0.08dB at 30kHz, the

and distortion low. Figures as

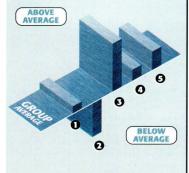
channel balance is just slightly weak at 0.4dB (re. 1W/8 Ohm) but the S/N is slightly above average at 88.4dB (both channels). Like Denon, Marantz is also clearly capable of uprating the performance of its amplifiers when the need demands.

### **HOW IT COMPARES**

**2** (01753) 680868

Distortion, noise and output impedance are all well under control, but the amplifier is not as secure with difficult speakers as its high paper specification might suggest and this, in turn, influences its 'real world' compatibility.

1 DYNAMIC POWER OUTPUT	10%
2 SPEAKER LOAD TOLERANCE	-45%
3 AUDIO DISTORTION	65%
4 NOISE	15%
5 OVERALL COMPATIBILTY	25%



SPECIFICATIONS			
PARAMETER	MANUFACTR'S SPEC.	ACTUAL SPEC.	
■ Continuous Power Output, 8 Ohm	50W	75W	
■ Distortion 1kHz/8 Ohm	0.008%	0.003%	
■ Input sensitivity (CD/aux)	150mV	200mV	



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he family resemblance of this amp to older NAD amplifiers is obvious. There have been developments in areas like styling, but the principal changes externally are in matters of detailing. Internally, crude construction standards and an excess of point-to-point wiring lies in the past, and frame transformers have been replaced by toroids, which produce lower noise, a reduced hum field and less interference with adjacent circuits.

The C350 is a discrete design throughout with bipolar output devices, and like other recent NAD amplifiers, the C350 employs a proprietary Impedance Sensing Circuit, which examines the load and optimises itself accordingly. This has a side effect that the amplifier develops an identical 60 watts into both 8 and 4 Ohms. The C350 has impressive dynamic reserves, with a claimed 135, 190 and 240 watts dynamic (peak) power into 8, 4 and 2 Ohms respectively, and a peak current capability of 55 amps. The C350's official continuous power rating is 60 watts/channel, though some NAD literature describes it as a

### "A musical heavyweight - good for Mahler and Shostakovich, perhaps, less so for the Spice Girls."

50 watter, and it is equipped with seven relay switched line level inputs, two of which are tape circuits with a dubbing link between them. Discreet LEDs indicate power status, and the selected input.

Standard NAD features, like bypassable tone controls, and Soft Clipping (a form of output limiting designed for high volume use at parties where sound quality is not an issue) have been retained, and so is a removable link between the preand power amp. This model even includes a second preamplifier output, which in combination with the first one can be used with gain matched power amplifiers for bi- or tri-amping. The C350 also has potential in multi-room systems thanks to a 12V trigger output which can be used to switch external components with trigger inputs from standby to on, and vice-versa.

#### SOUND QUALITY

'Overall one of the best of the day' was a typical panel comment, and it was also described as 'thoroughly musical' in one sum-up comment. Another listener felt that the NAD worked particularly well in the two classical pieces, thanks in part to a well-developed sense of imagery in the depth plane. 'Dynamics are not as wide as [the previous amplifier],' noted one, 'but it is more controlled, and it sounds very natural and very listenable'. But he also felt that 'in the long term you might want more - more detail especially'. Another praised the sound of the Ravel piano excerpt in particular, and commented that the NAD was a musical heavyweight - good for Mahler and Shostakovitch, perhaps, less so for the Spice Girls.

The hands-on testing reinforces the picture of a fine, well-balanced

amplifier. It is not quite as crisply defined or as detailed as some, and it also has a warm, full bass, but there is no fat here: the bass is well controlled, tuneful and focussed. In addition, the NAD seemed equally capable of good results into most loudspeakers.

### CONCLUSIONS

Excellent, all-purpose near budget amplifier offers modest analysis and dynamics, but excellent levels of consistency, tonal accuracy and a general feeling of rightness. At just a whisker short of £300, it rates as a Best Buy.



### THE LAB REPORT

his amp's smaller brother, the C320, was the star of my Oasis column in HFC 205 where we looked at the ability of amplifiers to cope with strongly dynamic material. The C350 follows in its footsteps for, though the 105W/4 Ohm output looks weak in relation to the 95W available into 8 Ohm, it's the ability to deliver high momentary outputs that's the cornerstone of its design. The C350 will sustain some 159W. 297W, 480W (15.5A) and a whopping 550W (23.4A) into 8, 4, 2 and 1 Ohm loads with dynamic 'peaks' lasting just 10msec. Even medium-term musical peaks lasting around 100msec are gifted with an extra +1.8dB (145W) of headroom over and above

the continuous output of 95W/80hm.

Distortion remains very low indeed at typically 0.0015 per cent through the midband, increasing very slightly to 0.005 per cent in the low bass and

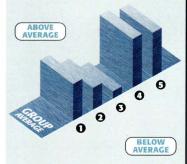
0.009 per cent in the high treble (20kHz) - among the lowest in this test. Another feature of NAD amps is their very low noise, reflected in the wide 96dB S/N ratio of the C350 (gain is +38.8dB, just marginally below the 'average' +39.6dB). This

is 15dB or so 'better' than many competitors but it's this widening of the dynamic window that could expose harsher or gritty sounding distortions (such as RF noise) that might otherwise be buried.

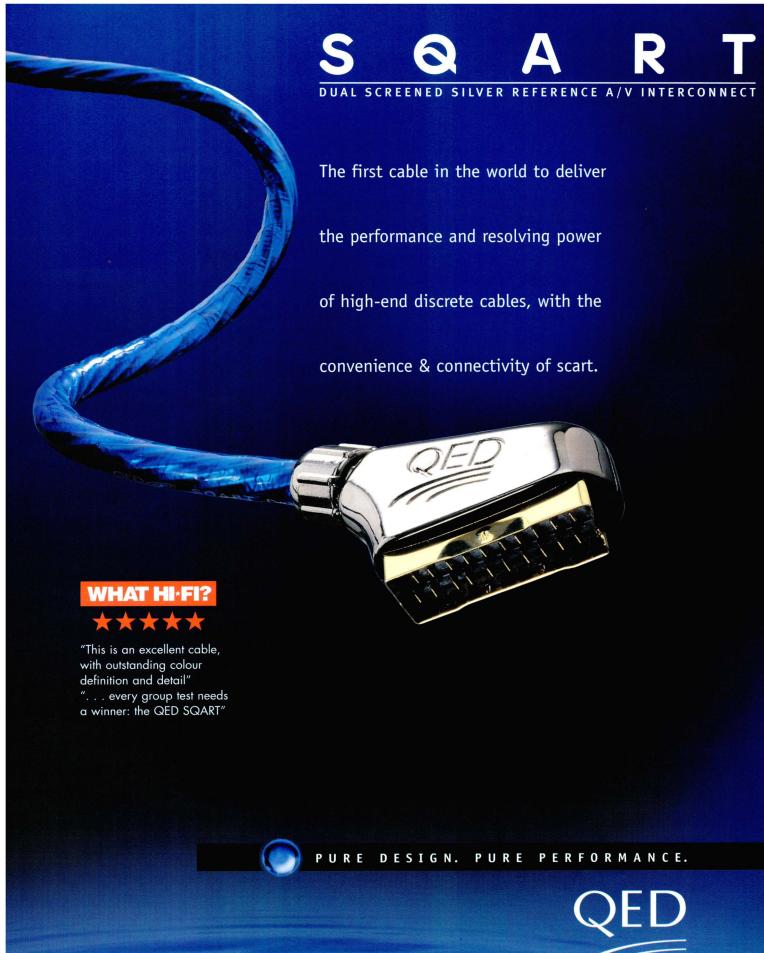
### **HOW IT COMPARES**

ery high dynamic power output combined with the ability to drive really difficult speaker loads. Low distortion but a very wide signal to noise is not necessarily a good thing.

1 DYNAMIC POWER OUTPUT	50%
2) SPEAKER LOAD TOLERANCE	30%
3 AUDIO DISTORTION	10%
4 NOISE	65%
5 OVERALL COMPATIBILTY	60%



SPECIFICATIONS				
PARAMETER	MANUFACTR'S SPEC.	ACTUAL SPEC.		
■ Continuous Power Output, 80hm	60W	95W		
■ Distortion 1kHz/8Ohm	0.03%	0.0015%		
■ Input sensitivity (CD/aux)	215mV	310mV		



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# **SONY** TA-FB940R

his is an amplifier specifically designed for wide bandwidth sources – notably SACD, though there is no obvious reason why DVD-A would be any less suitable. The parameters to which Sony claims to have paid special attention are identified as frequency response, phase and rise time. They've done this by including a new linear phase amplifier with an extraordinary (and surely excessive) 45dB gain, employing 100% current feedback in the power amp. The circuit requires no phase compensation caps, and no zener diodes, further reducing group delay and noise. It has also been possible to directly connect the load, eliminating the Zobel network normally included for stability, improving the damping factor.

A small UK Special Edition badge indicates that this is one of the hi-fi components that has been tuned according to the requirements of the Brooklands Sound Project. The modification programme, which uses as raw material a standard ex-factory model that is not sold in the UK, features improved mains power supply reservoir capacitors, and a changed power supply voltage, while the open loop gain of the amplifier has been adjusted to suit. The power specifications are 2 x 60 watts into 8 Ohms, which ramps up modestly to 2 x 95 watts into 4 Ohms, both at 1 kHz. A full bandwidth (nominally 20Hz – 20kHz) power output figure would be a little less than this. Other features: relay source switching, a MOS-FET output stage, 4mm speaker terminals (replacing 3mm parts) and an OFC wound toroidal transformer.



## "This amp has a classic hi-fi balance, all top and bottom, with a poorly anchored mid-band."

As the model designation suggests, the TA-FB940R is a remote control amp, and it has speaker and loudness switching, a headphone socket, along with tape dubbing and tone controls behind a flap on the fascia. The source selectors (phono MM, two tape and three line sources can be connected) and volume controls readily accessible on the front panel, as is a source direct switch. The Sony also has an EON (Enhanced Other Networks) link for appropriately equipped tuners, which can slightly simplify operation.

#### SOUND QUALITY

The Bach recording was 'big and meaty - a little boomy but listenable, and with some coloration in the acoustic, and although string tone was clearly better than that of some of the competition, the flow of the music was 'disjointed'. In the

Tracy Chapman track, voice quality was described as 'good' and there was 'some subtle detailing and easy to follow decay sounds', though one panellist again talked of 'coloration' and a 'loss of transparency'. The piano recording was 'pretty good not clangy, not boxy and with fair resolution', but another view had the Sony as 'laboured and slow' in this piece, the net result being 'messy, with poor timing, and difficult to follow'. One sum-up comment was to the effect that the Sony amp worked well on simple material, but that it's timing was poor, and that it did not control the bass effectively.

A bathroomy bass seems to be part of the recipe here, along with a detached mid top. The TA-FB940R has a classic hi-fi balance, all top and bottom, with a poorly anchored midband, which means it lacks solidity and architecture, though it's certainly not lacking in bass. The observation that the Sony works best with simple music is certainly the case, and spatial cues often sounded overblown.

#### CONCLUSIONS

The TA-FB940R cannot be regarded as musically consistent or successful, and its relatively good behaviour with simple source material is not significant here: much simple, small scale music making simply lacks presence at the frequency extremes, and fails to probe the Sony's weak areas.



#### THE LAB REPORT

eveloped as part of the Brooklands Sound Project, the PSU is uprated over and above the standard TA-FB940 and the gain of the amplifier has been adjusted to achieve 60W into 8 Ohm and

95W into 4 Ohm. The overall gain is +44.7dB, which is quite the highest in this test, probably due to the preamp stage. As a result just 140mV is required to drive the amp to full output. limiting the range of the volume control with high (~2V) CD sources.

Either way, Sony rates the amplifier at 60Wand this is all it will deliver at low bass frequencies, increasing to 73W at 1kHz and 71W at 20kHz. This jumps to 98W at 1kHz into a lower 4 Ohm load with 90W available into 8 Ohm over a 100-cycle dynamic burst. Building on this, it's possible to sustain 99W, 158W, 210W (10.2A) and 191W (13.8A) into 8, 4, 2 and 1 Ohm loads

> for shorter-term (10msec) musical peaks. As under continuous output conditions, the amplifier clips quite abruptly and is accompanied by some slight RF oscillation. This is more a feature of the widebandwidth (~300kHz) 'SACD-ready'

design than something to be unduly concerned about. Distortion is vanishingly low at typically 0.0015 per cent through bassand midrangebut increases to 0.04 per cent at HF, while the S/N ratio is unusually low at just 80dB.

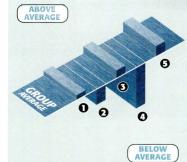
#### **HOW IT COMPARES**

2 0990 111999

N either the amplifier's output impedance or HF distortion is quite as low as Sony suspects, but the 'real-life' results are no disgrace. The high gain is rather puzzling, however, as is the poor signal to noise ratio.



PARAMETER



### **SPECIFICATIONS** MANUFACTR'S SPEC.

**ACTUAL SPEC.** ■ Continuous Power Output, 8 Ohm 60W 70W ■ Distortion 1kHz/8 Ohm <0.008% 0.0015% ■ Input sensitivity (CD/aux) unavailable 140mV



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# **CREEK AUDIO** 4330 SE



his is the top specification model in the 4330 series, which may already be familiar to you in its lower spec non-SE version. Only the front panel badging and gold plated in and outputs on the back (the standard article uses nickel plating) distinguishing the two. Internally, the amplifiers differ in a number of ways. The SE has ditched the 25 amp MOSFET output devices in favour of 40 amp alternatives, with appropriate changes to the power supply. The supply also benefits from a larger toroidal transformer (160VA vs. 120VA), and a much higher power reservoir bank made from multiple small valve capacitors, which provide the extra capacity combined with lower inductance.

The 4330SE comes only in remote control form, and has a motorised ALPS film potentiometer, replacing the standard pot on the non-remote version, other controls being limited to a rotary input selector and a tape monitor switch. There are just four inputs at line level, plus a tape circuit. But in standard Creek fashion, there are a number of plugin modules for those with turntables.

This amplifier will imminently be available in Mk III form, which should sound much the same. This

## "It was rather characterful and better at conveying the emotional content of music than the structural detail."

new model will include resettable short circuit protection – the current one uses fuses in the transformer and there's a revised internal layout that eliminates the possibility of adding the rarely specified active gain module in the preamp section. The model tested here has a passive preamplifier, all active gain (unless a phono module is specified) being within the power amplifier. Rated power output is 50 Watts/channel.

#### SOUND QUALITY

First, the issue of power output. The 50 Watt rating can probably be justified (Paul's lab test results will tell you if it really can), but real world power output is notoriously difficult to judge simply by the numbers. It became obvious during some of the panel test sequences, when the amp was played at a fairly high level, that it was running out of steam. The Creek becomes narrow and constricted when it overloads, eventually becoming rather shut in, which was

noticeable for example on the repeating bass line in the Marianne Faithful track through the test JMlab speakers. But the Creek's reserves were clearly more than adequate with other, smaller speakers.

Musically, the panel found the 4330SE somewhat perplexing, the consensus view being that it was rather characterful - pleasantly so and that it was better at conveying the emotional content of music than the structural detail. Tellingly, one panel member felt that 'with a chance to play with cables and bits, it might come together'. In the hands-on testing, the Creek was clearly at its best with compact speakers, for example the test Tannoy mX series, where the amplifier's inherent warmth and grace was clearly a good match, aided presumably by the speaker's easy load. Other panel comments included these: 'Not completely detailed, but emotion in violins'; 'Cosy and fruity, like wine tasting' (a sum-up);

'Marianne Faithful lacks punch and drive, and the bass seems to lag behind'; '[There is] some atmosphere in the Marianne Faithful track. but little drama or tension'.

#### CONCLUSIONS

One listener concluded that the 4330SE was anodyne, with no objectionable flaws, making it difficult to criticise, but difficult to like. On balance this is probably rather a harsh judgement, but it is difficult to explicitly recommend an amplifier that lacks the price advantage of the entry-level model, and which is so obviously and critically systemdependent.



costly, has limited real world power, and is demanding of system synergy criteria.

#### **■ TWO YEAR GUARANTEE**

Creek Audio Ltd, 2 Bellvue Road, Friern Barnet, London N11 3ER. **2** (020) 8361 4133

#### THE LAB REPORT

When I last tested the 4330 in *HFC* 192, I was pleased to report that its power output had been increased from 40W (4330 in HFC 171) to 50W/8 Ohm. The SE is no less capable but Creek has decided to uprate its paper specification from 40W to 50W which, with varia-

tions in mains voltage and manufacturing tolerance, is sailing rather too close to the wind in my view. For example, the Marantz amp in this issue is also rated at 50W/8 Ohm but delivers some 75W as a safety margin.

Nevertheless, medium-term dynamics do benefit from an increase to 68W (100msec) while short-term peaks (10msec) provide some 76W, 145W, 255W

(11.3A) and 355W (18.8A) into 8, 4, 2 and 1 Ohm loads, respectively. This is very substantial for such a physically small amplifier and suggests it'll drive difficult speaker loads with ease.

> Distortion is typically less than 0.005 per cent through bass and midrange but increases close to Creek's 0.05 per cent limit at very high (20kHz) frequencies. The overall +33dB gain is the low-

est in this test, requiring a full 460mV input to achieve 50W/8 Ohm with the volume at maximum. Partnered with modern CD and tuner sources, however, this will not pose a problem and, with hindsight, is probably quite sensible.

#### **HOW IT COMPARES**

artnered with a standard 8 Ohm speaker, this will not prove the 'loudest' amp in our survey but it'll certainly make a better fist of dealing with insensitive, low impedance boxes than most 50-Watters.

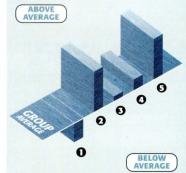
1 DYNAMIC POWER OUTPUT	-25%
2) SPEAKER LOAD TOLERANCE	55%
3 AUDIO DISTORTION	5%
4) NOISE	15%
5 OVERALL COMPATIBILTY	55%

PARAMETER

**■ Continuous Power O** 

■ Distortion 1kHz/8 Oh

■ Input sensitivity (CD/



SPECIFICATIONS					
	MANUFACTR'S SPEC.	ACTUAL SPEC.			
output, 8 Ohm	50W	53W			
hm	<0.05%	0.006%			
/aux)	450mV	460mV			

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# **EZO** Aria HE



he nameplate says Ezo, but this amplifier is made by a company called Cairn, a name that Linn Products objected to on the grounds that they have a UK registration of the name Kairn. Ezo comes from France, and consists of a range of beautifully presented high fidelity components which – if the Aria is typical - are constructed internally to standards closer to the high end than most

Like others in the range, the Aria integrated amplifier is housed in a non-magnetic aluminium case with 2mm thick walls, and has a 9mm thick slab alloy fascia extrusion. WBT connectors are used on the back. Bright blue LEDs indicate the state of the headphone and tape monitor switching (the headphone socket is on the back panel, which could make life difficult in some installations), and a preamplifier output is fitted. Inputs: four at line level, plus a single tape circuit. A peek through the top panel reveals what appears to be a well specified toroidal transformer, and a bank of small value power supply reservoir capacitors in a low-inductance parallel connected configuration.

## "This amp is distinctly forward and dramatic, and there were times when it sounded even rather crude."

#### SOUND QUALITY

Arguably the most distinctive sounding amplifier in the test, the Ezo Aria is a demanding amplifier on audition that stakes a strong claim after some of the less satisfactory models in this group. This distinctiveness inevitably raises question of its own: one of neutrality and transparency.

This is a distinctly forward, dramatic amplifier, and there were times when it sounded unrefined and even rather crude. Coloration was noted, for example in the Marianne Faithful recording, though this recording was also felt to be 'more dramatic and more three-dimensional' than most, and the piano recording was praised for the ease with which fingering noise could be picked out. On the negative side the guitar in the Tracy Chapman recording, which ordinarily is bold and lifelike, 'sounded like a pick-up though a cheap amp'. Although the Aria was universally praised for its airy, spacious quality, it

did not generate 'a quality acoustic', as one listener put it. The Bach betrayed subtlety but also a loss of dynamics, and the midband lacked 'punch and control'.

There was widespread acknowledgement, at least with some of the test material, of the Aria's 'messy and splashy', even 'scratchy' treble, indeed of some treble distortion. For distortion to be identified, it has to be at a fairly high level, and even leaving this to one side, the amp sometimes sounded 'veiled' and 'unsubtle', with clear evidence of deterioration as the volume was increased. 'It becomes confused as it goes louder', as one noted.

These things were also apparent in the hands-on tests. The amplifier tends to be up-front and upper-mid dominant - yes, it shouts a bit - but unlike others with this characteristic, the Ezo Aria was at times rather ungraceful, which made it needlessly fussy about partnering source components and (especially) speakers. This is not the most articulate amplifier either; lyrics appear to be clearly enunciated, but can be hard to follow.

#### CONCLUSIONS

Interesting, even arresting, as it sometimes sounds, the Ezo Aria is far too intrusive, far too ready to place its own gloss on the music to be a credible and transparent amplifier. It can sound coarse and grainy, and the detail and analysis that it unevenly brings to the job are inevitably compromised.



#### THE LAB REPORT

his French amplifier is built on quality epoxy PCBs and slotted into an equally high quality all-aluminium case. Rated at 40W, the low-gain (+37.3dB) circuit achieves 55W through bass and midrange frequencies but just 46W at 20kHz (re. 0.5 per cent THD). Then again, the Aria is as characterful as its appearance suggests.

Distortion, for example, climbs steadily through mid and high frequencies (0.009 to 0.5 per cent) adding some colour to the highest musical harmonics while its output impedance measured 0.2 Ohm on the left channel and 0.15 Ohm on the right. The former is certainly sufficient to modify the system response with low and varying impedance loads, though into a nonreactive load its response is flat to within 0.05dB up to 30kHz. Channel balance is excellent at 0.1dB (re. 1W/8 Ohm) and the

S/N about average at 87.5dB (left) and 85.1 dB (right).

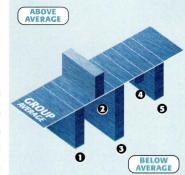
**Distortion also increases** with decreasing loads where power is up to 90W into 4 Ohm and dynamic power to 60W, 103W, 157W (8.9A) and 203W (14.2A) into 8, 4, 2 and 1 Ohm

loads. This represents little or no dynamic headroom (100 cycle bursts still offer only 60W), though the 'stiff' supply regulation does support a +2.1dB boost from 8-to-4 Ohm under continuous conditions.

#### **HOW IT COMPARES**

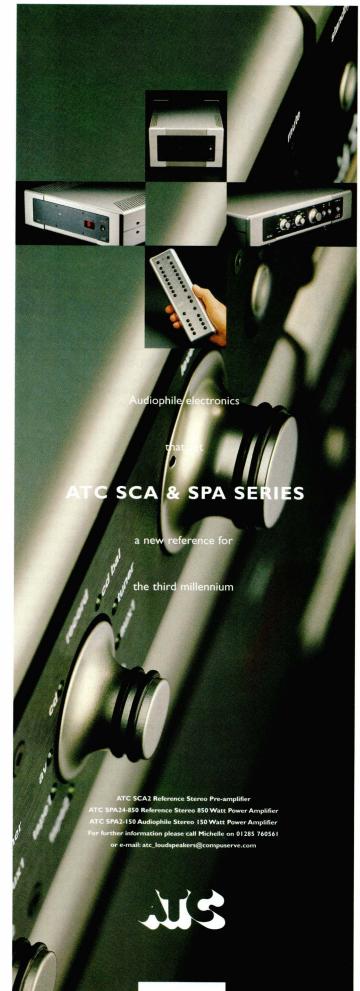
Designed for a high continuous rather than dynamic power output, the Aria is still pretty tolerant of 4 Ohm speakers, though its high output impedance may alter the treble balance. Big changes in distortion will also compromise its neutrality.

1 DYNAMIC POWER OUTPUT	-50%
2) SPEAKER LOAD TOLERANCE	30%
3 AUDIO DISTORTION	-70%
4) NOISE	-10%
5) OVERALL COMPATIBILTY	-45%



SPECIF	ICATIONS	
PARAMETER	MANUFACTR'S SPEC.	ACTUAL SPEC.
■ Continuous Power Output, 8 Ohm	40W	55W
■ Distortion 1kHz/8 Ohm	unavailable	0.03%
■ Input sensitivity (CD/aux)	unavailable	290mV





# **MUSICAL FIDELITY** X-A2

he X-A2 is essentially the same amplifier as the X-A100R (reviewed in HFC 189), except that the remote control has been stripped out, and so has the price, which at £500 is just half that of the X-A100R. It is also quite closely related to the X-A1. The block diagrams of the two are the same, but there are detail differences in voltages and bandwidths at various circuit points. The X-A1 was the original model, from which the XA-100R and

later the XA-2 were derived.

This is a two-box amplifier. All the audio circuits are housed in the main box, which is an oval version of the A-series' fluted alloy extrusion. The case is non-magnetic, extremely strong and extremely well finished, though aesthetics are a matter of taste. Certainly it lacks the gravitas of some of Musical Fidelity's other amplifiers. The power supply is housed in a separate moulded case on the end of a long umbilical that plugs into an XLR socket on the back of the preamp. Only a power switch stands between leaving the power supply accessible and burying it.

The control system is simplicity itself. On the left-hand side of the fascia is a large rotary volume control. On the right is a rotary source selector to choose one of the six line level inputs, one of which is tape. Dead centre is a tape monitor switch, allowing off tape monitoring from the third (playback) head of a three-head cassette deck. A preamplifier output is fitted for biamping or second room applications. Power output is rated at a useful 75 Watts/channel.



## "The X-A2 gives a faithful, consistent account of a wide range of material, especially acoustic."

#### **SOUND QUALITY**

There were problems with the test sample, when a distinct whistling could be heard from the power supply. Later in the day the whistling went, replaced by a low frequency mechanical buzz. The amp was checked by Musical Fidelity, which identified a slightly loose earth connection that may have been loose enough to cause intermittent problems. The amp was then returned, and rescheduled into the second day's panel testing. The noises had disappeared completely, and the amplifier clearly sounded better than it had the first time around, and much more consistent with results from a previous encounter with the X-A2, as well as related models like the X-A100R and the X-A1.

For the reasons given, listening comments from day one have been set aside here. On day two, the X-A2 was described as comparable in some ways to the Primare A-10, but a little smoother (which may be a reflection of its more benign high frequency distortion characteristics). There were specific criticisms of the two female vocal tracks; it was described as losing its way in the Marianne Faithful recording, and of poor image placement and stability with the Tracy Chapman. On the plus side, the Bach track sounded like a 'good studio playback: clean, slightly sanitised, but vital'.

Hands-on testing went very well with this amplifier. Musical Fidelity amplifiers are characteristically lacking in brightness and edge, and the forward, explicit balance that others have, and for this reason they don't always shine in comparative listening tests, but they do tend to sound very clean and musical on their own. This was certainly true here. The X-A2 has a fluid, organic quality arguably a little grey by the best

standards, but still inherently musical, and more than capable of rising to the occasion when required. It gives a faithful, consistent account of a wide range of material, but especially acoustic.

#### CONCLUSIONS

here were problems with the est sample that meant that the c set of results had to be binned. But there is nothing in the design or the build of the X-A2 that suggests we were more than unlucky, and with a small adjustment, health was restored. The X-A2 lies firmly in the Musical Fidelity mainstream. It is musically adept, with an open, solid and unexaggerated quality. Recommended, but only a hint of grey and some scattering of scores from the panel prevented the award of a Best Buy

or a boot baj.	
VE	RDICT
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VALUE	00000
PRICE	£499.00
Tonally rich, and	d thoroughly credible
amplifier works we	ell with most speakers,
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#### THE LAB REPORT

he X-A2 turns out to be a more powerful and refined version of the X-A1. Power output is healthy at almost exactly 96W/80hm, all frequencies, two-channels driven and clearly exceeding the 75W rated spec. This increases to 150W/4 Ohm. MF also specifies distortion at less than 0.04 per cent across the audioband where, in practice it only just reaches 0.02 per cent at 20kHz but falls back to 0.005 per cent at 10kHz and, typically, 0.002 per cent through mid and bass frequencies. The vanishingly low midband distortion measures <0.002 per cent even under dynamic conditions over 95 per cent of its

power output range.

Talking of which, 118W is possible over a 100msec duration with a further boost to 130W, 238W, 260W (11.4A) and 135W (11.6A) into 8, 4, 2 and 1 Ohm loads during short 10msec transients. As

we've seen with previous Xseries amplifiers, the 2 and 10hm results are terminated by MF's over-current protection kicking-in around 11.5A. Without protection, the X-A2 would deliver a far higher peak cur-

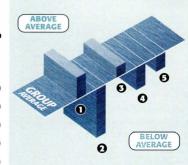
rent. Otherwise, its volume channel balance is good at 0.1dB (re. 1W/8 Ohm), the response just -0.3dB down at 20kHz and the amplifier's output impedance steady at 0.055 Ohm till around 8-20kHz where it increases slightly to 0.09 Ohm.

#### **HOW IT COMPARES**

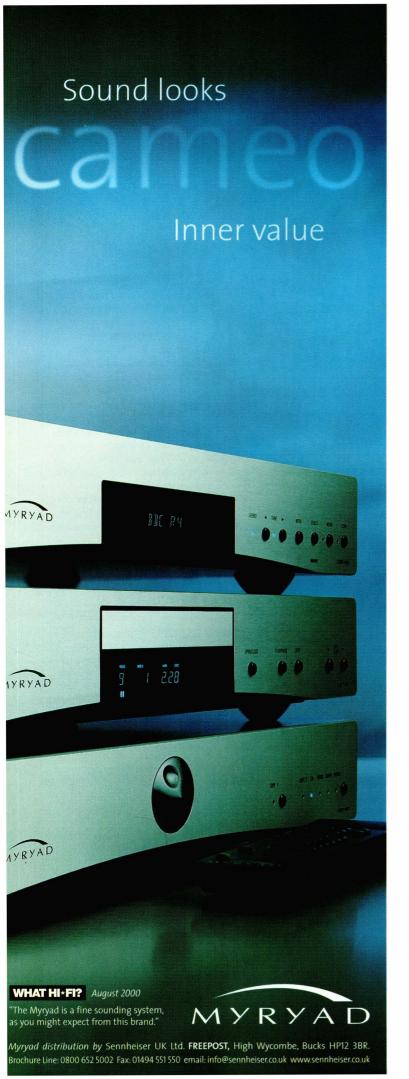
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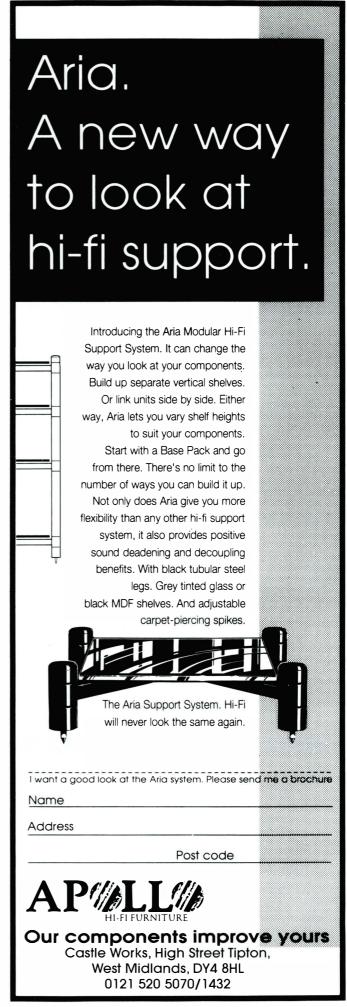
Powerful but with limited capability into very low impedance loads, the X-A2 follows a familiar and hitherto successful formula. No surprises but no fundamental evolution in performance

1 DYNAMIC POWER OUTPUT	30%
2) SPEAKER LOAD TOLERANCE	-65%
3 AUDIO DISTORTION	15%
4) NOISE	-30%
COMPANIE COMPANIENTY	2006



#### **SPECIFICATIONS** PARAMETER MANUFACTR'S SPEC. **ACTUAL SPEC.** ■ Continuous Power Output, 8 Ohm 95W ■ Distortion 1kHz/8 Ohm <0.007% 0.002% ■ Input sensitivity (CD/aux) 300mV 260mV





# **PRIMARE** A-10



he Primare A-10 is a chip off the old block. It has the same highly engineered finish, ultra-solid construction, and clean, elegant lines as other Primare amplifiers, and it is heavier than you might expect from such a slimline product. The black painted extruded alloy front panel accommodates a turned alloy volume control. The main on/off switch is hidden below the left hand front edge, which makes it accessible but encourages leaving the amplifier on standby, which is recommended to keep the high impedance V-FET input stage under power. V-FETs seem to need an age to reach optimum performance.

The amplifier has rudimentary features: six line inputs, including tape, but not phono, though a separate phono step-up is available. A system remote control includes a display dim switch as well as the balance control, neither of which are accessible from the front panel. The design of the amp appears to be meticulous in its detailing, though it is essentially straightforward in its topology. This is a bipolar design. with a DC servo to ensure stability, and active protection circuitry which mutes the output if necessary.

## "The A-10 is an intelligible and articulate amplifier, with an unusally natural tonal quality."

#### **SOUND QUALITY**

The A-10 was one of two amplifiers whose panel test results were not completely in keeping with handson experience, both before and after the panel tests themselves. 'It sounds like a budget amp,' said one. 'It's slushy and turgid – everything merges together – compared to the [Densen] reference amplifier.' Another described it as 'too safe, inoffensive and uninvolving, noting that the Bach track sounded 'warmer and rounder' than the reference. while the top end sounded 'bright and hard'. The Marianne Faithful track however redeemed the Primare to an extent though this track too was described as 'warm, but thuddy', another listener adding that he felt the Primare offered 'poor detail resolution' and 'no dynamics', though it was also 'light and airy'.

On balance - and after a great deal of extra listening over a busy weekend with some new CDs

(Mozart's Requiem, Brahm's Clarinet Trio, Mahler's Songs of a Wayfarer, and other equally upbeat material) -I can only report that there is more than an element of truth in the panel findings. But they didn't hear the best that the amplifier was capable of, for two reasons. First, the amplifier may not have been under power for as long as it should have been immediately prior to the panel tests. It had been powered for about 48 hours under static conditions (that is without being used) and certainly there were further improvements to sound quality after the panel tests ended. The other reason is that the Primare's character is a little sweetened and laid back compared to some of the others, and certainly the reference amplifier, which from prior experience is almost always a disadvantage in the adverse conditions of a long blind listening test.

My own take on the fully prepared Primare is that it is a little warm and

lush, and perhaps too much so with large, wide bandwidth speakers, but that it has an unusually elegant and progressive quality. There are times when a certain lack of precision shows, but the A-10 remains intelligible and articulate, with an unusually natural tonal quality, especially with acoustic instrumental orchestral and vocal recordings.

#### CONCLUSIONS

Although there are split opinions on this amplifier, I'm happy to override the panel on this occasion, and although a careful audition is advised, a formal Recommendation is in order.

#### **VERDICT** SOUND 00000 BUILD 00000 VALUE PRICE £499.99 Elegant, mellifluous and articulate amplifier, which may not be a big hitter, but which is as subtle as refined as they come.

**■ TWO YEAR GUARANTEE** SE, Unit 9, Centre Park Holdings, The Airfield, Tockwith, Yorks YO5 8QF @ (01423) 359054

#### THE LAB REPORT

ome subtle changes look to have been implemented since I last tested the A10 (HFC 201), but its global performance is roughly the same. Power output clocks in

at 14W over the 50W specification at 20Hz and 1kHz but is limited at high frequencies by increasing levels of distortion. So much so, that the THD limit of 0.5 per cent is breached at just 34W/8 Ohm at 20kHz only achieving 64W at 1 per cent THD. At 10W output, distortion is very consistent at 0.013 per cent from 20Hz-2kHz before rising to 0.06 per cent at 20kHz. Otherwise, distortion increases on a logarithmic power scale from, say 0.006

per cent at 1W/8 Ohm to 0.02 per cent at

50W/8 Ohm. It's part of the A10's 'colour', all well within its specification and a characteristic that defines its individuality.

Dynamic headroom is not particularly generous at 67W/8 Ohm but at

> able for longer 100msec musical peaks. Into 4, 2 and 1 Ohm loads the figures are 124W, 210 (10.2A) and 250W (15.8A), respectively. When it comes to difficult speakers, however, these

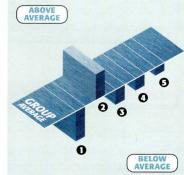
least this same figure is avail-

remain impressive specs for a notional 50W amplifier. Otherwise, the output impedance is within limits at 0.09Ohm, the response just -0.25dB down at 20kHz (HF) and channel balance pretty spectacular at 0.01dB.

#### **HOW IT COMPARES**

his is one of the least powerful amplifiers on test but remains fairly capable at driving 4 Ohm speakers. Otherwise, it's the pattern of increasing treble distortion that contributes to the A10's sense of individuality.

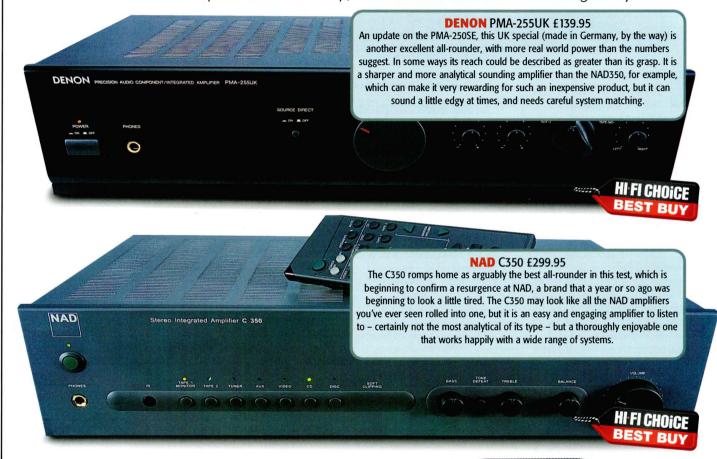
1 DYNAMIC POWER OUTPUT	-40%
2) SPEAKER LOAD TOLERANCE	35%
3 AUDIO DISTORTION	-20%
4 NOISE	-15%
5 OVERALL COMPATIBILTY	-10%



SPECIFICATIONS				
PARAMETER	MANUFACTR'S SPEC.	ACTUAL SPEC.		
■ Continuous Power Output, 8 Ohm	50W	60W		
■ Distortion 1kHz/8 Ohm	0.09%	0.01%		
■ Input sensitivity (CD/aux)	250mV	310mV		

# Amplifier Conclusions

The time has come to round up the best of the crop, but Alvin Gold has a little something to say first...



#### **MUSICAL FIDELITY** X-A2 £499.00

An integrated amplifier with an outboard power supply is an unusual refinement at this end of the market, but serves to ensure that the presence of the power supply doesn't upset the audio by keeping radiated electromagnetic fields out of harm's way. It is ironic then that an apparently minor PSU fault prevented the amplifier working at its best at first, but it was quickly fixed, and settled down to give a clean, open and thoroughly musical account of itself. There were those on the blind test panel who found the sound a little bland, but this is the danger with any amplifier that so scrupulously avoids hyping up the sound.



MAKE	ARCAM	CREEK AUDIO	DENON	EZO	MARANTZ
MODEL	ALPHA 8R	4330SE	PMA-255UK	ARIA	PM6010OSE KI SIG
PRICE	£349.90	£499.00	£139.95	£449.00	£399.90
SOUND	00000	00000	00000	00000	00000
BUILD	00000	00000	00000	00000	00000
VALUE	00000	00000	00000	00000	00000
GUARANTEE	2уг	2уг	2yr	3yr	2yr
CONTINUOUS POWER OUTPUT, 8 OHM	60W	53W	50W	55W	75W
DISTORTION 1KHZ/8 OHM	0.003%	0.006%	0.01%	0.03%	0.003%
INPUT SENSITIVITY (CD/AUX)	285mV	460mV	190mV	290mV	200mV
STATUS			HI FI CHOICE BEST BUY		

he panel tests that accompanied this test – which involved some minor changes in the way that information was collected from the panel after each presentation, and when the written notes had been completed – went particularly well, and the confidence in the results we obtained is consequently particularly high. Perhaps it was just that the system we used was on song, or the fact that we made a particularly good choice of music for the tests, that helped make the difference. The wonderfully cutting Marianne Faithful song Broken English turned out to be a real amplifier breaker, despite being objectively a far from top class recording. But perhaps we're being unfair. It may be old and a little crude in many ways but it is surely a better recording technically than most current chart material. A lot of today's music is so palpably synthetic, and so unlike anything that equates to real life experiences of music-making, that the qualities that a good hi-fi system can bring to the party have almost no bearing on the matter. This is a point that has been made before, and we don't wish to labour it too much here, but when a well-known pop artiste got up in front of a massive audience recently, and mimed to a backing tape, there should have been a riot. But there wasn't. Surely some things are worth rioting about? When Charlotte Church (not the artiste referred to) is mistaken for a classical singer just because she has some classical material in her repertoire, then reality really has gone down the drain.

So as well as praising the successes in this month's test of 11 amplifiers, this is also a plea for real music, properly recorded. If the hi-fi industry really is going down the pan, as many say it is, it is surely because our exposure to real music-making, adequately recorded, is shrinking in favour of what can only be described as noise. None of

#### **ROTEL RA-931 Mk II £189.00**

Here is an excellent amplifier that stands between the Denon PMA-255UK and the NAD C350. It is priced between them, though closer to the Denon than the NAD, and it offers much of the clarity and drive of the Denon, combined with the more comfortable and consistent balance of the NAD, though it becomes a little less graceful if it is driven too hard. You'd have your work cut out to do this in most situations though, and despite the old suit of clothes and the lack of remote control, this is a very desirable amplifier – and very keenly priced.



#### **PRIMARE** A-10 £499.99

Although they look quite different, and technically could hardly be further apart, there are obvious parallels in the way the Primare A-10 and the Musical Fidelity X-A2 make music. There is the same slightly constrained quality, but also a similar thoroughly musicianly feel, unexaggerated and a little laid back, which could be interpreted as a lack of detail. In reality, however, we think it is true to the essence of music.



which should be taken as special pleading for any particular style or genre of music. It happens that I spend much of my listening time with classical music by choice. But the Marianne Faithful track is an excellent example of a rock recording that responds to good replay standards – high fidelity in other words. And so does the Tracy Chapman disc, in a slightly different genre, and early Rolling Stones albums and a million and one others.

This month's group was the first to include amplifiers that make special provision for the new high-resolution audio media, namely SACD and DVD-A. We were able to try some DVD-A briefly at the end of the review programme. Unfortunately it all came to nothing in the end because – guess what? – the only recordings we could lay our hands on were not worth a candle musically, and hence were worthless for assessing the quality of the amplifier. Of course this will change very quickly, and you can expect to see an influx of amplifiers with wide bandwidth inputs to support the new media any time now.

#### **BEST BUYS & RECOMMENDATIONS**



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



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

#### **UNDERSTANDING OUR BAR-GRAPH MEASUREMENTS**

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

#### THE BAR-GRAPHS



# **DYNAMIC POWER OUTPUT:** A measure of power up to one per cent

distortion under realistic, music-like conditions, using a brief (20msec) transient signal and an eight-Ohm speaker load.

SPEAKER LOAD TOLERANCE: This indicates how ably the amplifier main-

indicates how ably the amplifier maintains a given level of performance into progressively lower-impedance and more difficult speaker loads.

• AUDIBLE DISTORTION: Rather than

quote a single figure for distortion at one frequency and level, this bar value represents a measure of distortion and its consistency across the whole audio band and the amplifier's dynamic range.

ONOISE: This is a direct representation of the amplifier's A-weighted Signal-to-Noise (S/N) ratio at one Watt

output into a model eight Ohm load.

OVERALL COMPATIBILITY: This new category measures the amplifier's ability to drive different loudspeakers, its susceptibility to radio-frequency interference (RFI) and its ability to handle today's high-output CD players.

MAKE	MUSICAL FIDELITY	NAD	PRIMARE	ROTEL	SONY	YAMAHA
MODEL	X-A2	C350	A-10	RA-931 MKII	TA-FB940R	AX-496
PRICE	£499.00	£299.95	£499.99	£189.00	£299.99	£229.95
SOUND	00000	00000	00000	00000	00000	00000
BUILD	00000	00000	00000	00000	00000	00000
VALUE	00000	00000	00000	00000	00000	00000
GUARANTEE	4уг	2yr	2уг	2yr	1yr	2yr
<b>CONTINUOUS POWER OUTPUT, 8 OHM</b>	95W	95W	60W	50W	70W	115W
DISTORTION 1KHZ/8 OHM	0.002%	0.0015%	0.01%	0.007%	0.0015%	0.0025%
INPUT SENSITIVITY (CD/AUX)	260mV	310mV	310mV	190mV	140mV	190mV
STATUS	HI FI CHOICE	HI FI CHOICE	HI FI CHOICE	HI FI CHOICE		

### HELP

**Could** you advise me of a good speaker cable to use with a NAD C320 amp and **Acoustic Solutions** D1000 speakers, priced from £3-£5 per metre? I don't like a bright sound.

Carrie, via email

**Try Ixos Gamma 6003** (£2.99/m) or for a slightly sweeter, crisper performance go with QED **Silver Anniversary** (£5/m).

**Speakers in cupboards and MiniDiscs** down the drain... Tim Bowern answers another crop of your hi-fi queries.

## **Overkill**



I have a pair of Mission 783s powered by a Cyrus 7 inte-

grated amplifier. I'm using Tara Labs cable and a Toshiba 2109 DVD player as my source. This obviously needs

upgrading and I'm considering the Arcam Alpha 7SE, but I also took note of the review of the Marantz DR-17, which as a recorder and O player would fit in well with my longer term purchasing plans. Is the Marantz overkill in my system? Any advice on what else I might audition that would suit my current set-up - the Sony mid-priced SACD player, for example? Dr. Simon Ng, Australia

If you want a CD recorder that also works well as a player, Marantz is the brand doing the biz at the moment. Many CD-Rs are disappointing in that respect, despite the ability to make great recordings, but the DR-17 (£1,500) breaks the mould. It's the best we've heard in playback mode: open and detailed, a

match for many respected playback-only designs at the same kind of price. The amp and speakers you're using are of sound quality and we wouldn't call the DR-17 overkill, though it might also be worth checking out the much less costly DR 6000 (£500, reviewed this issue in Heat Seekers, p16).

# Hanging around



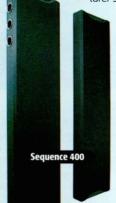
You've often mentioned Sequence wall-hanging speakers in your magazine, but I can't find a company with

that name or a supplier. Could you let me know the name and location of the manufac-

> turer so I can contact them? Alf Woods, via e-mail

Marantz DR-17

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We have indeed mentioned Sequence once or twice in the past. The brand specialised in making speakers using ordinary shortthrow dynamic drive units in long, thin cabinets only a couple of inches thick. They could stand on the floor or hang on the

wall, and they actually sounded surprisingly coherent.

The speakers were manufactured and marketed by May Audio, but in May of this year the brand was handed over to JPW (Audio Group International). As a result the brand has temporarily disappeared, but it's expected to re-emerge early next year with a new line-up. And it's odds-on that wall-hanging will be the key feature. You can get hold of Audio Group International on (01752) 3338000.

In the meantime, have you investigated what's happening with NXT technology? Mission has just launched the FS2 sub/sat system - not exactly high end but the best of its kind and incredibly discrete. We've also heard that German manufacturer Elac is developing NXT based hi-fi loudspeakers.

# Two-box, or not two-box?



My system consists of an Arcam Alpha 8 CD player, Luxman LV105 amp, Acoustic Energy AE209 speakers, van den Hul interconnects and Kimber 8TC speaker

cables. I have a budget of about £1,000-£1,500 and I'm looking to upgrade the amp, a valve/transistor hybrid. What would you recommend? Should I go for an integrated amp, integrated amp and additional power amp for bi-amping, or venture into the world of pre/power amps?

Eddie Michaud, via e-mail

There's no set answer as to whether you should go for an integrated or a two-box affair. Pre/power and bi-amp combos offer their own advantages, but whether these are used to the full depends on how they are implemented. With your budget, you're looking towards the top end of the integrated market and near the budget end of the two-box sector; audition a selection and decide which way to go based on sound quality and facilities.

On the integrated side listen to the Musical Fidelity A300 (£1,400) and Primare A30.1 (£1,499). For pre/powers try the Arcam Alpha 9C/10P (£1,000), Creek P43R/A52SE (£949), Rotel RC-995/RB-991 (£1,125) and perhaps even the three box Musical Fidelity X-PRE/X-A200 combo (£1,200). For a bi-amping comparison check out the excellent Roksan Caspian/Caspian



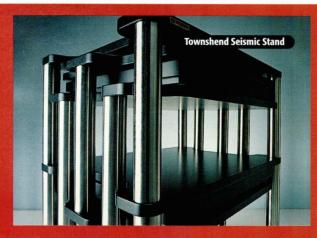


## **Pick and mix**



A few months ago, Hi-Fi Choice favourably reviewed the Rotel RB-991 power amp but didn't like the preamp it was tested with. I was considering purchasing the power

amp, but with a pre from another manufacturer like Musical Fidelity, Cyrus or my favourite – a Linn Kolektor. However, when I ask for an audition of Linn/Rotel. I receive nothing but raised eve brows. Can you please tell me what is wrong with the idea of mixing pre and power amps from different manufacturers? Dev Ruprai, via e-mail



## Stand and deliver



I want to get a new support rack for my system. It consists of the following: Meridian 506 CD player, Cyrus aca7 preamp with PSX-R power supply, Cyrus apa7

power amp and Sonus Faber speakers on Target stands. At the moment I'm using a £200 Apollo rack, but I want to upgrade it to something like the Wilson benesch Asside, Townshend Seismic Stand or Audiophile Furniture Base. What do you reckon? Jules Grant, via e-mail

Good quality, specialist support is important to get the most from your components, particularly turntables and non-floorstanding speakers, but also CD players and amps such as yours.

The three supports you mention are among the best we've tried. Most effective from an isolation point of view is the Townshend Seismic Stand – probably the one to go for, and now available in AVI-4 guise for £600. It requires a bit more setting up than your average rack in the first place, but it's well worth the effort. The Asside provides good, stable support at £590 (shelves are extra), and the Audiophile Base (£615 for the four shelf version) is impressively neutral in its signature - an important attribute for a purist support.

There's nothing wrong with it per se – it's just something that most people can't be bothered to do. Mixing 'n' matching pre and powers adds another tier of auditioning to the selection process, and you'll need more open minded retailers if you want to experiment properly. There's no technical reason why you can't mix brands: find a combination that works well together and you could be onto a winner. And in high end circles this is quite a common approach to getting the best end result.

Regarding your Linn/Rotel suggestion, we're not surprised you've been getting funny looks. It's probably pretty hard to find a store that stocks both brands, and Linn dealers in particular like to keep it in the family; suggesting a partnership with another brand isn't likely to go down well. Investigating a preamp from the likes of Musical Fidelity may prove more viable, alternatively try a NAD Silverline S500 or Creek P43R.

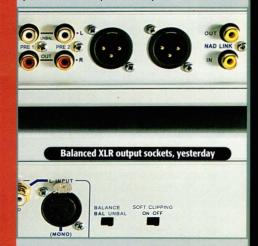
# **Balancing act**



I have a Sony CDP-XA7ES CD player and I want to hook its balanced output to a Sugden

headphone amp, which doesn't have balanced inputs. Is it OK to leave the interconnect connected at the CD's balanced inputs and use an XLR to RCA adaptor to connect to the Sugden? That would save me buying another interconnect as the rest of my system is an all-balanced Plinius pre and power. Any help appreciated. John Newsham, New Zealand

Using adapters isn't generally recommended from a hi-fi point of view - any extra interface for the signal to travel through is a bad thing. However, in your specific case it seems a practical way forward and providing the connector is of good quality your headphone listening should suffer very little as a result. It may be best to view this as a short term solution, though - when funds allow you may wish to invest in a dedicated RCA cable for headphone listening, particularly as that would avoid chopping and changing every time you switch from speakers to 'phones.



# What's your favourite DAB tuner?

John Gates, via email

At the moment, it's probably the Sony ST-**D777ES** (£500), an impressive hybrid of digital and traditional AM/FM technology. **The Arcam** Alpha 10 DRT (£800) is arguably still the best sounding purely on digital grounds, though the more costly TAG McLaren could steal that crown.

What's the best DVD player for playing CDs?

Ben, via email

**Try Pioneer's** DV-737 for size. **Arcam's new DIVA DV88** looks promising too. But none of the DVD-A equipped players we've heard so far really hit the spot. For the best CD sound, stick with a dedicated design.



married with good two-channel performance.

Of course, none will perform as well with stereo music as a good two-channel amp at around the same cost – there's just too much squeezed in at a price. But if you want the best of both worlds they'll do the job in style. From that perspective, the Sony TA-VA777ES (£1,500) is the best integrated multi-channel amp we've yet heard. And the designs from Arcam and Musical Fidelity are among the best two-box combos around, along with the likes of Roksan and TAG McLaren. Given that you're going to end up with a good quality two-channel system in a separate room we wouldn't seek to dissuade you from the path you're taking, save to say you should check out our January issue - it's a multi-channel special.

# With our reputation



My current system consists of a Marantz CD-63II Kl-Signature CD player, PM-66SE Kl-Signature amp and Mission 752 Freedom speakers. I'm planning to move

this to another room and want to build a system to replace it in the lounge. My first priority is music and on that score I've been pleased with my old set-up, but I'm now considering home theatre components, providing hi-fi quality is not too compromised.

From a recent reading of *HFC*, I am tempted by amps such as Sony's TA-VA777ES, Arcam's FMJ A22, and Musical Fidelity's HTP/HT600. Am I heading up a blind alley? *Steve Prescott, via e-mail* 

It used to be that home cinema amps were best avoided if music was your top priority. That's still largely true today, but the emergence of new multi-channel music formats and the overall strength of the surround sound market has led to some very serious hi-fi manufacturers getting in on the act. Musical performance is now higher on the multi-channel agenda than ever before, and amps like those you mention show that multi-channel processing can be



## **Stolen sounds**



Having been a reviewer for Hi-Fi News in the 1970s, I went to California to live. On return in 1988 I set up my system using a Marantz CD player, KEF 104 speakers

and a Musical Fidelity P270 amp. My P270 still performs well... except a burglar acquired it last week! Any suggestions as to an insurance replacement up to £1,500?

I.H. Patterson, via e-mail

We're dreadfully sorry to hear of your sad loss. The sudden departure of a worthy and trusted amplifier is sonic bereavement, pure and simple. It would seem logical to start with Musical Fidelity for its replacement: The A300 is a fine piece of kit at £1,400, a dual mono integrated design kicking out 150 Watts per channel into eight Ohms. Primare's A30.1 would make an interesting solid state comparison, and if you're interested in hearing what modern valve designs can do Copland's CTA 402 (£1,698) is an unusually flexible beast.



## **Dedication**



My current set-up consists of a Rotel BX-965LE CD player, Nakamichi DR-2 cassette deck, NAD 402 tuner,

Adcom GFA 550 power amp and a Yamaha AX-930 integrated amp serving as a preamp. My speakers are Infinity Kappa 8.1s. I'm thinking of changing the CD player to Rotel's RCD-991 and also swapping the AX-930 for a dedicated preamp. What do you think? Simon Sadey, Israel

In theory you'd be much better off with a dedicated preamp, though we haven't had first-hand experience with your Adcom power which makes it difficult to make specific recommendations. You should attempt to audition several candidates in tandem with the Adcom to ensure synergy. Start with the likes of Musical Fidelity's simple but effective X-Pre (£200), then work up to components like the Creek P43R (£350), Arcam Alpha 9C (£400) and perhaps even one or two more expensive products from Musical Fidelity and Michell. While you're at it, it might be interesting to audition one or two integrated amps and one-brand pre/power combos as a comparison, just to make sure you really want to keep hold of the Adcom. Comb our Directory for a shortlist of models to try.

On the CD front, we reckon you're onto something but again, you should audition to be sure. The BX-965LE was a decent player in its day but the RCD-991 (£750) is exceptional and should prove considerably more involving. Also consider alternatives like the Arcam FMJ CD23 (£1,100) and Musical Fidelity A3 CD (£800).



### **Better or worse**



For the last year I've been concentrating my interests and money on all that is A/V. I've never owned a CD player before and was introduced to the magic of CDs

through my DVD player. I'm very happy with the sound I'm getting but I'd like to know more about how much money I would have to spend to upgrade to a better sound. I've been looking at the Sony CDP-XE530 and CDP-XB930E. Are these upgrades or downgrades?

Roy Weymouth, Norfolk

Blimey! You're pretty unusual, Roy – a DVD user who's never owned a CD player. It seems you're discovering good 'old' CD technology just when everyone else is coming to terms with DVD.

Your Sony player is great with DVD movies and not bad with CDs, but a top-notch dedicated CD player at around the same price would beat it easily. Of your two Sony suggestions, the CDP-XB930E (£300) is well worth the extra for a significant

improvement over your DVD. You should also try Marantz's excellent CD6000 (£249) and Arcam's newly-revamped Alpha 7SE (£300). and audition one or two more expensive players to see if it's worth paying the extra - Rotel's £450 RCD-971, for example.

# Flume failure



My MiniDisc personal player is now kaput, thanks to a log flume-induced incident at Alton Towers. I need to get a

new personal to take out and about, and I'm thinking about switching to MP3. I've got a Mac computer I can use for downloading, though I'm more interested in converting my own CDs to MP3 than downloading stuff off the internet. I like the look of the new Sony Memory Stick Walkman. Do you think it would be a good move? Bob Bailey, The TARDIS (apparently)

Solid state MP3 personals are great fun to play with and have the advantage of no moving parts, so they're completely jog-free. However, for the way most people use a personal stereo, they're something of a pain in the arse. Memory is currently limited and expensive, and you can't carry several albums around with you at once. What's more, if you're not particularly interested in downloading music from the net and carrying it with you - the real USP here - you're likely to find the comparatively cumbersome process of using your computer to convert CDs and then transferring to your personal rather a fag. Things will change memory technology will improve and devices which negate the need for a computer will emerge (see our feature starting on page 94). But for now, those who just want to grab their personal, swipe a handful of discs and shoot out the door, MiniDisc offers the best combination of convenience, small size and good sound.



**Coming out of the closet** 



I'm looking for a new pair of speakers to use with a Pioneer PD-S505 Precision CD player and Precision A-300R amp. They will be used exclusively for classical

Dali Royal Menuet MkII

music - solo instruments, opera and symphonies, especially Mahler and Bruckner. The thing is, because of my wife's dislike

for visible hi-fi equipment the speakers will have to be stored in a 100cm high chest, which will dictate a maximum size of 27x90x30cm (WxHxD). They will be removed for listening and set up in front. My budget is around £350 - would the KEF Q35.2 (£350) fit the bill? Johan Delanghe, via e-mail

The KEF is a great floorstander for the money and should work well on the end of your Precision gear - its sonic touch is deft enough to

bring out the subtlety in the electronics' performance. It's also relatively easy-going when it comes to room placement and not too heavy, an undoubted advantage given your requirements! As an alternative, try the Tannoy mX3 (£300).

But it does seem an awful bore if you have to pull your speakers out of a chest every time you want to listen. Could your wife be persuaded to accept a discrete little speaker that doesn't draw attention to itself? Dynaudio's Audience 40 (£400) is small, plain and an excellent performer, while Dali's Royal Menuet MkII (£400) is absolutely tiny (16x26x18) yet sounds surprisingly good. Take her along to check them out and who knows? Maybe she'll relent.

# HELP

Name a good, affordable phono stage.

Brian James, Swindon

The MkII version of Musical Fidelity's X-LP is a great starting point at £130. If you'd like to dig even more from those grooves, consider the excellent Tom **Evans Audio** Design Microgroove

at £399.

# Once Upon A Time...



...Home Theatre systems used to be big, cumbersome and ugly. And, their performance was pretty ordinary too.

But, all that has now changed. Because TEAC have just introduced a Home Theatre System with stunning looks and a performance way beyond its compact size. It is light years beyond your imagination. It comes complete with a 5x 50W amplifier, Dolby Digital DVD Player and a 6 Speaker package that includes an active sub with variable crossover and gain, matched

voicing centre, left and right speakers, and bipolar rear speakers.

It's all ready to plug in and play, all you need is a television. It will change the way you watch movies and other programmes at home for good. And best of all, the system costs less than £1100.

For once, a movie story with a happy ending.

Visit your TEAC Stockist for a demonstration or call TEAC on 01923 819630 for information on this extraordinary system.





The TEAC DVD Home Theatre System

# BUAINE ENIDE LO

# CABLES & STANDS





#### CONNECTING CABLES

During the 70s, the idea that connecting cables could affect the

sound of a hi-fi system was extreme lunatic fringe. Now it's a generally accepted fact, although 'suck-it-and-see' remains at the core of most selection processes as the mechanisms involved are not fully understood.

There are three basic kinds of cable: analogue interconnects, digital interconnects, and speaker leads, but mains cables can also play a significant part, and each has different requirements. A digital interconnect needs a wide bandwidth, for example, while speaker cable must carry plenty of current, but quality engineering in the plugs as well the cables is invariably important.

#### Materials

Conductor impurities can disturb a complex musical waveform, hence the 'oxygen free' (OFC) grades. Good consistency in the thickness and packing of a conductor is equally important. Cables also have a 'directional' character, sounding better one way round than reversed.

Different conductors impose their own character. Copper is the most popular, because of its low cost, good conductivity and high ductility, but pure silver is favoured by some audiophiles. Non-metallic carbonbased cables also exist. When fitting plugs to cables, the transitions from one metal to another can create problems, as can the effects of solder ('cold-welding' with high pressure is sometimes used instead).

We think of electricity as travelling along wire, but higher frequency signals actually travel on the skin or outside of the conductor, so the insulating material also plays a part. PVC is cheap and flexible, but has a characteristic coloration: polyethylene is better, and Teflon better still.

#### Geometry

The geometry of the cable – the spacing and layout of the conductors - is yet another important factor, which defines key characteristics like inductance and capacitance, and can help minimise susceptibility to mechanical vibration and RF interference.

Choosing cables is basically down to finding a good match for your system and taste. As a general rule it makes sense to stick with one brand, as this should ensure some consistency. But the biggest advantage of cables is that they're relatively easy to change, and therefore provide a fine opportunity to 'fine tune' the overall sound of a system, especially if your dealer will co-operate in 'sale or return' trials.

#### SPEAKER STANDS

Like cables, the role of hi-fi furniture was considered purely decorative up until the 1970s, when experi-

menters started discovering that using rigid, spike-coupled stands under a pair of 'bookshelf' speakers brought a substantial change in sound quality, over and beyond ensuring that the drive units are at the right height. The 'bookshelf' speaker became the 'standmount', and all our hi-fi systems suddenly got more engaging, sonically if not aesthetically.

Speaker stands perform more than one function, and therefore evolved in various directions. Most are metal, though carbon fibre and wood-based types are also found. Some favouring a lightweight, high-stiffness approach, others opt for a higher mass and damping approach, usually achieved by filling the main support pillar(s) with sand, lead shot or metal chippings.

Spikes are a popular option for coupling stand to floor, and are also used between speaker and stand. However, Blu-Tack is an alternative for the latter, as the stand then mass-loads the speaker base, usually giving different results, so it's worth trying both approaches to see which works best. For the typical 7-15-litre standmount, a 24inch/60cm stand is usually about right, while larger speakers tend to prefer lower stands.

#### **EQUIPMENT RACKS**

Around the same time it was found that equipment supports also affected system sounds. It's most obvious with turntables of course, and here a wall bracket might be the best solution in homes with springy suspended floors. However, all equipment benefits, both sonically and aesthetically, from a good equipment rack.

Across an enormous range of prices and materials, there's plenty of opportunity to find a stand which will fit in with your personal taste in lifestyle decor. Metal frames supporting glass or wooden shelves set the stereotype, but that outline description does faint justice to the wide variety of colours and finishes available.

The stand makers all have their own recipes, based on one or other of various different philosophies. Some stands rigidly connect everything together, others provide hard spike-coupling between floor-andframe, and between frame-and-shelves. Some deliberately use decoupling compliance between the equipment shelves and the environment, using leafsprings, rubber or even air, while others take care to avoid using magnetic materials in the construction.

Different materials, masses and support methods all affect the 'flavour' of the sound to some degree. For example, MDF has much greater 'self-damping' than glass, and will consequently tend to sound 'softer' and 'warmer'. Only you can decide what sort of sound suits you and your system, but the experienced dealer should be able to offer some worthwhile advice.

#### INTERCONNECTS

IXOS 104 £20 (terminated metre

Open and detailed presentation. with a full bass and a silky if overly smooth treble

VAN DEN HUL PB5 £50

A highly neutral cable with a fine dynamic and rhythmic performance adds up to all round excellence.

#### SPEAKER CABLES\

KIMBER 4PR f4.90/metre Considering the modest price, this cable's very slight dryness is forgivable, since everything else is so right.

DNM LSCB500 £12/bi-wire metre High impedance can influence the treble, but this cable's a winner on sound per pound.

#### DIGITAL LINK

OED Ounex P75 £25

A smart, practical, well made cable from a reputable brand, and one of the less expensive of the type, yet it still sounds great.

#### SPEAKER STANDS

ATACAMA SE24 £70

A classic central-pillar budget stand with a fine overall balance of compromises. Just add ballast to

#### **KUDOS** S100 £379

A top class all-round performer that gives good results with all standmounts, with a large stable composite base, and large tensioned and damped central pillar.

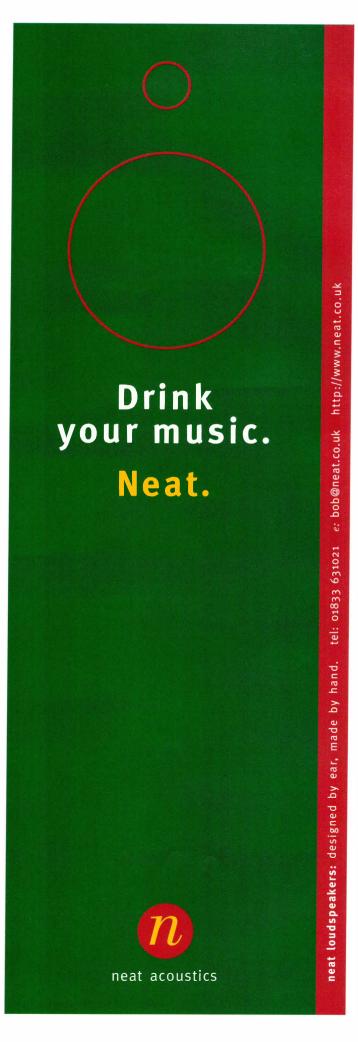
#### **EQUIPMENT RACKS**

SOUND ORGANISATION Z560 £160 Very inexpensive but solid and well built, with good structural integrity. Not the last word in sound quality, but a good taste of what a real equipment stand can do.

QUADRASPIRE Q4 £280 (below) This confection of alloy (nonmagnetic) rods and shaped, veneered MDF has attractively understated retro aesthetics, and a fine overall sound balance.







# One-brand Systems

David Vivian sets out in search of synergy with a big stack of very tempting CD player and amp combos.

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Arcam FMJ CD23

Copland CDA289

Copland CTA402

Marantz CD-17 mk2

Marantz PM-17 mk2

Musical Fidelity A3

NAD Silverline 500

**NAD Silverline 300** 

Roksan Kandy KC-1

Roksan Kandy KI-1

Talk Electronics Thunder 1

Talk Electronics Cyclone 1

Primare D20

Primare A30.1

Sugden CD21

Sugden A21a

Musical Fidelity A3 CD

Cyrus CD 7 Cyrus Cyrus 7

Arcam FHJ A22

here are basically two types of hi-fi system: 'Easy On The Eye', and 'Yeah, I Know, But Just Wait Until You Hear It'. Yeah, I Know... has had a good run in audiophile circles because, if achieving maximum perfor-

mance for a given outlay is what matters most, it's usually components from different brands that end up in the mix. Nailing what works together sonically is part of hi-fi's enduring fascination.

But design cohesion – style, if you like – gets the rough end of the deal. And that's unfair, not to mention bad business. To judge by the number of interior makeover programmes mopping up vast pools of cable and digital TV airtime, the UK has bonded deeply with the idea of living in style. Appearances matter and the specialist audio industry is finally having to bite the bullet. Which is why Easy On The Eye – once the preserve of mid-fi lifestyle

music systems – has been ambushed by 'real hi-fi' manufacturers. And it isn't just that one-brand systems look tidier. The game has moved on from that – and become a whole lot shinier with it. To put it bluntly, silver is the new black.

Well, mostly. Marantz, it seems, prefers pale gold, and Sugden favours a fetchingly smoky shade of titanium. As for Roksan, its Kandy range has swapable front panels available in a whole variety of vibrant hues (for this test, pulsating purple makes its world debut). Point is, they're all metallic and will slip between the chrome and leather furnishings a treat. Black is still available but, in our prevalent *Changing Rooms* climate, it's been largely demoted to a default finish. And, of course plastic is a complete no-no at the luxury price band represented here.

Interesting how times change. The notion of buying source and amplification from one name used to be regarded as cop-out by hardcore hi-fi buffs: jack of all trades, master of none syndrome. But think of it another way. If hi-fi-literate consumers can suss what creates the best synergy, how much easier must it be for the designers and engineers while they've got the circuit boards on their computer screens? If they can't make the right connections, who can?

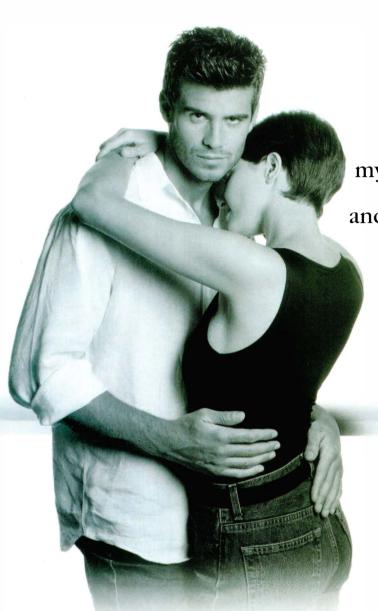
It's a fair question because single brand CD-amp combos that look and sound great should be in plentiful supply, and they require no special expertise to buy. The only user variable is the choice of speakers.

For this 10-strong group of sonically gifted lookers (circa £1,000 to £3,500), I settled on just two speaker designs for most of the listening sessions. The £1,276 PMC FB1 is a tall and elegant two-way floorstander capable of seriously gorgeous results when fed by a suitably talented front end – very grown-up wide bandwidth design, but musically fluent and agile with it. A slightly tougher call were AVI BiggaTrons (£600), recently upgraded to Red Spot spec with new crossovers. These are a little on the dry side by some people's reckoning but, as far as integration, phase coherence and midband transparency go, they wipe the floor with many more expensive boxes. As a real-world choice, the FB1s probably represent a sensible upper limit, while the BiggaTrons are simply very revealing. The combo that works well with both is odds-on to do a good job with anything half-decent.

So to the list of contenders. Many have appeared individually in the pages of *Hi-Fi Choice*, most receiving plaudits. The one thing I can reveal now is that there are no clunkers; this is a quality field. But then that isn't really the nub of the issue. It's the synergy of the CD-amp pairings that matters here, how well they perform as a team. As we shall see, truly sweet partnerships can transcend individual abilities. But star performers can just as easily be stifled by inadequate support. Rarely has so much good-looking hi-fi been assembled in one place, or faced a more alliterative challenge. This one's about style, sound and synergy.

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# **ARCAM** FMJ CD23 and FMJ A22

MJ. Even if it doesn't, as some initially suggested, stand for Full Metal Jacket, it's a quite stunning improvement over Arcam's usual DPF (Dodgy Plastic Facia). Not only is the box design squeaky clean and beautifully ergonomic, it's also reassuringly beefy. The FMJ CD23 CD player weighs more than most budget integrated amps. And lifting the FMJ A22 amp onto its shelf will tweak the biceps of even the most dedicated gym dweller. If you equate build quality with mass, the Arcams deliver their first rewards as you muscle them out of their cartons.

Then again, the A22 is based on the Alpha 10 integrated amp and that - with its heavy-duty transformer, 100 Watts per channel and sturdy chassis – was no shrimp. The new amp is an even more stout brute, but not an unthinking one. As with the 10, what distances the A22 from many of its peers is its built-in versatility, in particular the way it can be reconfigured from straight stereo to multichannel by adding internal modules. One is called MARC and turns the A22 into the core of a multiroom system (with additional zone amplification using the matching P25 power amp). The other is DAVE which, hooked up to a threechannel version of the P25,

Dolby Digital and dts. As you might suppose, potential complexity of this order demands a sophisticated interface. The multiturn, high resolution switchable volume and balance controls, intelligent internal bus and dot matrix display are just that. As well as being a joy to use and look at, they further enhance the classy image already established by the chunky extruded aluminium fascia. Pity, then, that the remote handsets - of a generic design shared with numerous other brands - are so low rent in look and feel

gives the A22 full 5.1 channel

Under the lid of the CD23 are the bones of the Alpha 9. The 9 made a splash at its launch as the first domestic CD player to implement the dCS Ring DAC, a converter claiming to combine the low level linearity of Bitstream with the reduced ultrasonic output of multibit conversion. The CD23 fine-tunes the design

both physically and electrically. Vibration isolation is improved by a "Trilaminate" chassis – a three-layer composite made from two layers of steel damped by a rubberised polymer core. Inside, the changes are still more extensive and include a relaid motherboard and an enhanced power supply which gains a second toroidal transformer to feed the Ring DAC daughterboard. A Pacific Microsonics HDCD filter is part of the package, and the smooth-acting and all-but-silent transport mechanism is made by Sony.

#### SOUND QUALITY

The CD player is the star, no question – not just of this combo but arguably the whole test. Its refusal to sound grainy or harsh partly accounts for its listenability. Creamy

treble is a noted Ring DAC trait and you can listen to (and through) the Arcam for hours at a go without any hint of the fatigue usually brought on by edginess. At least you can when played through the reference AVI pre-monoblock amplification. This comparatively open window whether hooked up to the FB1s or BiggaTrons, it didn't seem to matter – allowed the CD23 to show just

what a special performer it was. If it lacked a little of the air and attack displayed by the best 24-bit DAC machines (I'm thinking particularly of the NAD and Musical Fidelity), it redressed the balance by sounding more musical and less like CD for more of the time. Alas, in partnership with the A22

amp, essential elements of the magic vanished. The system sound was bold, powerful, smooth, quite warm and well structured, both rhythmically and spatially, but much of the fine detail and finesse was obscured or blurred. What was nicely laid back on the CD23 through the reference amps - the slower numbers from Al Jarreau's Tomorrow

Today CD, for instance - sounded merely ordinary with the Arcam ent enough to let the CD23's undoubted talent shine through. Pity.

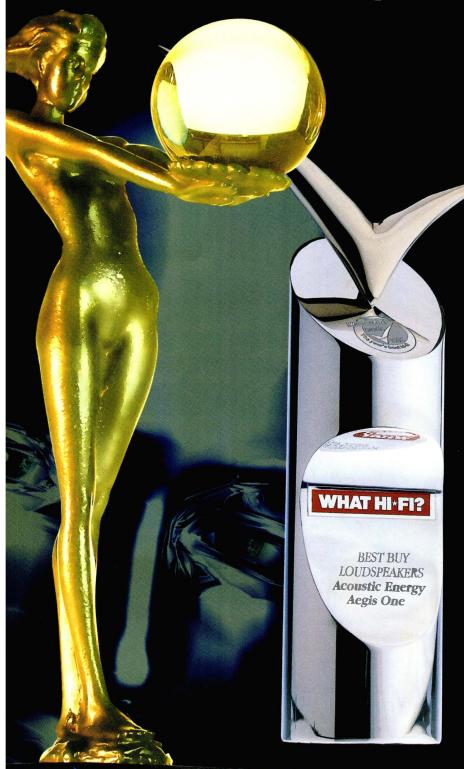
#### CONCLUSIONS

Handsome, well made, powerful and flexible. Team FMJ has a lot going for it. But, ultimately, its failure to make it into the top half of the scoring for sound quality precludes recommendation. This is remarkable when you consider how good the CD player is. Lay the blame firmly at the amp's door.





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**ACOUSTIC ENERGY** 

# COPLAND CDA289 and CTA402

ven in oh-so cool Sweden, Copland styles itself as a defender of minimalism and imbues its high-precision CD players and amps with an uncompromisingly spare lab-style chic. Artist and cartoonist Ralph Steadman, when introduced to the brand for a feature I was writing in another magazine a few years back, described the look as "professional functionalism" with "nipple-clean facades stripped bare of unnecessary bits and bobs".

To which I won't add anything. Except to say that nothing quite prepares you for the size and weight of these boxes. Even in the realm of statement CD players, the CDA 289 is an absolute monster, presenting a 10-storey wall of alloy plate to the world in which the transport drawer and rectangular display look positively titchy. With the flanking pair of precision-milled aluminium knobs taking care of the player's basic functions, it's a look that defines 'uncluttered'. Yet nothing else in the group - with the possible exception of the behemoth NAD S300 amp - comes close to being as conspicuous, either. The matching CTA402 integrated valve amp stands only a smidgen shorter, at 17.3cm, and weighs an eye-watering 23kg. Its front panel totes five milled aluminium knobs: source, tape monitor, balance, volume and on/off. They're so good to touch and use you'll find yourself forsaking the remote. That said, it's a bit too easy to twist the balance knob (in the middle) when you really want the

volume (on the right). This immaculate design drops big hints as to what's going on inside and, ultimately, the kind of pristine sound Copland is aiming for. The CDA289's engineering is as solid as its appearance and built around a high-end Sony transport with sprung isolation and powerful error correction. A custom-built reference master clock puts the squeeze on jitter while digital filtering is handled by Pacific Microsonics' HDCD-compatible eight-times oversampling PMD 100. An additional Copland filter doubles the data rate to 16 times the sampling frequency, which is then shared between two Burr-Brown 20-bit DACs per channel. Separate isolated power supplies are used for digital and analogue circuits, with an additional nine regu-

COPLAND COPLAND "This combo has poise, focus, transparency, and an open, fluid midband - in spades." has brilliance and definition but no (maybe) a little too glare or grain, bass has speed and immaculate for their own good. At least shape but surprisingly little welly. Its HOCD

lated secondary supplies, the idea being to reduce mutual interference.

As valve designs go, the CTA402 is as pragmatic and untweaky as they come. It steers clear of the potentially better-sounding but inevitably low-powered single-ended triode school and opts instead for two EL34 pentode valves per channel which yield a very healthy (by valve standards) 35 Watts a side of near class-A power without generating a sub-tropical microclimate around the equipment rack. On the back panel, there are two sets of (beautifully finished) speaker terminals catering for 4 Ohm and 8 Ohm impedances, though, with its relatively high current output and claimed delivery down to 2.5 Ohms, even quite 'difficult' speaker loads shouldn't spoil the party.

#### **SOUND QUALITY**

Individually, both pieces sound as they look: clean, precise and

they're both pulling in the same direction.

What this combo clearly has in spades is poise, transparency, focus and a lovely open, fluid midband. What it doesn't sound is obviously muscular, even with the bass talents of the FB1s in situ. Heavy rock (take the more aggressively produced tracks from Motorhead's latest anthology) lacks true grit and grunt while, a little more surprisingly, big orchestral works sometime fail to assume convincing scale, weight and drama, though the performances remain beautifully coherent and well resolved with their timing and interest intact.

Copland is right when it says the CTA402 doesn't possess a typically valve-like sound. There's little evidence of the wrap-around warmth, holographic imaging or, come to that, grace and delicacy. Certainly nothing that could be described as "euphonic coloration".

In many ways, the Copland duo seems to be focusing too hard on resolving detail and not enough on the bigger picture. The sound is finely revealing, harmonically rich and rhythmically coherent. Treble

a very particular kind of presentation – technically stunning yet strangely unsatisfying.

#### CONCLUSIONS

Born to split opinion, you will probably either love the Copland combo's 'hi-fi statement' size, bulk and squeaky clean aesthetics or despise them. I'd like them better if the sound wasn't quite so self-consciously pristine. It's hi-fi of the highest order, but I was expecting a little more soul from the most expensive package in the group.





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# **CYRUS** CD 7 and Cyrus 7

he elegantly chiselled and finned magnesium die-cast bricks that house Cyrus CD players, amps, tuners and, indeed, power supplies should, by rights, be looking a little tired by now. There are two reasons why they aren't. Firstly, originality seldom dates; the Cyrus house style is as fresh today as it ever was, because there's still nothing quite like it. And secondly, the optional silver finish effects such a startling visual transformation that even if, to some eves, the shoebox style had started to become overfamiliar, the criticism is clobbered before it's had a chance to sniff the air. Not only that, the Cyrus cuties are as light and easy to house as they ever were. If you regard as a scourge kit so massive that moving it makes the veins on the side of your head pulsate, this Cyrus combo is the cure.

Besides, if it's evidence of evolution you're looking for, you'll find plenty under the lid. In fact, the only components from previous model ranges carried over into the Cyrus 7 duo are those vetted successfully for a positive musical contribution.

Both CD player and amp have been optimised for the best possible sound quality. The process dragged out the development time, but getting the Cyrus name back on the pace sonically was reckoned to be essential.

The amp has been around a little longer than the CD player and already wears an HFC Recommended swing tag. A power output exceeding the rated 60 Watts per channel belies its svelte build, and exceptionally low levels of distortion are the touchstone of the design approach. Packaging is concentrated and efficient. On the busy back panel, there are two sets of BFA speaker connectors alongside the six inputs, the preamp outputs, the PSX-R outboard power supply socket (optional) and the headphone socket. The familiarlooking front panel is dominated by the multi-turn digital volume/balance, which provides extremely fine gradations but is best accessed by the remote handset. In line with Cyrus policy, the Cyrus 7 can easily slip into the bigger system picture by integrating with the company's multiroom controller or AV processor.

"This combo kicks out a fresh and lively sound, that's beautifully clear and quick on its feet."

HIFI CHOICE RECOMMENDED

lively sound that's beautifully clear, quick on its feet and particularly strong in the areas of resolution and focus. This gives life and structure to early CDs such as Eric Clapton's August, where the production is rather turgid and clogged. Glossier and more

7 combo kicks

out a fresh and

dynamic efforts, like Al Jarreau's latest, positively shimmer with confidence. Dan Shea's keyboard layering on *Through It All*, in particular, sounds sweet, soulful and seductive.

A good deal of the credit for this goes to the CD player, which stands toe-to-toe with the Arcam, NAD and Musical Fidelity as one of the best in the test. Its openness, grip and sheer resolving power were never more evident than when playing through the AVI reference amps. But more than that, it displayed a real penchant for killer bass and capturing subtle ambient cues.

The Cyrus amp not only shrunk the scale of the sound but also sapped some of its colour and richness. Listenability remained high and the sense of 'air' convincing, but everything sounded just a little thinner. Personally, I would have welcomed a little more drive and body, a slightly juicier presentation.

#### CONCLUSIONS

A potent new combo from Cyrus that will undoubtedly delight fans of the brand and make new converts. The compact, lightweight build continues to poke fun at more expensive lumbering behemoths, most of which its beats hand down for sound quality. Good system synergy, great looks, keen price. Recommended.

#### **VERDICT** SOUND 00000 BUILD 00000 VALUE 00000 PRICE £1,500.00 Proof that Cyrus is back in the fast lane. The familiar design still looks fab, and the souped-up electronics deliver agile, high-res sound. ■ ONE YEAR GUARANTEE Cambs PE18 6ED. **2** (01480) 451777

#### SOUND QUALITY

future DAC developments.

In much the same manner as the best Cyrus products of the past, the

C///215

August saw the launch of the CD

player. As with the amp, it's essen-

tially a new platform that borrows vir-

tually nothing from previous designs.

It uses a Philips transport (capable of

latest 24-bit DAC technology is now

built onto the main PCB. There are

two upgrade paths. The most imme-

diate is to add a PSX-R power supply

but there's also a slot at the back

that will allow it to interface with

playing CD-RW discs) and Cyrus's



# MARANTZ CD 17 Mk2 and PM 17 Mk2

f it were chocolate box packaging, the design of the champagne-coloured Marantz duo would veer dangerously towards the Ferrero Rocher school of subtlety. Glamour without a hint of irony. Shirley Bassey before the Propellerheads. Everything low-cut and spangly. Self-effacement isn't in the script, in any shape or form.

But boy, does the Marantz combo flirt with your attention in the company of the merely sleek and the silver. The CD player is the less showy component – lush but not loaded with gimmicks. Fascia controls are simple, the display large, uncluttered and easy to read. Sleek and lowslung, the casework is as meaty and well finished as anything this side of £1,200; and since the CD-17 costs just £800, perceived value is obviously a strong point.

Although this is the Mk2 version, the basic digital hardware remains much as before, comprising a dual differential version of the bitstream DAC7 (four D/A converters in total) and Marantz's discreet HDAM output opamp. One new performance tweak, though, is a digital filter that uses DSP to compensate for the characteristics of the analogue output filter. More added value comes in the shape of a new power transformer, a transport that reads CD-RW discs and an optical digital output to supplement the electrical digital input. The Marantz will now respond to CD text where available, which looks both big and clever on the generously-sized dot matrix display. Keeping up the 'posher than thou' theme is a stickstyle remote with more shiny buttons

than a bunch of Chelsea pensioners. It's a pity Marantz couldn't squeeze the innards of the PM-17 Mk2 amp into the same sized casework as the CD-17; the amp is a good three inches deeper. Then again, the disparity is unlikely to be noticed in an equipment rack - and there are a lot of innards to pack in. The PM-17 Mk2 combines decent grunt with a full complement of facilities. There are five source inputs (including a moving magnet/moving coil phono stage), 'source direct' defeatable bass and treble controls, and a new HDAM four-gang active

volume control with feedback to minimise noise at normal listening levels. The low impedance wide bandwidth power supply supports on-demand wallop for coping with difficult speaker loads (60 Watts per channel rises to 100 Watts into 4 Ohms) while the rigid die-cast chassis and aluminium casing are said to cut vibration and electromagnetic radiation. Circuit topology features short symmetrical signal paths, there are separate left and right heat sinks, and the use of current feedback is claimed to optimise dynamics and imaging accuracy.

#### SOUND QUALITY

At least you can't accuse team PM-17 of being fussy over what it's fed.

This is a smoother and more glamorous sounding combo than many in the group, albeit mildly manipulative." It just gets on with the job,

doing its very best to make music. The endeavour is mostly successful. This is a smoother and more glamorous sounding combination than many in the group, even if it is being mildly manipulative.

You could make an argument for it not having quite as many tonal colours in its palette as, say, the Sugden and Musical Fidelity pairings. And it can't muster quite the same dynamic clout of the NAD combo. That said, it does manage to sound remarkably weighty and controlled and has a better, more 'architectural' bass performance than most, especially when let loose with the big FB1s. There's something of the proverbial iron fist in a velvet glove about the Marantz approach. It's hard to say which box is taking the initiative here, but I suspect the CD player is the slightly more dynamic and thrusting performer.

In the reference system, it displayed real grip and presented music in a tangible, coherent way with fine drive and rhythmic integrity.

Restoring the Marantz amp removed some of the excitement. But, thankfully, not too much.

#### CONCLUSIONS

The Marantz system seeks to grab your attention aesthetically and sonically. The glam look is matched by an equally confident sound that trades a little subtlety for scale and impact. Not audiophile fodder, but the CD player is particularly fine and the amp, if a little manipulative, has at least plenty of power and control. On the whole, the package exhibits admirable synergy. Quite expensive but Recommended nonetheless.

#### **VERDICT** SOUND 00000 00000 BUILD VALUE 00000 PRICE £1,699.80

Full-on glam design matched by an equally confident, big-boned sound. Not a paragon of neutrality, but seldom less than enjoyable.

#### **■ TWO YEAR GUARANTEE**

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# **MUSICAL FIDELITY** A3 CD and A3

ou could never accuse Musical Fidelity of letting life pass it by. It is a company that, over the years, has proved that it knows which way is up. As a result, it reacts more swiftly than many to market fluctuations, be they fiscally or fashion-led. To call the act of decanting the internals from the radically oval-shaped X-Ray CD player and XA-100R integrated amp into traditional boxes a pointless exercise is to miss the point. If you create an extreme position, it makes sense to make your own counterpoint before someone else does. Besides, radical-oval doesn't go down a bundle in the Far East where MF enjoys a strong market presence. Straight laced, well made and luxuriously trimmed are altogether more acceptable qualities. And the A3 range is exactly that.

Build quality is impressively solid and weighty with a chunky chassis, classylooking Torx connectors, a thick-section brushed alloy extruded front panel and Aspirin-sized aluminium buttons - all as pukka as a Sainsbury's deli pasta salad. For the CD player, the 'luxury trim' is a brightwork strip running along the bottom edge of the front panel and a border around the loading door, both fashioned from gleaming, gold-plated brass. On the amp, the large central volume knob gets the glitzy border and, as on the CD player, the tablet-sized alloy buttons work with a satisfying damped action. OK, the brass is a bit flash but it does lift what would otherwise be maybe a little too ordinary.

On the back panel, the use of high quality phono connectors for the analogue and electrical digital S/PDIF digital output enhances the up-market image. The only other audio socket is for an optical Toslink digital output. They all hook up to a Burr-brown PCM 1728 Delta Sigma DAC, which is capable of reading 24bit wordlength data from the eighttimes oversampling filter. Minimising jitter was a design priority.

The A3's chief virtues, on the face of it, are its power and simplicity. It packs an above average 85 Watts per channel and keeps the feature

count low

but pertinent. No tone controls, no fancy gimmicks, no balance control, no headphone socket and just one set of speaker terminals. But there is a preamplifier output, allows bi-amping with any of Musical Fidelity's power amps (all of which are matched for sensitivity). There are five line level inputs (with tape monitoring available for three-head cassette decks or for AV processors), and the phono input is switchable for MM and MC cartridges.

#### SOUND QUALITY

There almost seems to be the making of a trend here because, once again, I'm forced to conclude that sonically the CD player holds most of the aces. This isn't a disaster for the partnership (better that one of

or for potential synergy (onemake alchemy takes many forms). But in this case, as in the Arcam's and to a slightly lesser extent the Cyrus 7's, the amp seems to fall some way short of letting the listener hear the CD player's best shot. Which is a shame because.

played through the reference amplification, the A3 CD player was nothing short of stunning. I was interested to read Alvin Gold's comment from the A3's last outing in HFC (issue 200). He wrote of "a loss of brilliance and air that the very best CD players can bring to the party". Conversely, I found that these are precisely the qualities the A3 brought to this party. It may not be quite as satiny through the treble as the Arcam, but its vibrancy and definition gave it a sense of presence and life that was unmatched.

Played through the A3 amp, though, things sounded rather different - superficially smoother and warmer but with slight treble sting not previously noticed. Bass became fuller but slower, almost to the point of dragging its feet with the Jarreau track. On the whole, the combo produced a musical, high-resolution sound that was easy to listen to. But the CD player's capacity to excite was smothered by the amp.

#### CONCLUSIONS

Another case of exceptional CD performance being diminished by the amplifier. In this case, the system sound is still most definitely worth listening to but the excitement that makes the CD player so special takes a bashing, despite the amp's healthy power output. That's why it misses out on a recommendation.







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# **NAD** S500 and S300

iven NAD's virtually bombproof reputation for making giant-killing budget gear, it's a wonder it wanted to expose itself to the pernickety preoccupations of the luxury market. But it's gone one better than that and decided to take on the likes of Krell in the integrated superamp sector.

I'll come to the CD player in a moment, but the Silverline 300 is such an awesome brute of an integrated amp it deserves a special moment to itself. If ever there was a product designed to bury the notion that NAD only does brownishcoloured budget gear, this is it. For one thing, it costs £1,500. For another, it has a truly extraordinary powder silver finish. And, just in case there was any possibility you hadn't noticed it, it's big. As in Coplandwith-knobs-on big. And heavy. Heavy enough for insecure types to want to pick it up if there's a girl in the room, just to show how strong they are. They'll need to be; it weighs 27.5kg and is amazingly noseheavy. It

couldn't look or feel more

solid if it was

armour-

plated.

The mass partly comes from its dual mono construction (separate toroidal power transformers) and partly from its build, which incorporates an almost unbelievably weighty double-walled front panel. There are also very serious-looking heat sink fins down both flanks. High-end hints abound – from the very classy WBT speaker terminals, through the floating earth phono sockets to the balanced inputs. Ironic then, given the intimidating size, weight and price, that the claimed rated output of 100 Watts per channel is fairly modest by NAD's budget blockbuster standards. In fact, NAD doesn't even mention the figure in the handbook. Which smacks of the days Rolls Royce used to quote its power outputs as being 'adequate'.

As svelte and dainty as the amp is big and bruising, the Silverline 500 CD player makes a visually arresting partner. The difference in size is startling. If they were books on a shelf, the S500 would be The Highway

Let's hope so.

Code and the S300 War and Peace. Don't plonk the CD player on top of the amp, though; the S300's prodigious heat output will fry it.

The S500's design is gorgeously lean and clean with the bare minimum of fascia controls. In fact, there's more going on round the back. Balanced and RCA analogue outputs line up next to XLR and BNC digital outputs which allow you to hook up an external converter, though finding something more cutting edge than the on-board Crystal CS4390 24-bit converter would be a tough call right now.

#### **SOUND QUALITY**

First and foremost, the NAD duo is an object lesson in how textbook hifi should sound. The combo has

clarity and grip, high powers of resolution, analysis and organisation, knockout dynamics and bags of musical insight. Last, and far from least. though, it has extraordinarily powerful bass. If you're a

"If you're a sucker for the low stuff -

what the two NADs and a pair of FB1s

and research shows that most of us

are - you'd have trouble ignoring

can do in the window-rattling sta

sucker for the low stuff - and research shows that most of us are – you'd have trouble ignoring what the two NADs and a pair of FB1s can do in the window-rattling stakes.

For once, it's possible to identify some real synergy at work. The S500 CD player is already a favourite with people who like drive, power and good dynamics. It's a subtle sounding machine with a deft musical touch, but its weight and authority in the lower registers is outstanding.

The S300 amp seems to leap at the chance to show what its 100 doubt that, like the S500, it's a heavy hitter. The thwack of Steve Gadd's drum kit on Steely Dan's re-mastered Aja CD sounded more palpable through the NAD double act

than any other. Yet the swoony string arrangements on Joni Mitchell's Both Sides Now were handled with delicacy. Real power, real poise. Nice one.

#### CONCLUSIONS

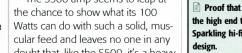
The NAD combo might seem a little pricey but, as with James Cameron's Titantic, you can see where the money has been spent. Massive is the only word for the amp. Its build quality is heroic. Contrastingly slim, the S500 is just as well put together. Best of all, truly synergistic bonding results in a terrifically dynamic and propulsive sound with killer bass. Recommended without hesitation.



Proof that budget champs NAD can do the high end thing as well as anyone. Sparkling hi-fi, serious wallop, gorgeous design.

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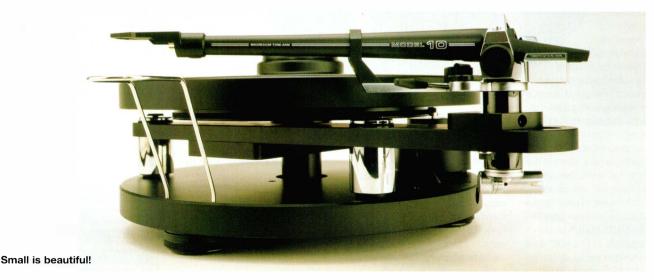
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# PRIMARE D30.2 and A30.1

ou'd be hard-pushed to guess Primare was Copland's slightly less wellheeled sister brand, or made in the same Swedish factory. On appearances alone, it's hard to tell which is meant to be the premium brand; they both look a cut and a half above the mainstream. Nor is Primare in any way content to play second fiddle when it comes to design innovation. The front panels of the D30.2 CD player and A30.1 amp stand slightly proud of the main casework. It looks like a styling move but actually separates and screens the display board and associated electronics, thus reducing radiated electromagnetic flux inside the main box and, structurally, helping to reinforce the rest of the casing. Nice form-function thing going on there and a vindication of the policy to keep the Primare and Copland design team separate and competitive.

The spec seems to be on the pace, too, with a fully balanced output, Burr Brown 1702 K 20-bit DACs and an eight-times oversampling digital filter. Philips' popular CDM 12.4 is the chosen transport mechanism, damped with silicone for improved isolation from vibration and controlled by Primare's own software. The unit is powered by separate transformers for the analogue and digital circuits and four

regulated supplies.

OK, Copland-esque lab-style knobs do crop up on the A30.1 amp, but in the context of the slimmer and more stylised case they become a far more prominent design feature and look quite different. Slim doesn't mean skinny, incidentally; the A30.1 is a veritable paving slab of an amp – hardly surprising given its dual mono design, which employs a 300VA transformer for each channel to service the hefty 100 Watts into eight Ohms (180 Watts into four Ohms).

There are six inputs (two of which are fully balanced), all relay switched and controlled by an impulse generator volume control. This gives high precision 1dB stepped attenuation and good channel balance even at low volume settings, something

that's difficult to achieve with conventional stepped rotary poten-

tiometers

In much the same way as the Copland amp, the rotary knobs take care of the main functions: on/off, volume and input selection. There's no tape monitoring facility and channel balance can only be adjusted via the full system remote.

Certainly unique to this group, and hardly ever seen these days, is the Primare amp's phase switch which reverses absolute phase and can improve some recordings if you're sensitive to that sort of thing.

#### SOUND QUALITY

Doesn't look like the Copland, doesn't sound like it, either. In fact, it's hard to think how the Primare combo could differ more violently.

With Me

Whereas the
Copland's
approach is
almost clinically
clear, the
Primare's is altogether warmer and
romantic, almost to
the point of lushness.
And this is the all-transistor
combo. At least it proves
there's no such thing as a 'Swedish
sound'

Certainly the Primare duo's presentation is deftly self-effacing and even-handed – never less than easy on the ears. Some might even argue that it comes across as being a little too nice to be entirely convincing, that it's a bit of a smoocher – a whizz on candlelit evenings with George Benson playing, but too polite to rough it up with Metallica.

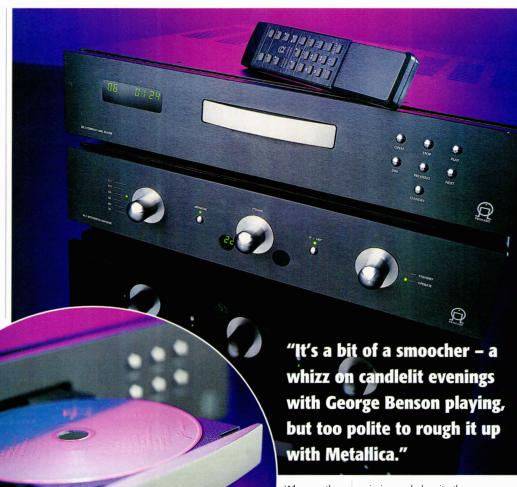
I see the point, but it's not entirely fair. The amp's actually a gentle giant with power to burn. Should you really want to go for it, it will eat Metallica for breakfast. It helps if partnered with a more enthusiastic CD player than the 30.2, though, which seems to see rather too much virtue in being safe and inoffensive. It's a very relaxing sounding player. And that's really all there is to say about it. Its thrill gene has gone

missing and, despite the easy assurance with which the amp is able to pump up the volume, with the 30.2 as the source, excitement refuses to get out of bed. Synergy bites the dust again.

#### CONCLUSIONS

A taste of high end, but a somewhat selective one. The Primare boxes certainly look and feel the part; engineering, build and finish are exemplary. And with classical and smooth jazz material, its silkiness and well-rounded warmth is very alluring. But although the amp can rock, the CD player can't. It never gets out of second gear.





December 2000 HI-FI CHOICE 69

A NEW REALISM-Audio Research delivered true reference sound quality with its Reference 1 preamp and Reference 600 monoblocs. A number of customers looking for Reference 600 sound quality have asked for slightly lower output power and a smaller chassis. The new Reference 300 is the smaller, guieter and cooler answer to these customer's needs. Good news too for existing Reference 600 customers who can opt for the MkII factory update while new-build Reference 600MkIIs are now available. The all-valve

Reference 2 stereo line preamp offers the same full microprocessor remote control of volume, balance, record and input selec-

tion with both balance and single ended inputs (eight plus full tape loop) and outputs (two main, one tape) as its illustrious predecessor. But all new audio and power supply circuits have advanced the state-of-the-art yet again. REAL VINYL — LP record lovers will be delighted at the arrival of the

Reference Phono all-

valve phono stage.
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features two sets of inputs
one for low-output mc
pickups and one for highoutput mc and mm
designs. Used with the
Reference 2 or similar
preamp there is enough
gain for any cartridge.
Flexible loading is offered.
REAL PARTNERS — Audio

REAL PARTNERS — Audio
Research introduced the
LS8 in 1997 as an affordable reference-calibre valve
preamp. The new MkII
version is a pure Class A
design with improved
component quality,
improved isolation feet and
chassis damping. The
LS8/II is a single-ended
design. Perfect partner for
the LS8 is the 100.2 solid-

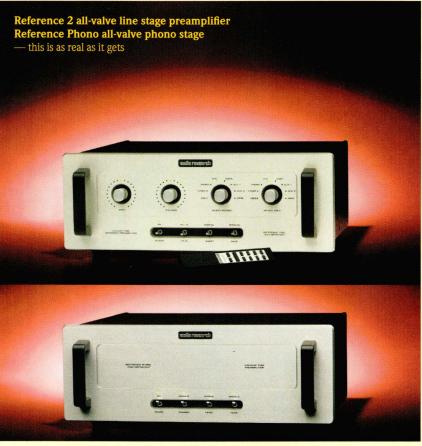
state power amp which we believe sets a new standard. Liquid and grain-free, it possesses a fine midrange transparency.

**REAL PRIORITY** — **Audio Research** has also announced the **125.5** Audiophile Standard Multichannel solid-state power amplifier for home theatre installations. Though coming late to the home theatre market, Audio Research believes priority had to be given to audiophile quality sound and delayed introducing a home theatre product until fully happy with the sound quality.

**REAL TRADITION**—the **PH3 phono preamplifier** is eagerly sought out by those enjoying the renaissance of interest in vinyl. A total of 109 part changes now see the PH3 in Special Edition guise as the **PH3SE**. An upgrade will be available for existing owners.

**REALITY CHECK** —the all-valve **LS25** brings down the cost of true **Audio Research** high-end performance. This line stage preamplifier can be perceived as a slightly small Reference 1. It is a pure Class A design with

Winning the race REALISIV



smooth detailed sound, clean focus and plenty of bass impact. It has the flexibility to integrate with high quality audio and video components. REAL PERFORMANCE—the LS16 preamplifier is for those looking to make a transition into real high-end yet wish to retain the convenience of full remote control of all front panel functions. It offers both singled ended and balanced inputs with microprocessor controlled relays for gain control and switching. Enthusiasts looking for the traditional qualities of an all-valve line preamplifier will find them carried over into the LS8 which replaces the popular LS7 and LS9. REAL POWER —The 100 watt per channel VT100 power amplifier is a hard-driving amplifier

with true bass slam matched by a liquid mid and top. Its speed and control have to be heard. Robert J Reina (Stereophile March 1999) concluded his VT100 review: "This extraordinary amplifier is beginning to make me wonder if current tube technology may once again be edging ahead of solid-state in the race for ultimate sonic realism". The VT100 MkII build features doubled power supply energy storage, cooling fan and valve damping rings. MkII enhancements are available as a factory upgrade for existing owners. The mid-power VT100 comes between the classic VT50, at around £3300, and the mighty VT200. Jonathan Valin writing in Fi magazine (October 1998) went so far as to rate the VT200 as: "The best high powered stereo amplifier I've heard — a genuine hi-fi masterwork". REAL PARTNERSHIP — The LS16/VT200 pre/power partnership puts excite-

ment back into your music with its detail resolution and dynamic slam.

\*\*REAL INTEGRATION\*\* — enthusiasts waited a long time for the CA50 allvalve, remote control integrated amplifier. Conservatively rated at 50

watt per channel the CA50 is designed to be stunningly musical,
handsome in appearance — its styling cues coming from the awesome
Reference series — and completely convenient. Audition this important

\*\*Audio Research\*\* first and find out why Ken Kessler (Hi-Fi News
February 1997) said, "So much for the superiority of separates...".

\*\*REAL QUALITY\*\* — An entirely new full 20-bit CD player, the CD2, is
styled to match the CA50. As a complete player Audio Research is convinced the CD2 can compete with any single or two-box player in the
market with its astounding resolution of detail and dynamics.

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# **ROKSAN** Kandy KC-1 and KI-1

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andy pulls together several important attributes as neatly as the drawstring of a marbles pouch. Perhaps its smartest move is looking a lot more expensive than it is. The combo comes in at fifty quid under the grand, yet for presentation and build quality (and this is not an exaggeration) it isn't embarrassed by the most expensive pairings in the group. The way these things are put together is positively Botham-esque and the thought and finesse that's gone into the remote puts all but Marantz to shame.

As for eye appeal, the Kandy duo can legitimately claim to have the drop on its rivals. It isn't so much the 'line and form' aspect of the design that stands out - neat and distinctive as it is - but the harmonious and symmetrical way the two boxes match. Control ergonomics are beautifully simple, too.

And then, of course, there's the colour. The colour purple in this instance. It's a bit silly (hi-fi needs an injection of silly), it's a bit iMac chose from blue, yellow, purple, green, pink and gold and it's largely beyond the reach of would-be critics. How can you seriously stick the knife in an amp for being purple without

In fact, purple's fine. Seriously. Everyone who saw it liked it, some more than the silver boxes lining the walls of my listening room. You'd be surprised how easily it melds with its surroundings (so long as they're not bright orange, of course).

coming across as po-faced?

The final trick up Roksan's sleeve is to fuse a very grown-up spec with a delightfully junior price. The amp leads the way here with a somewhat Mickey-taking (in the context of this group) 110 Watts per channel. It's able to punch this hard because Roksan splashed out on a monster toroidal transformer then backed it up with twin pairs of MOSFET output devices per channel, mounted on meaty internal heatsinks. Otherwise, the circuitry looks simple and straightforward with discreet transistors in the power amp section and a smattering of op-amps elsewhere.

"The Kandy duo sounded big, authoritative, dynamic and, well, just plain interesting." ROKSAN

> Of the seven inputs available, one is switchable to work as either line or phono (MM), which is an intelligent enough compromise. All input switching is handled by relays and the volume control is motorised.

The CD player uses a Sony mechanism-suspension package (more expensive Roksan machines have inhouse suspension), a Burr-Brown 1710 D/A converter and NE5532 output op-amps. The circuit has six regulated power supplies taken from a single toroidal transformer with separate windings for the analogue and digital circuits. The only socket conspicuously absent is one for a headphone jack. Both optical and electrical digital S/PDIF outputs are supplied.

ning out over hi-fi mechanics. There are more transparent sounding combos in this group, but few that swing and boogie so well. This is a tactile, explicit style of music making it's hard not to fall for.

SOUND QUAL-ITY

Rather running against the grain of the group, the Kandy amp has the measure of its CD sibling. To be honest, the CD player isn't a masterpiece.

Plumbed into the AVI reference amps, it clearly lacked the refinement and smoothness of the best in the test and could occasionally sound a touch ragged and over-exuberant. No shortfall of zest, drive and enthusiasm, though.

Yet, with the Kandy amp doing its bidding, matters took a dramatic turn for the better. If system synergy is the Holy Grail of this exercise, the Roksan combo found it. Still not the last word in refinement or finesse, the Kandy duo sounded big, authoritative, dynamic and, well, just plain interesting.

It's an odd sort of compliment being 'interesting' but, for me, it's the Kandy pairing's ability to deliver the event - the music, the performance, the acoustic, the production that makes it so satisfying. It's very much a case of musical literacy win-

#### **CONCLUSIONS**

A perfect example of synergy in action. The Kandy CD player is no great shakes but it combines with the beefy amp to play a blinder. Sonically clearly more than the sum of the parts, visually ahead of the game and the least expensive package on test, this really is a Best Buy with knobs on.



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#### **SUGDEN** CD21 and A21a

ot fixing something that ain't broke smacks of laconic Yorkshire pragmatism. No surprise, then, that laconic Yorkshire-based hi-fi manufacturer Sugden has managed to avoid fixing its classic A21 class A amp for the best part of 30 years. Sure, it's evolved a little – more power and refinement and slim new boxes being the most obvious changes but the basic circuit design is pretty much the same. It's a good 'un.

And, as ever, it generates the heat of a miniature Aga. All amps that operate in pure class A do this because, in an bid to optimise linearity and minimise distortion, the transistors are run flat out all the time irrespective of the output power requirement. It works, too. The downside of such a design is that it's current hungry but very inefficient at converting what it draws from the mains into output for driving speakers. The result is wasted energy dissi-

pated as heat. That said, the latest A21 is more than twice as powerful as the original, posting 25 Watts per channel compared with 10. The improvement has been achieved by giving the power stage a thorough working over and fitting the latest low resistance/high speed output devices. What it means in practice is that the amp has far bigger real world muscles. Headroom, load tolerance and bandwidth are all now what would be expected of a modern solid state amp. Desperately inefficient speakers should be avoided, but little else

should present problems. Aesthetics are somewhat racier, too. The casing of the original A21 was essentially a wooden box - cuddly in a Morris Minor Traveller kind of way. The new look is hardly avant garde but the front panels of the A21a and matching CD21 CD player do have the good fortune of being in a titanium-style finish which is hugely fashionable right now.

There are four line level inputs and a switchable MM/MC phono stage. Titanium finish notwithstanding, the look of the fascia is rather old fashioned with three large knobs to take care of source selection,

OUSG: channel balance and volume. Sitting between the source and balance knobs are two plastic buttons for

mono and tape monitoring. The CD player is a development of the earlier Audition series, the main areas of improvement being the implementation of a more sophisticated zero feedback class A output stage and a much modified digital output. The CD21 uses Philips' CDM 12.1 short-loader mechanism, modified in house by Sugden, and an 18-bit, hybrid DAC which is claimed to serve up a wide dynamic range and high degree of linearity across the audio spectrum.

#### SOUND QUALITY

Simple statement. The Sugden A21a/CD21 is the best sounding combination of the group. Not the

most muscular, not the most exciting but, by a surprisingly breezy margin, the most consistently musical and enjoyable. Maybe this isn't news to the people who advocate class A circuitry's sonic superiority. Certainly, it isn't the sort of

CD-21

A21a

Both components are class acts. Together they're even better. The system sound is characterised by an extraordinary lightness of touch and a lovely delicate treble, which is almost entirely free from grain and fatiguing effects. In its lucid, undemonstrative, and wonderfully easy-breathing delivery, the Sugdens sound more valve-like than the Coplands. They share a good valve design's beguiling presentation of detail, too; an outstanding amount of information is present in the signal but it is integrated and weighted so well that you're barely aware of it. The music is allowed to communicate without tripping over the mechanics of reproduction.

The result is a seductive warmth and weight that's impossible to resist. Complicated tunes are deliv-

ered without fluster or muddle, simple ones with pace and conviction. In fact, there's not much the Sugden duo can't do.

#### CONCLUSIONS

"Complicated tunes are

or muddle, simple ones

delivered without fluster

with pace and conviction."

Oldies, it seems, really can be goodies - at least when it comes to making sweet music. The Sugden combo draws its strength from a classic amp design. One which, for sheer musicality, showed a clean pair of heels to every other amp in the group. The CD player's no slouch, either. Together they work beautifully and look rather smart. A revelation and clear Best Buy.



lf you can hack the heat generated by the class A Sugden amp, you'll bask in its golden sound. Simply the most musical system here.

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Naim - Meridian - Chord Electonics - B&W - Marantz Premier - Arcam - Monitor Audio - O'heocha Design Crestron - Living Control - System Line - TAG Mclaren.....just to name a few

## **TALK ELECTRONICS** Thunder1 and Cyclone 1

alk Electronics - a relative newcomer to the Brit-fi ranks talks the language of this test as eloquently as any rival. It's in the business of marrying real hi-fi virtues with a genuine sense of style at a price that won't necessitate taking a hammer to the piggy bank. Good attitude.

Most people I know who claim to be into design like the way the Talk boxes look, and so do I. 'Clean' can sometimes be a euphemism for 'plain' or even 'boring'. But Talk avoids this by having one very strong styling motif - namely a wave accent line running the entire width of the fascia and on which the almost-flush control buttons float in a line like so many perfectly formed bubbles. Simple, yes. Eye-catching, yes. Boring, no.

Talk's early days were as notable for the criticisms of flimsy build as cool design. The current Thunder 1 CD player and Cyclone integrated amp, though, have thicker, better formed casing panels and machined aluminium control caps in place of the original plastic parts. 'Lightweight' is still the best way to describe the overall build, but it's certainly

no longer flimsy.

Derived from the Storm 2, the Cyclone 1 is a MOSFET design that delivers 65 Watts into eight Ohms and 90 Watts into four Ohms, so exotic speakers with nominal impedances below six Ohms are probably best avoided. That accepted, Talk says sound quality has stepped up a gear. Improvements have been made to the customised transformer, new and better output devices have been specified and the output protection circuit has also been improved.

Two of the six line inputs are tape circuits, while the remote's layout mirrors that of the front panel and includes CD player controls.

The Thunder 1's sonic abilities are founded on a Crystal CS4390 (nominally) 24-bit DAC with a six-pole analogue filter op-amp to reduce out-of-band noise as sharply as possible. More costly Thunder series players (the 3 and 4) employ gentler acting, discrete two-pole filters. Another cost-pegged item in the

Thunder 1 is a transformer with reduced regulation. In common with the other Talk CD players, though, the Thunder 1 is upgradeable with outboard power supplies at extra cost. The chassis is all aluminium rather than steel, as it was felt the non-magnetic material would better serve sound quality.

Getting to grips with the Thunder 1 could hardly be more straightforward. The single, upward curving row of controls on the front panel accesses the basic play modes, which in this case includes switching to dim the display or turn it off completely, and to select alternative display readouts.

#### SOUND QUALITY

Here's one for pace, rhythm and timing fans. The Talk team has



It's good with jazz, too. On the David Sanborn Up Front CD, Sanborn's saxophone sounds like his own, not someone else's, not at all artificial and imbued with just the right amount of biting edge. In contrast, big, lush orchestral arrangements can end up sounding somewhat undernourished. But the Talk duo's ability to track a rhythm and keep its finger on the pulse of the music is impressive.

There are weightier, smoother, sexier sounding systems in this group but, for brio and musical involvement, the Talk pairing ranks

with the very best. Sometimes it can sound almost reckless but, for me, that beats safe and bland every time

#### CONCLUSIONS

Talk clearly has a good grasp of what the one-stop CD/amp solution requires. The visuals are particularly well judged: smart, clean and nicely off the wall. Build is still lightweight enough to cast a few doubts about long term ruggedness, and the tonal balance is a little lean too. But the combo's lively communication skills make it an engaging performer with most types of music. The package works. Recommended.





# Analog is everything



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# CONCLUSIONS ONE-BRAND SYSTEMS



erhaps the most interesting finding to emerge from this exercise is that system synergy isn't a given when you buy a single badge CD/amp package. Arcam, Musical Fidelity and Primare all fared poorly in this respect, despite the fact that each pairing contained one highly talented performer. None of these systems bombed but neither did they realise the potential of their stronger components. In each case, a chunk of performance (which has been paid for) lav dormant - which would be a fundamental gaff if you were system building from scratch with a free choice of components.

True synergy may have been elusive but where it occurred, it had the opposite effect to dormant performance syndrome, effectively putting money in your pocket by hitting a standard beyond the expectations of the system price. Best in this respect was the Roksan Kandy combo which comprised a good amplifier, a frankly rather ordinary CD player and the lowest price. As a system, though, it was among the most engaging and likeable remarkably eclipsing the much more expensive Copland, Primare and Marantz couplings- and therefore represents outstanding value. The Talk combo was strongly synergistic, too, and keenly enough priced to run the Roksans close for raw value.

In fact, they were only bettered by the systems that could field a synergistic pairing of two star performers. The NAD, the Cyrus and especially the Sugden systems fell into this category. The acid test was that none of these partnerships could be significantly improved by substituting components from the reference system, though the Cyrus CD7 seemed to appreciate the extra muscle and drive of the AVI amps. On the whole, though, these one-make partnerships were clearly getting it right.

The Copland combo turned out to be a bit of an enigma. The cut and quality of its cloth were beyond reproach, and there was little doubt each component pulled its weight in a system context to create a highly polished and very distinctive sound. Its principal problem was as an all-rounder. Of all the systems under review, it was the fussiest and most material sensitive. It could sound exquisitely tactile and detailed but mostly it sounded coolly detached and uninvolving – and these traits were consistent with both sets of speakers.

Overall, something of a cold fish.

But enormously impressive to look at. The aesthetic component of this showdown is, of course, much more subjective but, in my view, also much more closely run. Even the now fairly dated fascia architecture of the Sugdens looked the business with its titanium finish. And ranged against just about any separates system — however attractive the constituent components — the one-brand solution is so far in front, it's faintly ludicrous even to attempt to make comparisons.

Nailing my colours to the mast, purple does it for me - especially when it has a metallic glint. So maybe the Roksan Kandy combo exerted an unfair advantage. Maybe. In fact, in the era of candy-coloured Apple iMacs, Roksan is clearly guilty of indulging in a spot of me-tooism. Thank God. If black hi-fi has had its day I, for one, couldn't be more delighted. Just reflect on how much better the Cyrus 7 looks in silver. And if all NADs could effect even an approximation of the almost glowing light metal finish on the Silverline range, I predict sales would double overnight.

A sea change is definitely underway. As we have discovered on the preceding pages, affordable style and sonic excellence are not mutually exclusive. In the best case scenario, the cream of the one-make systems can mix it with cherry-picked components for sound quality. Their popularity will continue to grow. But perhaps the biggest message we can take away from all of this is that right now, not all one-stop purchases come up with the right answers. Synergy, as we knew all along, is a tricky business.

#### **BEST BUYS & RECOMMENDED**



#### ROKSAN Kandy KC-1 and Kandy KA1

Sonically more than the sum of the parts, visually daring and the least expensive package on test, the Kandy combo is a considerable bargain and well ahead of the current state of the game.



#### SUGDEN CD21 and A21a

For sheer musicality, the titanium-hued Sugdens showed a clean pair of heels to every other pair in the group. The amp is a beaut, the CD player no slouch. Together they work beautifully and look rather smart.



#### CYRUS CD7 and 7

This will delight Cyrus fans and make new converts. Beats many bigger systems on sound quality. Good system synergy, great looks, keen price.



#### NAD S500 and S300

The massive S300 amp has heroic build quality. Truly synergistic bonding with CD player gives propulsive sound and killer bass.

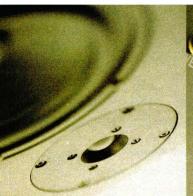


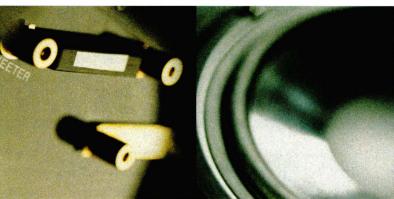
#### MARANTZ CD-17 Mk2 and PM-17 Mk2

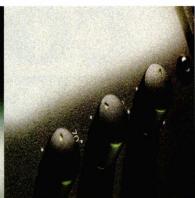
Bags of power and control and, on the whole, the package exhibits admirable synergy. Good material value.



**TALK** Thunder 1 and Cyclone 1 A well-judged CD/amp solution: smart design with a lively sound. Won't suit everyone but the keen price and entertainment factor are appealing.







# Five Stars For Value

Paul Messenger explains why you should visit an independent specialist dealer if you are searching for real hi-fi satisfaction

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

STAR QUALITIES

value for money \*\*\*\*

service \*\*\*\*

facilities \*\*\*\*

verdict \*\*\*\*

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

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

#### Power of the Press

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

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

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

circumstances in which the review was conducted.

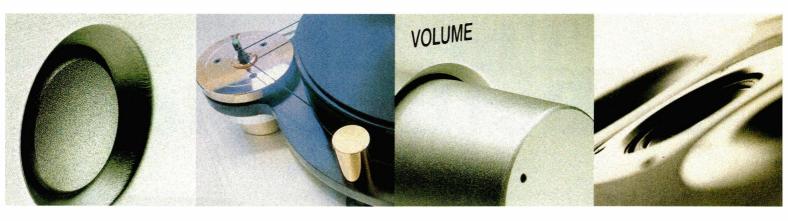
The hi-fi reviewer attempts, with varying degrees of success, to evaluate a particular component, and find something interesting (and hopefully positive) to say about it. That's about the end of it, and it's on to the next product.

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

#### The Role of the Dealer

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

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



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

If you go in and say you're looking for a CD player, and want his advice on what to choose, things are liable to become more interesting. The onus is now on the dealer to show what he can do. His first task is to ask the right questions to try and get some idea of what you might be after.

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

Putting together a successful hi-fi system might not be as difficult as it was twenty or thirty years ago, but it's just as easy to make a mess of things. Put the 'wrong' combination of components together and it'll still sound a lot better than any cute little mini system package. It might even rate a five star review. But it won't match the potential of a carefully balanced and properly installed system, and it

certainly won't cater for your own particular preferences and personality.

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

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

You know full well that your music collection is as individual as your wardrobe, and just as precious too, so it's worth taking the time and trouble to search out the dealer and equipment that will make that collection come alive, and give you a new buzz every time you play your favourite discs.

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

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

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

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

Paul Messenger

The specialist Dealers listed here are professional and enthusiastic. Give your nearest a ring for a demonstration.

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# The Best of Both Worlds

Still wondering if SACD is the way forward?

As Paul Miller discovers, Marantz's new player answers that question, once and for all.

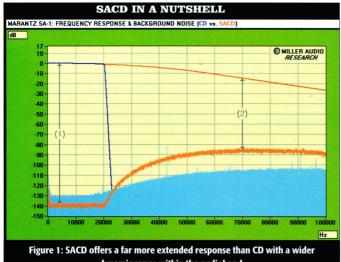
ith Sony having launched SACD hardware well ahead of any competition, you could be forgiven for thinking that this new digital technology was a solo effort. In fact, Sony was partnered by Philips in its development of Direct Stream Digital (DSD), the 'high-speed'

digital process that's at the heart of SACD. But rather than introduce a player of its own, Philips has gifted the technology to Marantz in an effort to establish it as a high-end format. Marantz describes the SA-1 as a 'showpiece model' and at £5,000 this is no idle boast.

This substantial ticket buys you an appropriately substantial machine that's constructed from various zinc and aluminium castings and supported by a copper-plated steel chassis. The end result looks like the lovechild of Flash Gordon and Richard Rogers, but I suspect the combination of copper feet, champagne gold fascia and a bottle green porthole-style display looks fairly appealing after a bottle or two of warm sake. The remote control, meanwhile, is rather less likely to cause stylistic debate and offers direct track access, program, repeat and random play modes in addition to the features on the player.

Both unbalanced (phono) and balanced (XLR) analogue outputs are provided along with digital outputs for CD and CD-R discs only. It's also worth noting that SACD discs are played about 0.4dB lower in level than CD material (2.2V versus 2.3V, respectively), which could easily upset an A/B demonstration using hybrid SACD/CD discs. Uniquely, my listening tests are precisely level-matched so this was not to prove an issue. You've also got the choice of either 'standard' or 'custom' analogue filter settings which influence the ultrasonic response of the player above the 20kHz audio range, but these are subtly different from those used in the Sony SCD-1 and SCD-XB940 (HFC193, 194 and HFC204). Here, the 'standard' filter is somewhat gentler but does begin rolling-off the response within the audiorange (red trace, Figure 1). For more details on the internal design and technical performance of the SA-1, please turn to my Oasis column on page 90.

Super Audio CD discs may look little different from their CD and



dynamic range within the audioband.

DVD partners but the manner in which the audio information is encoded is far removed. Instead of using the PCM technology of CD or DVD-A - where audio is sampled anywhere between 44.1kHz and 192kHz and then represented as large 16 to 24-bit digital 'words' -SACD samples at a massive 2.8224MHz (2822.4kHz) but stores the data as proportionally smaller 1-bit 'words'. This is called DSD or Direct Stream Digital and, quite frankly, is the technology that probably would have been chosen for CD, had the silver disc been invented in the year 2000 and not 20 years earlier.

The graph clearly shows that while the frequency response of CD (dark blue trace) stops almost immediately after 20kHz, SACD (red trace) rolls-off very gently towards 100kHz. This is more than sufficient bandwidth to capture those ultrasonic, musical nuances while avoiding the subjective repercussions of CD's sharp digital filtering (see Oasis, HFC 203). The SA-1 demonstrates that SACD has a wider dynamic range (1) than CD, although DSD's noise-shaping process (see Oasis, HFC 193) tends to diminish this range outside of the audioband (2). This is one area where, on paper at least, DVD-A players should have an advantage (see Oasis, HFC 206).

Figures (2) and (3) (overpage) speak volumes for the supreme technical performance of the SA-1. Fig (2) demonstrates the extremely low 0.0005 per cent distortion under ideal conditions, with only 2nd and 3rd harmonics visible above the smooth carpet of noise. Note the huge dynamic range of the signal and absence of any digitally derived 'spikes' in the noise floor. Fig (3) is a highly magnified view of the SA-1's jitter spectrum (the central peak rises to 0dBFs), a type of distortion caused by timing errors in the flow of data through the DAC. The most obvious peaks (marked in red) are almost all less than -120dBFs in level and contribute to a total jitter of 145psec - one of the lowest and cleanest results in my database of nearly 300 different CD players!

#### **Sound Quality**

Let's get one thing straight from the outset: the Marantz SA-1 is an astonishing player. By communicating a wealth of unforced and natural-sounding detail, the SA-1 succeeds in bringing you a step closer to the music. The message and sheer talent of the musicians is conveyed without artifice. There's no sense of what might be described as a 'digital harshness' nor is there anything stark or clinical about its presentation. Nevertheless, you are left in doubt of the subtlest detail or question over the ability of the musicians at hand.

But let's start at the beginning – how does the SA-1 rank as a plain vanilla CD player? In practice, rather highly. So highly in fact, that Marantz's efforts to produce a state-of-the-art CD player means its subjective performance is knocking on the door of SACD. This is in direct contrast with Sony's far more affordable SCD-XB940 whose CD sound quality was both markedly inferior to SACD and, importantly, to its own budget CD players. Naturally, if you were trying to sell the improvements offered by SACD, this might seem a convenient ruse.

The SA-1 still offers improvements with SACD software, but existing CDs now benefit from a rare sense of expression. When describing a sound that's apparently so honest, it's often easier to illustrate what it doesn't do, rather than expand upon its obvious neutrality. By way of example, its sound is utterly free of what the panel described as "digital distractions like harshness and graininess", just as subjective backgrounds are "dark rather than dirty". Lyle Lovett's Large Band CD certainly sounded uncommonly gentle, relaxed and yet utterly beguiling.



## 



TRACK

TOTAL

11 5 150

SACD CD

SUPER AUDIO CD PLAYER SA-1

SACD/CD



DISPLAY



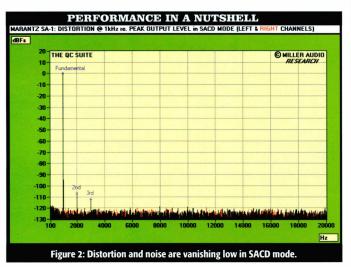
OPEN/CLOSE

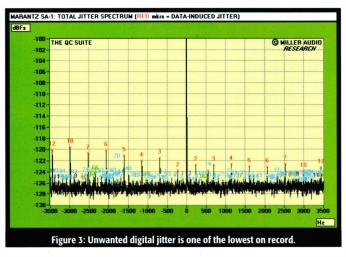




The detail that arises spontaneously from the acoustic guitar and backing piano supports a sense of atmosphere and ambience that allows you to tip headlong into a supremely realistic pool of music. The colour and vibrancy of these instruments, the echo and secure placement of his voice is nothing short of striking without – and I must emphasise this point – any feeling of strain, glare or brashness on the part of the SA-1. It all comes back to its ability to communicate the music in such an effortless and sympathetic fashion, stringing together wholly believable instrumental textures, woven into the fabric of an open and unforced acoustic. It's a holistic approach to reproducing music that's unusual if not downright unique, and sufficiently impressive to justify the cost of the SA-1 as a CD player in its own right. How ironic that one of the best CD players we've ever heard turns out to be crafted for a new medium.

Listening with our favourite SACD/CD hybrid, Joe Beard's For Real (see HFC 204), demonstrated that SACD can offer the 'instant upgrade' that's still sadly lacking with DVD-A at present. There's no wholesale change here, but SACD just seems to open the musical window a little







wider and deeper, expanding the level of information still further. Just when CD sounded very good indeed, seemingly lacking no relevant detail, SACD quietly raises the bar to expose hitherto hidden nuances that leave you scratching your head in bewilderment.

The intonation of vocals is altered very subtly; their positioning and phrasing brought that little bit closer to reality. Strings sound that bit more vivid, the fretwork and decay of individual notes confirming that CD was only providing 90 per cent of the message. Even a thoroughly 'artificial' piece of music like *Tricycle* from Flim & The BB's (a hi-fi dem disc in the early 80s) sounds a little more open, percussion shimmers and decays that bit more realistically, while the drum line kicks that little bit harder. "In SACD mode," one listener was heard to comment, "the music just lifts its skirt that little bit higher."

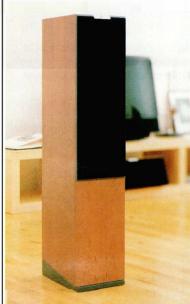
#### Conclusion

I sincerely hope that Philips' decision to launch SACD through Marantz and not under its own name does not reflect a lack of confidence. Marantz is certainly an appropriate vehicle to establish the credibility of the format, while the performance of the SA-1 can only calm any corporate nervousness. Furthermore, the use of established bitstream DAC technology should also smooth the development of any mixed-technology SACD/DVD-A player in the future.

If the SA-1 were a car, it would give BMW's new 330D a run for its money. Top quality build and bags of latent power, delivered with a firm grace. For, as it stands, the SA-1 seems to offer the best of all worlds. Not only will it lift the performance of your existing CD collection – a format which is still far from redundant – but it also provides a platform to begin amassing new recordings on SACD, software permitting. There's cake here, and we're feasting till we pop.

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# Plugging the gap

Paul Messenger checks out B&W's bridge between the high end and the real world.

&W can lay claim to being Britain's biggest hi-fi company by a comfortable margin, and it has achieved this status while sticking exclusively to the job it knows best – loudspeakers. A lot of that is down to massive investment down the years in pure and applied research, but getting the marketing right is an equally important element in the total mix, and that in turn means creating the right ranges of speakers to meet the demands of the marketplace.

The five Nautilus 800 models are logical enough – they're the very best B&W can do. Logical too are the 600s, which are intended to be the best B&W can do at the key mass-market price and size points. But that leaves a yawning gap between the 'budget' and the 'luxury' models.

Although the company's P-series didn't make much of a mark in the UK, the CDM-series, introduced in 1996, have proved a clever and very effective 'gap filler', combining the luxury of real wood finish with an attractive, interesting and acoustically beneficial shape.

The original CDM models evolved into SE variations around 1998, but that was before the Nautilus range came out. Some Nautilus improvements have already been incorporated into the current 600 S2 models, so now it's time to perform the same surgery on the CDMs – enter the CDM-1NT, and the CDM-7NT. The former a stand-mount, the latter a floorstander, both speakers share many ingredients.

One point to make from the outset is that (unlike the Series-2 600s) the prices of these two NT-style CDMs have increased significantly over their predecessors: the '1 has gone up from £600 to £750, and the '7 from £1,000 to £1,250. That isn't to suggest these new models aren't value for money, but it does widen the gap with the 600 S2s, especially since the drive unit content is very similar (the CDM-1NT corresponding to the £200 601 S2 and the CDM-7NT to the £550 603 S2).

Probably the most significant of the NT changes is in B&W's new tweeter, the back of which is now loaded by a tube several inches long. That poses no problems when it's mounted on the front panel of a rectangular box, but the CDM's particular feature is that the tweeter is mounted externally, on an angled section at the top of the front panel. To accommodate the much deeper new tweeter, the enclosure has been redesigned, so that the backward tilt has increased from 45 degrees to around 60 degrees.

The redesign is so effective that these new CDMs manage to look more elegant than their predecessors, especially the '7, where the top surface and tweeter 'streamlining' has got rid of its predecessor's dumpiness. The detailing around the mounting is neatly executed, and the cabinet work is clever too, using flat wood veneered panels linked by large radius MDF beading to create curved edges all round.

#### CDM-1NT

A small port-loaded two-way stand-mount, the 1NT not only looks good, but it feels very substantial too. It might have the same size main driver as a 601 S2, but its total weight is more than 50 per cent greater, showing how much extra solidity has been built into the enclosure. The external tweeter and radiused box edges will help time alignment and avoid dispersion discontinuities, while the irregular box shape will help 'spread' internal standing waves.

The bass/mid main driver has a 165mm cast frame and 120mm Kevlar cone, while the 25mm metal dome tweeter (in its bullet-shaped tube) looks more like those fitted to the upmarket Nautilus than the cheaper version used in the 600 S2-series. Twin terminal pairs provide bi-wire/-amp options, and a foam bung is supplied for blocking the 'Flowport' front port, if so desired.

Room measurements gave best results with the speakers well clear of walls and the ports open, but if the speakers have to be sited close to a wall, try them with the bungs inserted. The broad balance is essentially good, if a little conservative. It's impressively flat through the main midband, though rather restrained through the presence zone.

The bass rolls off gently below 100Hz, so although it's a little light in weight, it avoids boominess and supplies decent extension. The impedance represents a relatively easy load, rarely dipping below six Ohms.

#### Conclusion

Ultimately the 1NT does sound a little small and constrained, and might possibly be a little too polite for some tastes and systems. But in the best traditions of luxury stand-mounts, it is very self-effacing, delicately transparent and free from unwanted 'boxiness'.

Prior to the arrival of the CDM-1NT, I'd been listening to a pair of PMC's exceedingly large MB1s, so it took a day or so to re-adjust to the significant reduction in 'scale' and 'weight'. But before long this little stand-mount proved sufficiently communicative across a wide range of programming, and I happily left them in place for at least a week.

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#### CDM-7NT

The '7NT is the floorstander in the CDM-series, and superficially looks just like a CDM-1NT with an extra bass driver and a larger box, though closer scrutiny reveals a number of unexpected subtleties. For example, the driver line-up looks very like B&W's three-way 603 S2, but in fact the drivers here operate in 'two-and-a-half-way' mode.

The lower driver is a dedicated bass unit, with a 165mm frame and a 120mm paper cone, the latter stiffened by a carbon-fibre reinforced dome that's nearly as large as the cone. The main driver (and tweeter) looks exactly the same as that in the 1NT. The box is subdivided internally and ported front and rear, the front port reflex-loading the bass driver while the rear loads the bass/mid unit, with foam bungs supplied for fine tuning the bass end. Weighing 22kg, the whole thing feels very solidly built indeed, and sits securely on well seated spikes (though a matching plinth could enhance the appearance).

Admirably suited to free space siting with or without the bungs in place, the 7NT's bass alignments have been beautifully judged to deliver fine ultimate extension without suffering midbass boom. The port-blocking variations are complex, but give a useful 4-5dB of bass range adjustment below 70Hz. The '7's superior bass extension over the '1 is balanced out by a slightly brighter treble, and a less obvious dip in the presence region (far-field). Two-and-a-half-ways often present a difficult amplifier load, but the 7NT stays above five Ohms through most of the frequency band, falling a little below at both frequency extremes, while the sensitivity remains a very respectable 90dB.

Sonically the CDM-7NT is a bit of a stunner, with a fine dynamic range alongside a studied neutrality and a notable freedom from boxiness. Which simply means that this speaker is particularly good at just getting out of the way and letting the music come through. The bottom end is firm and deep, with no tendency to wallow, and a surprising ability to survive unreasonable abuse when you get a bit carried away with Leftfield, and carry on delivering with poise and authority.

The voice band is slightly restrained, probably to just about the right degree, while the top end might be a tad strong on some systems – it's clean enough, but not particularly sweet, in truth, and is also just a little obvious. Still these are minor quibbles and qualifications compared to a whole which is thoroughly invigorating and involving.

#### Conclusion

B&W 2 (01903) 750750







# Dream machine

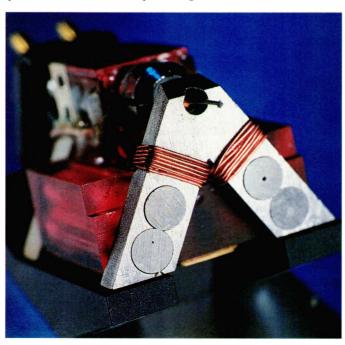
Jason Kennedy grooves on down to a simply stunning new last word in cartridges.

know what you're thinking. A review of a cartridge that costs as much as a serious mountain bike, in an era of digital domination? These guys must be nuts. And I guess it's true, we are nuts. About great sound, especially when it comes from the most enduring format of the 20th century. But we also realise that this kind of thing is like a Ferrari: pretty impractical for the average man in the street. But it's great to dream, and even at this price it's not as unreachable as a Ferrari if you're a truly dedicated music lover.

There's almost no limit to the amount of refinement that can be lavished on a top of the range cartridge, not in the eyes of Nobu Tominari of Dynavector at least. At two and a half grand, the DRT XV-1 is the most extreme cartridge he's produced and it's one of the most radical looking to boot. The front elevation reveals a deep 'V' section which is described as the cartridge's yoke and carries stabilising coils, these combined with a flux equalising piece in the magnetic gap are said to produce an extremely homogenous and linear magnetic field around the coils. The latter only manage to produce 0.3mV of output, which even for a moving coil is insubstantial, but it didn't require any extra step-up or changes of sensitivity to my Groove phono stage to give of its best. Dynavector makes a phono head amp (MC to MM, £1,500) especially for this and its other cartridges, but it wasn't included with the package sent down by distributor Pear Audio.

One point that caught my imagination when reading the literature for this needle was the use of no less than eight alnico magnets. I'm not so sure that numbers are what counts with magnets, it's more the way the material is used, but I know that alnico is about as good as a magnetic material gets when it comes to hi-fi. You won't find alnico in many products because it's a relatively scarce and expensive material, but it features in some pretty stunning cartridges, like the Audio Note Io and van den Hul Grasshopper, as well as the older Lowther and Tannoy loudspeaker drive units, which makes it pretty choice stuff.

The XV-1 is unusual in other respects too, it weighs plenty - 13.5 grams to be precise - which is more than some arms are happy with, but most will accommodate if supplied with a higher mass counterweight. Elsewhere it's equipped with a boron cantilever and a line contact stylus. Downforce required is the ever-popular two grams that you find with the majority of low compliance MCs these days, and it prefers a 30 Ohm load at the phono stage.





#### Sound quality

I used the XV-1 in the stalwart SME Model 20 with Model V tonearm, a robust and precise machine that constantly impresses with its Zen-like lack of ego. The Dynavector followed a van den Hul Grasshopper II GLA into the half-inch stocks and was fed via Audio Note silver interconnects to the aforementioned Tom Evans Groove phono stage.

Initial impressions were extremely positive and these thoughts remained, whatever I clamped on the platter. Its balance is darker than that of the Grasshopper; the top end seems a little shy and the bass simply prodigious in depth and quality. In fact the best vinyl bass I've heard outside of a Townshend Rock Reference. It's also very sensitive to level changes, or dynamics, within the music and likes nothing more than some heavyweight material to get its teeth into.

Depth of image is very strong as well. This is an area where serious record players can usually outgun great CD players, but in this case we were in absolut spitzenclasse league, as our German counterparts used to say. From Yo La Tengo to Keith Jarrett, the space resolved between and behind performers was never less than extraordinary. There are of course plenty of LPs which are short on space and the XV-1 couldn't put it in, but there is a surprising amount of 'air' on a lot of recordings. One disc that really surprised me in this respect was the original Hot Tuna album, a live recording that Paul Messenger put me onto and which has always sounded great. With the Dynavector doing the transducing, the speakers disappeared to reveal an in-room presence that was one hundred per cent tangible. Gobsmacking doesn't do it justice.

Timbre is equally well reproduced, with both instruments and voices showing depth and colour that's usually denied to them. In particular, Terry Callier singing Ordinary Joe and saxophones on a variety of discs had more depth, resonance and individuality than I've previously encountered. Brass can often sound too brash and hard, but with the XV-1 you get all the energy, colour and shine without the shriek.

#### Conclusion

This cartridge is pretty damn special, it's extremely natural in balance but is capable of reproducing every nuance that the record player lets it get out of the groove, and with a solidity and assurance that makes some of the competition seem nervous. If you have a decent record collection and matching turntable and are prepared to give up all your evenings to audio gratification, I suggest you audition this remarkable beast. If not, then keep dreaming.

#### 0000000000

£2,500 Pear Audio 2 (01665) 830862

# The Naim of the Beast

Paul Messenger gets blown away by Naim's new power amp, a monster in more ways than one.

he NAP500 is Naim's new power amp, the company's first truly new power amp in more than 25 years, and as a regular Naim user myself, I've been looking forward to getting my hands on it. The anticipation was tinged with trepidation, however, as I had a horrid feeling it was going to be very hard to return to my regular NAP135s after the review, but even tougher to get my hands on

NAP135s after the review, but even tougher to get my hands on £10,000 – the NAP500's retail price

Unusually, this is a stereo power amp packaged in two separate boxes. The larger one is the amplifier proper, which is fed through a pair of large multi-way umbilicals from a separate outboard power supply unit. That feeds 12 separately regulated DC supplies per channel to the amplifier proper, and ensures all the mains electricity is kept well away from the signals. (A second outboard supply may be added as an upgrade.)

The main amplifier is quite a beast. It fits on the same footprint as Naim's regular components (i.e. standard rack width), but has nearly twice the height, and considerably more weight too. There's even a rather un-Naim-like amount of styling, using a three-part 'triptych' front panel layout, with vertical ribs on the smaller centre section, plus a dramatic heatsink of gothic proportions and elegance on the rear. The centre section forms a ventilated 'chimney', complete with a little fan which only comes on when it's really needed (so it doesn't intrude on normal level listening). The larger flanking sections contain all the circuitry, under machined alloy 'gull-wing' panels that hinge out of the way to provide access. Fit and build looked excellent throughout.

Connections are pure Naim, and therefore different from anybody else, with separate inputs on Canon/XLR, plus a single pair of 4mm 'standard' spaced speaker sockets. The latter suits Naim's own approach, using NACA5 cable and supplied side-entry plugs, but is less than convenient for anyone wishing to experiment.

The rationale behind the NAP500 was to produce and amplifier with more power and better sound quality than the existing Naim range, by taking advantage of a quarter century of electronic component developments. A cornerstone of Naim designs is to avoid using multiple parallel devices to achieve high power, and after six years with a semi-conductor manufacturer, a bipolar transistor combining very high current, power rating and bandwidth was developed.

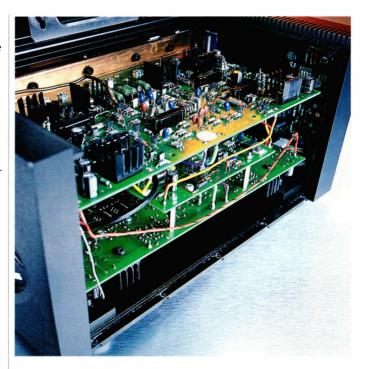
To achieve the right balance between voltage and current, and also to reduce earth modulation effects, each power amplifier channel uses two power amp modules operating in 'bridged' mode. The claimed end result is a power output of 140W/channel (8 Ohms), and a design with five times the internal bandwidth, a quarter of the distortion and a much lower operating noise floor than the NAP135 monoblock.

#### **Sound Quality**

The interconnect protocols would doubtless cause hassle in a more conventional and universal system, but once the difficult part of manoeuvring the components onto a rack was out of the way, the NAP500 slipped into my Naim-oriented system a treat. And what a treat! Even straight after powering up, it was sounding pretty remarkable – and quite different from the 135s. After a few minutes listening I felt no desire to return to the 135s, because the 500 was so obviously superior.

The bottom end seemed both cleaner and more neutral, but the really big changes were further up the spectrum, in the upper mid and presence, which was altogether less congested, with a much wider and more transparent dynamic 'window', and the top end was much sweeter and more delicate.

Initial listening was with a pair of PMC MB1s, large transmissionline three-ways, which over a couple of weeks proved such a fine match



I was starting to have second thoughts about doing a review. The NAP500 sounded so neutral and 'characterless' there didn't seem an awful lot to say. Ultimately, it does have a slight 'forwardness' and a mildly 'shiny' quality, which actually works very well with the slightly opposite character found in the majority of loudspeakers (including the PMCs). The only speakers I tried which were not such happy matches were my own Rehdeko RK175s. These are decidedly 'forward' anyway, and when I connected the little £200 Monitor Audio Bronze 2s (reviewed last issue), I was amazed how obviously the quality of the amp shone through even such inexpensive speakers.

The real crunch came during the Proms. I'd gone back to the 135s for a day or two, and one particular concert began with the opening 'Dawn' sequence from Wagner's *Gotterdammerung* – all tension and texture, but it wasn't really working. So I took the rather drastic step of changing power amps during the performance (rather to my partner's irritation). After a 20-second hiatus as I changed over, however, she smiled saying, "I see what you mean". The 500 works well with any material, but really seemed to come into its own with classical orchestral material, and I sorely missed it when it went for photography just before Valery Gergiev's Shostakovich 7 on the penultimate Prom night.

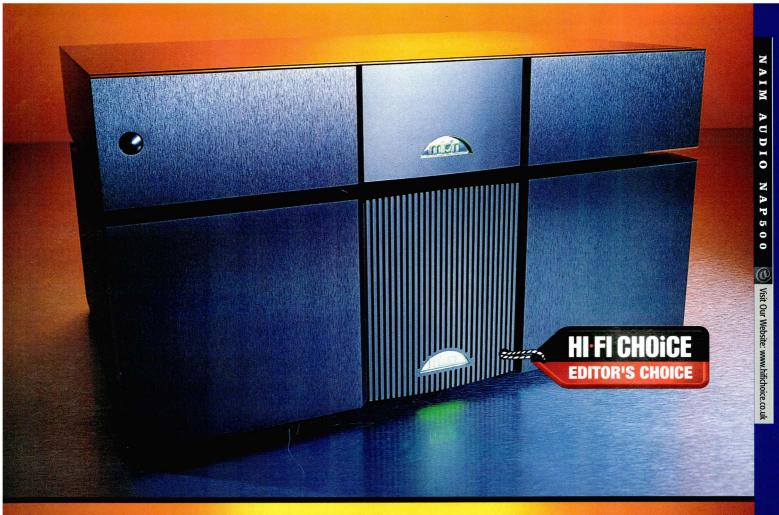
In my experience the NAP500 sets an important benchmark for solid state amplifiers, but I did have a very classy single-ended triode valve amp on hand (a prototype, essentially a beefed up Border Patrol with two outboard power supplies; check out www.redesignz.com). While I could happily live with either, I have to admit the 500 didn't have quite the midband delicacy and transparency of this excellent thermionic design, and did add a touch of solid state 'glare' to the proceedings.

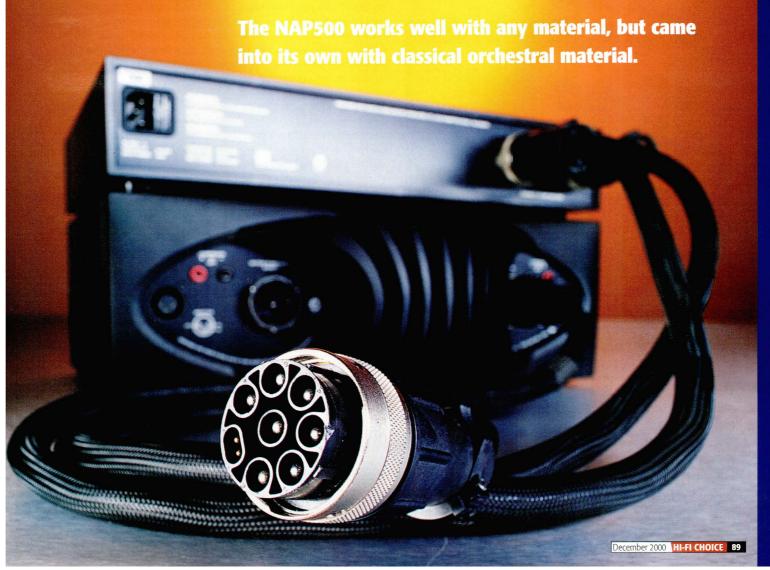
#### Conclusion

The NAP500 might be expensive, but I reckon existing NAP250/135 owners will be queuing up for this new model, and my name will definitely have to go on the list. It remains quintessentially Naim in its fine information retrieval and transient accuracy, but with a sonic delicacy and transparency which should win many new friends.

£9,999.99 Naim 2 (01722) 332266

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# OASIS OF Paul Miller takes a comprehensive SANITY

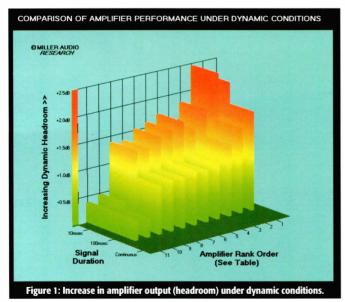
technical look at how the integrated

amplifiers and SACD player reviewed this month compare with their respective competitors.

udging by the size of my (electronic) postbag, the *Oasis* in issue 205 was evidently a hot issue. On that occasion we compared the dynamic power output of various amplifiers against the 'real life' demands created by three classical CD recordings. Clearly, the subject of amplifier power and their capability under more realistic, dynamic conditions is one that strikes a chord with the high finest postional relationships.

tions is one that strikes a chord with the hi-fi enthusiast, particularly as our investigations hinted that the specification offered by many manufacturers is often less than reliable.

In the light of the very real demands of modern recordings, it seems reasonable to expect an amplifier to cope with regular musical peaks some +6dB above the level of continuously loud passages. For example, if an orchestra in full flight is draining some 50W from an amplifier to sustain a given sound level from a pair of 8 Ohm speakers, then repeated interjections from tympani, percussion or horns might raise the stakes, albeit momentarily, to 200W or so. Naturally, very brief high level peaks occur less often than transients lasting in excess of 100msec or so (that's one-tenth of a second). In practice, it's estimated that peaks of up to +1dB can occur about 15 times a second, those demanding +4dB at four per second while the real killers (+9dB for just 2msec) may only appear once a minute, if at all.



Al	MPLIFIERS LISTED IN RA	NK ORDER O	F DYNAMIC CAP	ABILITY							
	Power Output into 8 ohm										
Rank	Amplifier	Continuous	<b>Medium-term</b>	Short-term							
1	NAD C350	95W	145W	159W							
2	Denon PMA-255UK	50W	72W	88W							
3	Creek 4330SE	50W	68W	76W							
4	Arcam Alpha 8R	65W	81W	96W							
5	Sony TA-FB940R	70W	90W	99W							
6	Yamaha AX-496	115W	145W	166W							
7	Rotel RA-931 Mkll	50W	62W	71W							
8	<b>Musical Fidelity X-A2</b>	95W	118W	130W							
9	Marantz PM6010OSE	75W	92W	103W							
10	Primare A10	60W	65W	67W							
11	Ezo Aria	55W	60W	60W							



The fact that none of the amplifiers from HFC 205 got close to achieving this +6dB goal, even momentarily, suggests that many amps are being repeatedly driven into clipping when auditioned at loud, but not atypical, levels. Of course, the impact of a momentary clip and the distortion that results will depend on many factors, not least the 'masking' effect of the underlying music, the nature of the distortion itself and the finite time taken by the amp to recover. All these elements contribute to the overall 'sound' of the amplifier but also help explain why products with a common specification end up sounding 'louder' or, indeed, less capable than their peers.

#### **HEADROOM**

To see whether any of the 11 amplifiers tested in this issue were any more capable than those from HFC 205, I compared their respective continuous power outputs with their dynamic performance under medium-term (100msec) and short-term (10msec) conditions. The results are illustrated by Figure (1) (left), which shows the relative increase in power under dynamic conditions achieved by each amplifier. Top dog is the NAD C350, which delivers a useful +1.8dB increase in power during medium-term dynamics and a full +2.2dB for shortterm musical peaks. NAD's C320 was the clear winner back in HFC 205, though this bests the C350 with a headroom of +2.5dB and +3.5dB, respectively. The Denon PMA-255UK is ranked in second slot, for though it boasts a +2.45dB headroom for short-term peaks, there's less available (+1.6dB) for the more common, medium-term dynamics. Both the NAD and Denon amplifiers and, to a lesser extent, the Creek have been designed to deliver far more power under 'real-life' dynamic conditions than their steady-state specifications might suggest. As a result, and all else being equal, the '50W' Denon PMA-255UK will be capable of sounding far louder than the '55W' Ezo Aria or, indeed, the '60W' Primare A10 in 11th and 10th places, respectively. Frankly, though there is a clear pecking order here, none of these amplifiers comes close to matching the very real peaks that occur in the most challenging recordings. The moral, if there is one, is not to rely too heavily on manufacturer's literature or magazines that simply quote said figures when preparing a shortlist of likely candidates...

#### PART II: SACD THE MARANTZ WAY

Part two of this 'mixed technology' *Oasis* is devoted to Marantz's fabulous SA-1 SACD player, reviewed on page 80. I've covered the

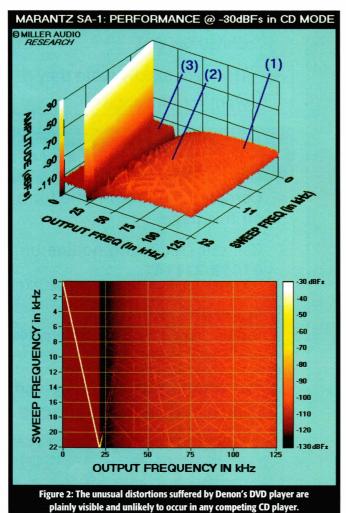
technology behind Super Audio CD in *HFC* 193 and 194 when Sony led the field with its SCD-1. The concept of DSD or Direct Stream Digital is really very elegant. Essentially, DSD describes the audio (music) information as a high speed digital bitstream – 64 times the rate of CD – where the density of the data pulses represents the amplitude of the analogue waveform. All that's needed to recover the original music waveform is a gentle, analogue low pass filter. No digital filtering, required by CD's linear PCM code, is needed by SACD nor, strictly speaking, is a DAC in the conventional sense.

Two analogue filter types are available on most SACD players, allowing the user to tailor the amount of very high frequency energy reaching the partnering amplifier. However, Marantz's 'standard filter' differs from that used by Sony in its players, for though both are some - 27dB down at 100kHz, the Marantz version is slightly gentler and begins rolling off earlier within the audiorange. For example, at 20kHz, 30kHz and 40kHz, the Sony players are 0.0, -0.2 and -1.1dB down, respectively, while the SA-1 shows -0.9dB, -2.1dB and -4.1dB at these same points. This response is illustrated by the red trace on Figure 1 in the Marantz SA-1 review.

And neither are the guts of the SA-1 a carbon copy of Sony's heavy-weight SCD-1, reviewed in *HFC* 193. For starters, the mechanism is sourced from Sharp while the 'back-end' of the player, the digital filter and DACs, are from the Philips cookbook. Naturally, the TDA1307 eight times oversampling filter is only invoked in CD mode. Indeed, as I've mentioned before, the lack of any digital filter stages in the SACD chain is one of the key benefits of this new DSD technology and one area where SACD looks to score over DVD-A which, ironically, is far closer to CD in its implementation.

#### **OLD TECHNOLOGY**

Interestingly, the SA-1 uses two DAC7 bit-converters (in dual-differential



mode) per channel along with the TDA1307 filter. This configuration is the latter-day equivalent of the old SAA7350/DAC7 chipset used by Marantz's CD11 over 10 years ago. The 3D plot may be directly compared to the ostensibly cleaner output of Sony's flagship SCD-1 (HFC 194), though the requantisation noise (1) and criss-crossing of digital images (2) is identical to that seen with the CD11. Importantly, the audioband (3) is free of digital noise or distortions. Marantz rates distortion in CD mode at 0.0015 per cent but achieves 0.0008 per cent in practice, along with imperceptibly low jitter and a respectable 105dB S/N ratio.

The DAC7 bit converters are uniquely suited to their dual-role in the SA-1 because, as a true 1-bit DAC, these chips were purpose built to handle a high speed bit-stream – 10 years before SACD was a reality! Indeed, the CD11 and CD10 operated at an effective 128x oversampling while the CD15

#### **GLOSSARY**

clipping: An amplifier's output waveform is 'clipped' if the volume is advanced too far and no more 'volts' are available to sustain ever increasing power levels. Distortion increases dramatically at this point.

MASKING EFFECT: The audibility of distortion and/or quieter instruments in a mix depends upon the intensity of the music as whole.

DSD OR DIRECT STREAM DIGITAL: The code composed of a high-speed, single-bit bitstream used by SACD in place of linear PCM.

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

inaudible, frequencies.

PCM OR PULSE CODE

MODULATION: The code used by CD
and DVD-A whereby the music signal
is described using discrete steps at
uniform intervals called samples.

SAMPLE RATE: The rate at which the
musical waveform is sliced up into
discrete chunks. For CD this is
44.1kHz, for DVD-A this is 48kHz,
96kHz or 192kHz.

pushed this to 192x. The 2.8224MHz data rate of SACD (nominally 64x that of CD) should pose no technical hurdle for the DAC7 and opens the door to a multi-standard CD, SACD, DVD-A player with the minimum fuss and bother.

#### **GREAT IMAGE**

Yet the SA-1 is defined by more than the choice of digital hardware. Importantly, Marantz also specifies numerous of its discrete HDAM opamp modules both in the analogue filter and output buffer stages. These modules ensure the benefits of SACD (lower distortion, noise and wider bandwidth) are realised as practically as possible. Fig (3) (below) compares a 20kHz tone in CD (black) and SACD (red) modes. The digital 'image' reflected back from CD's 44.1kHz sample frequency is clearly marked as are the 2nd-4th distortion harmonics.

There's no unwanted image with SACD and distortion is lower, but it cannot maintain the wide S/N ratio above 20kHz or so that's enjoyed through the audioband. Specifically, distortion at 1kHz falls to 0.0005% and the S/N ratio widens to 111dB, which is at the practical limit of two DAC7 bit converters, and only a 'bit' or so short of SACD's 120dB target. Whatever way you look at it, the early lead taken by SACD over DVD-A is being fuelled still further by Marantz's SA-1.

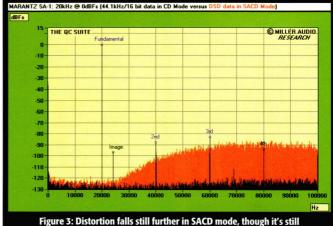


Figure 3: Distortion falls still further in SACD mode, though it's sti impossible to escape the increase in ultrasonic noise.

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# IVIP3: Revolution or bust?

Tim Bowern considers the Internet audio state of play, ponders the future for MP3 and tests six next generation portable players

hink back to '98: the year when MP3 first grabbed our attention. It emerged as the whisper of revolution, snaking through the marble halls of the music industry, threatening to tear down the commercial establishment. It promised to shift the balance of power in favour of the consumer, ushering in a new age of music distribution without the money-grabbing middlemen.

Two years on and MP3 is big news in the high street... but where's the revolution? Truth is it was never likely, at least on the scale envisaged by the most excitable of those self-styled, MP3-toting music terrorists. Not that it hasn't stirred things up: witness the legal action pursued against leading MP3 hardware brand Rio and top Internet download site mp3.com for proof of how seriously the music industry takes the technology and its potential for piracy. And then there's the recent furore surrounding Napster, the notorious file-swapping Website that's currently fighting an RIAA lawsuit.

Thing is, all this is in its infancy and evolving at a rate of knots. And to suggest that commercial reality will not be central to its development is grossly naive. The big boys of the music industry know it's here to stay and have been biding their time, devising ways in which both artists and labels can profit from digital distribution through the Internet while systematically stamping on anything which may threaten copyright. The law has yet to come to terms with all the implications, but in the meantime the consortium of companies which forms the Secure Digital Music Initiative (SDMI) has been beavering away to find technological answers to piracy issues, encryption and watermarking among them.

#### MP3 RIP?

MP3 itself is only the tip of the iceberg, a small piece of the jigsaw that forms the big picture for data-reduced digital audio and distribution of music via the Internet. It is simply a 'codec' that has become a buzzword – a means of shrinking a digital file to a more manageable size by throwing out information deemed non-crucial to the end result. Other 'lossy' codecs exist, but MP3 proved a practical way of making Internet file distribution a viable proposition and quickly became the most popular music format by a street.

Even now over 95 per cent of music on the Net is contained in MP3 form, but its days of domination are likely to be numbered. Several new contenders are emerging, each determined to take the crown; all offer a more secure file format than MP3 and claim to deliver better sound quality with smaller storage requirements to boot. But as far as the music industry is concerned security is key, and the fight is on to win the allegiance of the all-important major labels.

Fast-emerging favourite is AAC (Advanced Audio Compression), its bid beefed up by the might of Dolby Labs. It has some powerful backers in the hardware market too, including Panasonic whose forthcoming solid state personals will feature the technology. Sony has also been pivotal in its development and will champion the format alongside its

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own ATRAC3, as sported by its first solid state personal, the NW-MS7.

Another strong player is WMA (Windows Media Audio). Few would bet against it, given its Microsoft origins and established label support, though on paper AAC appears more advanced. And then there's MPEG4, a logical successor to MP3 at least in name. Video capability is an important part of its specification, but it seems unlikely its use will be widespread for audio-only applications.

If all this looks like another damaging format war, fear not. There's no reason why hardware can't support more than one codec and many of the digital audio players arriving now and in the future are described as 'codec agnostic' – they incorporate upgradable firmware to which new codecs can be added via Internet downloads. All products will continue to read MP3 files, some of them (like Sony's NW-MS7) converting them into a proprietary format in the process.

#### A question of storage

Digital audio codecs have two main uses for music fans. One is to obtain music files from the Internet, either free or paid for. The other is to 'rip' existing CDs, reducing the size of digital data so it takes up less space. For the first you need a Net-ready computer; the same has been true of the second up to now. But products enabling one to utilise this technology without the need for a computer are beginning to emerge, like the DigMedia Music Store/Soul Mate combo overleaf and Audio ReQuest component examined on page 14. That's vitally important if this product sector is to expand beyond the realm of computer peripheral into mainstream audio.

Thus far, the digital audio player market has been driven by solid state personal stereos, with built-in and/or tiny flash-card memory. Without data reduction this wouldn't be viable, but codecs like MP3 make it possible to store a worthwhile amount of music – around 35 minutes with 32MB of memory at an encoding rate of 128Kbps, or double that with 64MB. It's still restrictive, though, and memory card prices are alarmingly high. But this technology is moving apace; prices will tumble and capacity increase, making the 'no moving parts' portability of solid state audio the way forward for music on the move.

Of course, using codecs to squeeze data into limited storage space realizes only part of their potential. Combine reduced-size files with a much higher capacity digital storage medium and you have the ability to hold huge amounts of music in one place at one time. Incorporate a hard drive, say, and you can create a one-box music library *a la* Audio ReQuest, Creative Labs and DigMedia.

An equally viable storage medium is good old CD (or even DVD). Using a PC CD-ROM burner and a codec like MP3, you could easily transfer ten standard CDs onto a single disc. These can then be played back on one of an emerging clutch of MP3-compatible CD and DVD players, like the Smart personal on page 97.

#### **Quality control**

The quality of sound you get from a digital audio file depends on a number of things, including the type of codec used, the quality of

encoding/decoding, the bit rate employed and the gear you use to play it back. However, one thing's for sure: the data reduction process ensures the general standard is below that of CD.

It's easy to find this disturbing from hi-fi perspective, particularly in the light of all those prophecies about digital distribution irrevocably changing the way we obtain our music. HFC's predictions are more relaxed; you don't need a crystal ball to see there's plenty of life left in the ol' optical disc. PCM-based CD is likely to remain the most prolific music format for some years, with SACD and DVD-Audio entering the market as premium formats, offering increased resolution, high quality multi-channel and a host of 'extras' for your money. These new formats simply wouldn't exist if manufacturers believed no one cares about quality.

Digital audio players using data reduced files have a different collection of attributes and a different set of ideal applications. They're great for music on the move and music over the Internet, and could work well for commercial and multiroom applications where ultra-high performance is not critical. But whatever your take on this wave-making technology it's fascinating to follow the unfolding story in these early days.

It's a pointer to the future, so here's a vision. Ultimately, a digital 'server' containing all kinds of entertainment files may become the norm in the home – for video, audio, games and so on, all obtainable over the Internet via broad-band technology and managed by your domestic CPU. In the meantime, we'll carry on listening to CD at home and pray that the full potential of SACD and DVD-Audio is realised; from a quality perspective these represent our brightest hope. Yet there's no denying the unfolding world of the digital audio player is opening doors hitherto shut fast. Just imagine the possibilities...

#### **GLOSSARY**

MP3: A lossy compression algorithm that shrinks digital files by discarding data deemed non-essential to the end result. New, improved technologies are now beginning to threaten its dominance.

**DIGITAL AUDIO PLAYER:** Catch-all term for separate components to which compressed digital audio files (MP3 et al) can be transferred, then played back. Most are personal stereos designed for downloading files from a computer to solid state memory cards, though other types are now beginning to emerge.

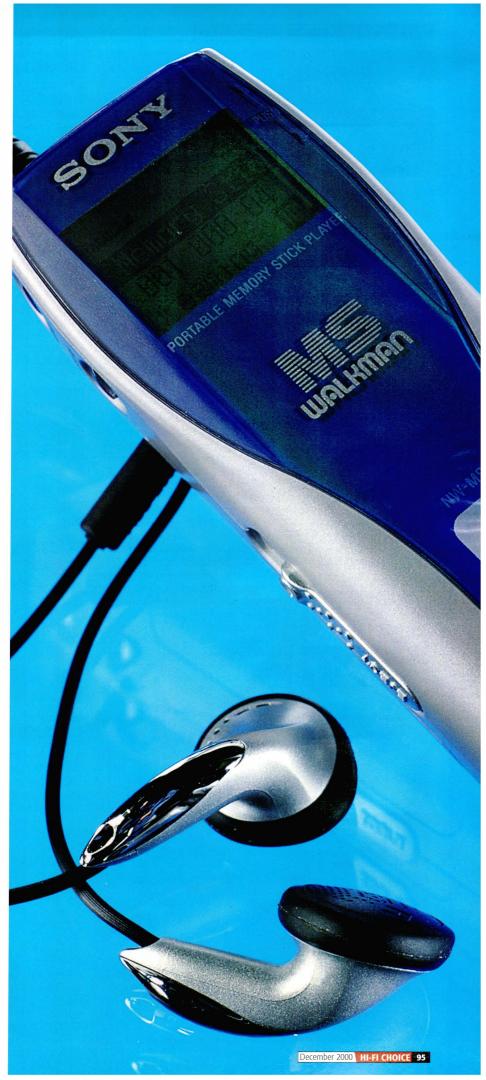
**DOWNLOADING:** Saving an MP3 music file from a Website to your computer or from your computer to an MP3 portable.

**RIPPING:** Copying files from a CD, ready to be 'compressed' using a codec like MP3.

PARALLEL/USB: Some MP3 portables attach to your computer via a parallel (printer) port, others use USB connection. USB is a more efficient 'plug 'n' play' type of connector, but only newer PCs and Macs are equipped.

**ENCODING RATE:** Measured in kilobits per second (Kbps). The higher the figure, the better the quality and the more memory it will use. 128Kbps is often considered the 'optimised' rate for MP3.

MMC CARD: Multi Media Card. Currently the most popular type of flash memory card for MP3 players. Capacity is measured in megabytes (MB) – a 32MB card will store around 35 minutes of music at 128Kbps. In comparison, a CD-ROM offers a whopping 650MB of storage while hard drives stretch into gigabytes (GB).





#### CREATIVE LABS Digital Audio Jukebox £349.00

've a sneaking feeling I've seen the future. The Jukebox is one of the most iconoclastic bundles of technology I've ever had the pleasure to stroke, though the concept itself is really quite simple. A 5.7GB, shock-protected hard drive, allied with MP3 decoding, a USB interface and a file management application. All packed into a svelte case that fits perfectly into two cupped hands.

It's a little bigger than the average MP3 personal but light enough at 400g. Power is by mains or rechargeable batteries. Its big advantage is storage capacity - it's claimed you can squeeze in 1,000 tracks at a decent quality 128Kbpsbit rate (compared to barely one CD with most of the current MP3 crowd). So, you can carry your entire active CD collection wherever you go.

The Jukebox lets you 'rip' CDs via a PC CD-ROM drive and download them to the player, or you can take stuff off the Net. Files can be sorted according to artist, mood, genre and so on. It's also 'codec agnostic', so its firmware can be upgraded beyond MP3 as the need arises.

How does it sound? It inevitably suffers from the cold. flat quality that afflicts compressed digital music but from a portable perspective it's perfectly listenable and certainly one of the best MP3 units we've tried. A blinding product. **☆☆☆☆☆** www.europe.creative.com



#### **DIGMEDIA** Music Store and Soul Mate £350.00/£80.00

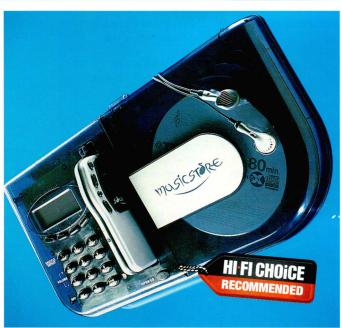
ere's a smart piece of thinking. Take a 6.4GB hard drive for storage, add a CD drive, sprinkle in MP3 encoding/decoding and put it all together in a single box. Call it the Music Store and you have all the joys of MP3 without needing a computer. Slip in a CD, specify the tracks you want converted to MP3 files and they're transferred to the hard drive - you can store around 100 CDs' worth of

Pretty nifty so far, though as a hi-fi separate the Music Store inevitably doesn't cut it. CD playback is poor, but Digimedia doesn't make any claims about its viability as a CD separate. With MP3 files, it's one of the better units we've heard - not overtly harsh though still typically opaque. As a hard drive concept it lacks the flexible user interface and all-round portability of the Creative Labs product, albeit gaining the advantage for those without a computer.

But the ace up its sleeve is the Soul Mate, a solid state personal with 48MB of



memory on board. This docks into a slot on top of the Music Store so you can transfer around 30 to 60 minutes of MP3 music into its memory. It has the benefits of all solid-state personals, though it isn't expandable. When you put it all together, the Music Store/Soul Mate combo is impressive in concept and execution, and a genuine pointer to the future of audio storage. **⇔** www.digmedia.cc





#### LG MF-PD360 £130.00

G is one of the more prolific exponents of MP3-based solid state personal technology. Here, then, is its latest attempt to woo the masses – all-new styling and a compact size make this one of the slinkiest personals around. It's also one of the more affordable. Smart aesthetics and a low price make an alluring package for first-timers looking to dip their toes into portable MP3.

And on those grounds, we wouldn't really quibble. It's a sensible first-time buy, though facilities are fairly basic. There's no built-in memory but there are two card slots; a 32MB MMC card is supplied and memory can be expanded by adding second. A plug 'n' play USB cable is provided, faster and simpler than a serial or parallel interface as long as your PC has a suitable port. You also get a back-lit in-line remote control, a couple of equalizer settings for tweaking sound and effective if unremarkable software for downloading/uploading MP3 files.

Performance is above average, delivering solid and relatively crisp music. High frequencies are probably its greatest strength - it's one of the sweeter-sounding solid state personals we've had the pleasure of hearing. It all adds up to a pretty slick product and one that would have received a Recommendation had we reviewed it a few months ago. But the scene is moving fast, and right now it doesn't quite do enough.

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#### RIO 600 £169.00

hen MP3 first gatecrashed the audio scene a couple of years back, Rio was the name knocking loudest at the door. Now the 600 is here and it's clearly going for the jugular. Design cues have been taken from mobile phones to make the concept more accessible while coloured covers add a degree of personalisation. And the rather fiddly notion of tiny memory cards has been knocked on the head, replaced by a range of interchangeable backpacks loaded with 32MB, 64MB or – apparently – a whopping 340MB (32MB is supplied as standard). Of course, this means you're stuck with buying Rio product if you want to upgrade, but it also means you're not limited to a single type of memory card – Rio can include new types as advances are made.

Other aspects of its design are equally impressive. It fits neatly in your hand, the back-lit display is eye-catchingly comprehensive and the menu system is a dream. Sound quality is robust, not quite the sweetest thing in MP3 but tunable via a fine array of tone and EQ adjustments. It's 'codec agnostic' too: it

supports MP3 and the fast-growing WMA file types as standard, and its firmware can be upgraded later via Net downloads. 32MB of memory as standard is rather miserly compared to the 64MB models now emerging for not a great deal more. But for its excellent design and strong future-proofing the Rio 600 is soundly Recommended.

#### **SMART PORTABLE MP3** Disc Player £119.00

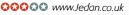
Despite all the plus points, lack of storage space can be a major drawback with card-based solid state personals. As we've seen, hard drives are a possible solution: huge storage potential but comparatively bulky and expensive. So what other practical options are there if you want to free your MP3 files from their computer-bound shackles? How about good old CD?

Now available in the UK, this Smart-branded widget looks like a bog-standard CD personal. And indeed it is, save for one thing — it's got MP3 decoding inside. You can use the CD-R drive of your PC or Mac to burn CD-ROMs full of MP3 files, either ripped from your own audio CDs or downloaded from the Net, then play them on the Smart like you would an ordinary CD. That's 650MB of storage on a single disc, enough to hold up to 20 CDs' worth of music in MP3 form.

Playing ordinary CDs, the Smart sounds as cheap as it looks. Performance is thin and distant without bass boost and bloated with it on. However, it does



redeem itself with MP3 files in relation to the immediate competition — it adds a little more life to the party than some solid state personals around the same price point. To be honest, we're not keen on how it looks and feels, and the control layout is just awful, but for storage potential alone MP3 freaks could find it an absolute boon.







#### **SONY** NW-MS7 £249.00

t was bound to happen. The big boys are getting involved. The NW-MS7 is the first effort from Sony, the launch model in the firm's new MS Walkman range featuring its product-straddling Memory Stick solid state storage technology.

Much slimmer and lighter than the average personal, the USB-equipped NW-MS7 is clearly a class act. Sony has used its experience and clout to produce a product that looks and feels right. Files are stored on a 64MB MagicGate Memory Stick, like an elongated flash card, which slips easily into the base.

Sony likes to develop its own technology rather than apply other people's, so it's no surprise to find that it has eschewed MP3 data reduction in favor of its own ATRAC technology, similar to that used for MiniDisc. It's still compatible with MP3 files and WAV files too, but they're converted to ATRAC3 prior to storage.

Overall sound quality won't blow anyone away but it's above par for a solid

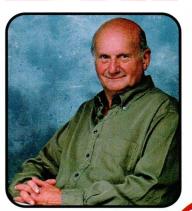
state personal. It's a more lively sound than many, with snap and bite, though it's also a bit edgy and lacks weight.

It'll be interesting to see how the market takes to Sony's built-in copy protection. Restrictions of this kind will be commonplace once the SDMI makes its recommendations and the music companies get their way. But punters may see them as a turn off, along with the NW-MS7's lofty price tag.





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# Maidstone in Heav

here's no doubt about it. KEF's new lineup of products is proving to be amongst the very best the company has ever produced. With loudspeakers to suit all tastes and requirements, KEF customers throughout the world are spoilt for choice. From the mighty Maidstone 109, to the cracking Cresta One, KEF now offers the most comprehensive range of options available. There are the beautifully crafted new Reference Two Series Models, the specialist Monitor Series, the music-lover's choice in the Concertos and the highly acclaimed, modestly priced, Crestas. And this year saw the unveiling of the stunning new Q.2 Series. What other loudspeaker manufacturer can boast such an all-embracing range of products?

Sitting majestically at the top of the range, KEF Reference Series Model 109 – the Maidstone. KEF was founded in a Nissen hut in Maidstone, Kent by loudspeaker guru Raymond Cooke in 1961. And in the four decades since, KEF has remained true to its ideals: to perfect more accurate ways of reproducing recorded sound.

The Maidstone is an impressive floorstanding full bandwidth loud-speaker designed to the highest standard for use in the very best audio systems. It embodies the KEF philosophy of accurate musical reproduction achieved through careful technical design. It is designed to faithfully reproduce the full range, width and dynamics of music signals. Central to the design is the KEF Uni-Q® drive unit, used for the midrange and high frequencies. The coincident mounting of the two units allows 'point source' operation to be achieved in this critical part of the audio spectrum. In addition, this configuration causes the directivity of the tweeter to be matched to that of the midrange unit, creating a uniform sound over a wide listening area. This means that you don't have to sit in a special place to enjoy the Maidstone's sonic qualities. The sound space is universal!

The Maidstone is unique in its field for a number of reasons. It is a 4-Way Reflex system, encased within a superior curved cabinet construction with a fit and finish second to none. Attention to detail extends even to the loudspeaker terminals and feet, which are custom-machined from solid brass and heavily gold plated. In fact the whole system is replete with special custom-built parts.

In layman's terms the KEF Maidstone sounds truly wonderful — and looks amazing. It comes finished in East Indian rosewood veneer and sells for around £12,000 per pair.

The latest additions to the KEF range form the newly developed Q.2 Series, bringing new finishes and improved cosmetics to one of KEF's most

successful ranges of loudspeakers. Now in its fourth generation, KEF's patented Uni-Q technology is one of the great breakthroughs of modern high-end audio design. As with the Maidstone, by mounting the tweeter at the exact acoustic centre of the

mid-range cone, both act as one to create a broad and intricately detailed sound stage throughout the room. This makes all KEF Q Series loudspeakers easy to position — there's no 'hot spot' — and easy for any amplifier to drive. An improved tweeter with a larger magnet has been used in this new Q.2 range, together with a new, enhanced, stiffer polypropylene midrange unit in all-new silver finish.

The new KEF Q.2 Series comprises (priced as pairs, unless marked): Q15.2 two-way bass reflex compact, £199.99; Q35.2 two-way bass reflex Floorstanding, £349.99; Q55.2 two and a half-way bass reflex floorstanding, £499.99; Q65.2 three-way bass reflex floorstanding, £699.99; Q85s surround/rear effect two-way closed box, £179.99; and the Q95c centre channel two-way sealed box at £199.99 each.

Few companies have done as much to advance the principles of loudspeaker engineering as KEF has. But like musical instruments, making truly great speakers is an art as much as a science. The pleasures of recorded sound come from the heart, not the ears, and every single KEF innovation is designed to intensify and enrich that emotional experience.

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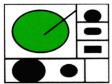
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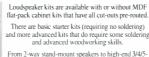
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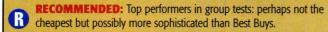
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TURNTABLES	135



#### AMPLIFIERS INTEGRATED

6 - Number of line-level inputs. '20W'- Rated RMS output power per channel into a nominal 8 Ohm load.

30W

30W 120

40W 40W

65W

60W

70W

40W

40W

55W

25W

60W

0 80W 240

0

0

6 45W

6

0 50W

0 50W

6 40W

0 90W

0 30W

0 70W

0 70W

0 60W 60

140

150

200

100

130

160

230

450

330

430

Tear AR-X7R

YBA Complete Integre

UP 10 E230	
Arcam Alpha One	0
Ariston AX910	0
Cambridge A1 Mk III	0
Cambridge A1 Mk3 SE	0
Cambridge A100	6
Cambridge A300	6
Comballing and	0.710

Cambridge A3 Denon PMA-250SE Denon PMA-535R Denon PMA-3551 II Denon PMA-100M H/K HK3270 JVC AX-A372BK IVC AX-R5RE

Kenwood KA-1080 Kenwood KA-3080R Kenwood KAF-3010F Kenwood KAF-3030R Marantz PM-48 Marantz PM-57 Marantz SR-47 Marantz PM6010 OSE Marantz PM-66SE Musical Fidelity E1

NAD C300 NAD C320 NAD 312 Pioneer A-109 Pioneer A-209R Pioneer A-307R Pioneer A-509R

NAD 310

Rotel RA921 Rotel RA971 Mk II Sansui AUX-410R Sansui AUX-510R Sherwood AX 4050R Sony TA-FF230 Sony TA-FE330R Sony TA-FB740F

Teac A-F2000

Teac A-R600 Technics SU-V300 Technics SU-V500 Technics SU-V620 Technics SU-A707

Yamaha AX-396 Yamaha AX-496 £251 TO £50

Arcam Alpha 7R Arcam Alpha 8R Arcam Alpha 9 Audiogram MB1 Creek 4330R 40W Creek 5250 0 50W Denon PMA-735R 0 65W Denon PMA-1500R Edmund Audio ESI10 H/K HK650 0 60W Kenwood KA-5090R Magnum IA120 Magnum IA170 Magnum IA170SE 0 90W Marantz PM7000 Marantz PM-66 KI Sig Marantz SR5000

Musical Fidelity E11 Musical Fidelity X-A1 Musical Fidelity A2 Myrvad T-40 300 450 NAD C350 0 50W NAD C370 0 120W 9000 Onkyo A9210 40W Onkvo A921 50W 350 Onkyo A922 400 70W Rega Big Brio 0 35W 375 Rega Luna 6 40W Rega Mira 60W Roksan Kandy KA-1 Shearne 2.5 35W Sony TA-FB940R 6 60W 300 Sony TA-FA30ES 70W Sony TA-F3000ES TAG McLaren 60i 280 Teac AH-500 0 50W Technics SU-A909 400 £501 TO £700

0

699

665

650

530

689

699

Audio Note Kanji Line SE 9W Audio Note First integrated 40W Audiogram MB2 6 60W CR Dev CR324se CR Dev Kalypso 6 6 15W CR Dev CR325 Creek 5250SE 60W Densen Beat B-100 Mkll Gamma Gemini Hi Q Sound MCI 0 30W Linn Maiik (Line) 0 33W Lynwood Opal 80W Magnum IA200 Magnum Class A Musical Fidelity A220 0 Myrvad Cameo 50W Naim Nait 3 Rose Scion Shearne Phase 2 6 50W Sugden Audition T 65W Talk Electronics Cyclone 1 Talk Electronics Storm 2

Audio Analogue Puccini Remote

Alchemist Nexus Alchemist Forseti Integrated 0 1,000 100W Arcam FMI A22 Audio Analogue Puccini SE Remote 6 60W 795 950 Audio Note Oto Line PP 12W Copland CSA8 Credo IMP703 1.000 70W Denon AVR-3300 Exposure XX Supe Exposure XV Super 0 60W 900 LFD 0 LE Integrated 0 799 60W Linn Maiik (Phono) Marantz PM-17 Meridian 551 0 795 55W Musical Fidelity A3 Musical Fidelity X-A100R **NAD T770** Naim Nait 3 R Nakamichi AV-10 sic One Plinius 2100i Roksan Ca

**£1001 TO £2000** Aria SR-1 80W Aria S6 0 1 600 35W 1,995 1,200 Audio Analogue Maestro 0 Audio Note Soro Line PF 20W

0 50W

600

25W

60W

900 799 50W

Shearne Phase 2 Reference

Sonneteer Alabaster

Sugden A21a Int

Sugden Audition C

TAG McLaren 60iR

3

Audio Note Oto Phono SE	0	12W	1,500	DPA Enl'ment phono		Ph	275	DPA Enlightenment pre			795	Balanced VK-50	0		3,995
Audio Note Soro Line SE		18W	1,699	EAR 834P		Ph	349	Dynavector L200	0		995	Boulder L3AE	0		2,100
Audio Valve Assistent-S 20	0	20W	1,250	EAR 834L	6		449	Dynavector P100		Ph	1,495	Boulder L5AE			3,400
Beam-Echo SA-50	0	50W	1,950	EAR 834P/MC		Ph	499	Dynavector L100	6		1,995	Boulder L5M			3,800
Beard 30-60 Mk II	0	30W	1,495	Henley HMC50			150	Exposure XIII			800	Boulder 2010	0		22,000
Bow Technologies Wazoo Bryston B-60	0	50W	1,795	Henley HMC100			350	Exposure XIX	0	-	800	Canary Audio CA-801	0		3,750
Canary Audio CA-608	9	60W	1,495	Hi Q Sound LCP2			149 449	Exposure XVII	0	Ph	850	Cary SLP-98L	6		2,395
Copland CSA14		24W	1,199	LFD Mistral Linestage LFD LSO Linestage	6		499	Exposure RC XXI  Gate PR101P	6		1,000	Chord CPA 1800 Chord CPA 2200	0		2,220 2,740
Copland CSA28	9	60W	1 2/19	Lumley PP70	6		345	Golden Tube Audio SEP-2	0		990	Chord CPA 3200E	0		4,041
Copland CTA402	6	35W	1,698	Lumley PP1	0		345	Golden Tube Audio SEP-3	6		1,995	Chord CPA 4000E	6		6,675
CR Dev Romulus V3	6	35W	1,198	Magnum MP120	0		330	Graaf WFB Two	Ö	Ph	1,390	Conrad-Johnson PF-R	6		2,490
CR Dev Athena	0	38W	1,499	Magnum MP660	0		500	Graaf WFB One	6	Ph	1,750	Conrad-Johnson PV-12A	6	Ph	2,590
CR Dev Remus V3	6	60W	1,989	Magnum MP330	0		500	Henley HMC200	•	PII.	600	Conrad-Johnson Premier 15	•	Ph	3,995
Credo LIM 702		0011	1,191	Monrio Asty L	6		500	Hi Q Sound MCB2		Ph	545	Conrad-Johnson Premier 17LS	6		4,495
Credo LIM 703			1,249	Moth 30 Passive	0		149	Hi Q Sound MCL2	0		645	Conrad-Johnson Premier 14	6	100	4,495
Densen DM-10	0	75W	1,450	Moth 30 Phono		Ph	249	Jadis DPL2	6		1,590	Conrad-Johnson Premier 16LS	6	1000	7,995
EAR 859	0	13W	1,999	Moth 30 Line stage	0		349	Krell KAV250p	6		1,999	Conrad-Johnson Art	6		14,995
EAR 834	0	40W	1,999	Musical Fidelity X10-D	0		120	LFD MC1 Phonostage		Ph	949	CAT SL1 Ultimate		Ph	5,750
Golden Tube Audio SI-50 MkII	0	50W	1,100	Musical Fidelity X-LP		Ph	130	LFD LS1 Linestage	•		999	CR Dev Kastor	0		2,995
Graaf Venticinque	0	25W	1,790	Musical Fidelity X-PRE	0		200	LFD MC2 Phonostage		Ph	1,499	Credo LPR 001			2,815
Jadis Orchestra	6	40W	1,345	Musical Fidelity E20	0	Ph	400	LFD LS2 Linestage	•		1,599	DNM 3C Primus	6	Ph	2,100
LFD Integrated 1	6	65W	1,099	NAD PP-1		Ph	40	LFD LSB Linestage	6		1,999	DNM 3C Twin	0	Ph	3,100
Lundahl Mag Amp	0	23W	1,735	NAD 114	0	Ph	270	Linn Wakonda	6		750	DNM 3C Six	0	Ph	4,100
Marantz PM-17KI Sig	<b>G</b>	60W	1,300	NAD 116	0	Ph	430	Linn Linto			850	EAR 802MC	0	Ph	2,599
Meracus Intrare	0	60W	1,095	Naim Prefix			360	Linn Kairn	0		1,400	EAR G88	0	Ph	9,999
NAD S300	6	100W	1,900	Naim NAC92	0	<u> </u>	485	Lumley LV1.5	0		895	EAR P52	0	Ph	15,999
Papworth MIH-200 Papworth MVH-200		200W	1,200	Parasound P/HP-100		Ph	130	Lumley LV1	0	-	1,150	Gamma Era Ref	6	Ph	7,999
Plinius 8150	0	200W	1,200 1,895	Parasound P/HP-850 Plinius Jarrah	0	Ph	400 450	Lumley PV1.5 Lumley PV1		Ph	1,700	Graaf GM13.5B II Jadis DPL	0		3,950
Praecisa Sonoro		10018/	1,033	Pro-Ject Phono Box		Ph				Ph		Jadis DPMC	6	-	2,900
R-20 A30.1	0	100W	1,500	QED Disasaver DS-1		Ph Ph	40 35	McIntosh C712 Meracus Ingredi	6	Ph	1,999	Jadis JPL	6	Ph	2,900 4,200
Restek Fantasy 2	0	100W	1,499	R-20 R-20		Ph	450	Meridian 501	0		695	Jadis JPP200	9		4,200
Roksan Caspian DSP	0	JUUTT	1,295	Rega EOS		Ph	398	Meridian 562			765	Jadis JP30MC	6	Ph	5.290
Sonic Frontiers Anthem Integrated	0	25W	1,299	Rega Cursa	6	-"	475	Meridian 562V			995	Jadis JPS2	6		6,690
Sony TA-VA777ES	0	100W	1,500	Roksan Artaxerxes 10		Ph	445	Meridian 502	0		1,295	Jadis JP80MC	6	Ph	10,166
T+A R1200R	6	90W	1,750	Rose RV-23	0	Ph	450	Michell Delphini		Ph	895	Jadis JP200MC	6		15,900
Woodside ISA230 Line	6	30W	1,099	Rotel RQ970BX		Ph	150	Michell Orca	0		1,650	Klyne 6LE	9		2,650
Woodside ISA230 Disc	0	30W	1,249	Rotel RC971	0		155	Muse Model 3	•		1,990	Klyne 6PE	6	Ph	2,850
YBA a Integre Line	6	50W	1,095	Rotel RC972	6		250	Musical Fidelity X-LP2/X-PSU		Ph	628	Klyne 7LX SE	6		3,750
YBA a Integre DT Line	6	50W	1,395	Rothwell Indus	0		499	Musical Fidelity X-P100		Ph	800	Klyne 7PX	6	Ph	4,450
OVER £2000				Sunfire Phono		Ph	430	Musical Fidelity F25		Ph	1,500	Krell KRC3	•		2,998
Adyton Opera	0	50W	2,595	Talk Electronics Hurricane 1	0		500	Myryad MP100	0		600	Krell KRC-HR	6		6,949
AMP Flux System 2	8	50W	3,000	Technics SU-C1010	0	Ph	300	NAD S100	0		600	LFD Disc Preamp		Ph	4,499
Arcam Alpha 10 DAVE	0	100W	2,500	Tom Evans Microgroove			399	NAD 118			1,000	Levinson 25S		Ph	2,950
Arcam FMJ A22 DAVE	0	100W	2,850	Trilogy 905			375	Naim NAC92R	0		650	Levinson 380	0		3,995
Aria S8	6	24W	2,950	Trilogy 904		Ph	375	Naim NAC72	6		745	Levinson 380S	0		6,495
Art Audio Integra		25W	2,400	Trilogy 900	0	Ph	499	Naim NAC102	6		1,000	Levinson 32			14,495
Audio Note Meishu Line Audio Note Ongaku		9W	2,750	E501 TO E2000 Advton Chorus			1.005	Quad 99 Pre	0.00020000	Ph	750 998	McIntosh C22 McIntosh C40	0	Ph	2,999
Audio Note Oligaru Audio Research CA50	6	26W	56,000 3,399	Alchemist Kraken Pre	0		1,995	Rega Hal Roksan ROK-L2.5	560 CO CO CO	Ph	1,250	McIntosh C39	0	Ph Ph	4,999 5,999
Belcanto SETi40	6	45W	4,450	Alchemist Forseti Pre	0		999	Rose RV-23S	0	Ph	525	Meracus Pretare	0	Ph	2,195
Belcanto Orfeo 30SI		40W 35W	5,450	Alchemist Signature Pre	0		1,499	Rotel RC995	23500 BANK	Ph	525	Michell Delphini Mono	•	Ph	2,250
Cary CAD-300SEI	0	15W	3,395	Aria Feather One	6		795	Shearne Phase 6 Pre	0		999	Naim NAC82	0	Pn	2,235
Conrad-Johnson CAV-50	NAME OF TAXABLE PARTY.	50W	2,495	Aria Mystery Two	6		1,750	Shearne Phase 1 Pre Ref	0		1,499	Naim NAC52	0		3,450
EAR V20	BEAUTY OF STREET	24W	2,495	Aria Mystery One	6		1,750	Siemel MC20		Ph	650	Pass Labs XOno	o o	Ph	2.995
Gamma Rhythm	6	18W	2,499	Art Audio Vinyl One MM	•	Ph	916	Siemel MM20		Ph	650	Plinius M14		Ph	2,595
Gamma Rhythm Ref		20W	3,499	Art Audio VPS Line	0		963	Siemel TU10	0		1,599	Plinius M16L			2,995
Gamma Moment	1971 Call 1981		19,999	Art Audio Vinyl One MM/MC		Ph	1,307	Siemel TR20	•		1,599	Roksan ROK-L1.5	6		2,250
Jadis DA30		30W	2,690	Art Audio VPS Phono	6	Ph	1,460	Sonic Frontiers Anthem Pre 1P		Ph	899	Rowland Synergy	6		4,999
Jadis DA60		60W	4,483	Art Audio Conductor Phono MC		Ph	2,000	Sonic Frontiers Phono 1		Ph	1,999	Rowland Coherence	0		14,999
Krell KAV300i		150W	2,495	Audio Note M1 Line	01120		550	Sonographe SC26	6		995	Sonic Frontiers Line 1			2,499
Krell KAV300r	0	150W	3,333	Audio Note M1 RIAA		Ph	550	Sugden Audition Pre	6		549	Sonic Frontiers Line 2			3,299
Krell KAV500i	0	250W	5,000	Audio Note M2 Line			999	Sugden Masterclass Pre	0		1,995	Sonic Frontiers Line 3			4,999
Levinson 383	6	100W	5,495	Audio Note Discovery			999	Sumo Athena IIB/II LS	0		987	Sony TA-E1	0		3,000
McIntosh MA6400E		100W	3,999	Audio Note M2RIAA		Ph	1,099	Sumo Athena III	0		987	T+A Pre DA3000			2,640
McIntosh MA6800E		150W	5,999	Audio Prism Mantissa	6		1,995	Sumo Artemis uP	0		1,595	TAG McLaren DPA32R DAB	0	100	2,290
Meracus Onesta		75W	2,595	Audio Research LS8 MkII	0		1,449	Sunfire The Classic	6		1,630	Technics SU-C3000	0	Ph	2,997
Musical Fidelity A1001		200W	2,500	Audio Research PH3		Ph	1,490	T+A P1200R TAG McLaren PA10	0	DI	965 849	Trilogy 918 Tron Nucleus Phono	0	DL	2,775
Pathos Twin Towers Rotel RSP-985/RPB-985		35W	3,250	Audio Synthesis Pro Passion	0	DL	595 995	TAG McLaren PA10 TAG McLaren PPA20	6	Ph	1,499	Tron Nucleus Phono Tron Nucleus Line	6	Ph	3,500 3,500
Rowland Concentra	525.50005	130W	5,500	Audio Synthesis ADQ Disc Stage Audio Synthesis Passion Ultimate	6	Ph	995 995	TAG McLaren PPA20 TAG McLaren PA20R	6	-11	1,499	Tron Retro	6		4,000
Sonus Faber Musica		100W 50W	2,295	Audio Valve Eklipse	8		1,650	TAG McLaren DPA32R	0		1,695	Tron Meteor	6	Ph	5,000
T+A R1500R		135W	2,015	AVI S2000MP	•		949	Talk Electronics Hurricane 2	0		650	Wavac ATT Q	6		4,500
Tube Tech Unisis Sig. Int.	a	30W	2,300	AVI S2000MP+P	6	Ph	1,199	Talk Electronics Hurricane 3	6		900	Wavac PR X1	0		5,075
Tube Tech Synergy PPS	6	150W	6,900	Beam-Echo SP-21	0	Ph	1,116	Talk Electronics Hurricane 4	6		1,550	Wavac ATT S	6		5,750
Wavac MD811		15W	2,995	Bryston BP20			1,126	Talk Electronics Hurricane 5	Ö	130	1,900	Woodside SC26 Line & Phono	0	Ph	2,233
Wavac MD300B-ST	0	10W	5,575	Bryston BP-25			1,326	Thorens TTP-2000F		Ph	699	YBA 1a Line	6	1990	3,095
Wavac MD300B WE	0		6,750	Bryston BP-25P	0	Ph	1,592	Tom Evans The Groove			1,500	YBA Sig. Dual Mono 2	6	10.7	5,870
			10.000	Canary Audio CA-606	0		1,295	Trilogy 901	0		750	YBA Sig. Dual Mono 4	0	Ph	10,000
<b>AMPLIFIERS</b>				Canary Audio CA-601	0		1,595	Trilogy 906		Ph	995				
				Cary SLP-50 Mk II	0		1,195	Trilogy 902	0		1,595	<b>AMPLIFIERS</b>			
PREAMPS				Cary PH-301		Ph	1,695	Tube Tech Seer Line Tube Tech Mac Phono	6	DI	935	<b>POWER AMPS</b>			
KEY				Chord Phono Clearaudio Symphono		Ph	1,898	Tube Tech Mac Phono Tube Tech Prophet		Ph	1,150	KEY AIVIF S	17 Year	S7 (28), 2	VF 260
(etc) - Number of line-	level	nputs		Concordant Exhilerant		Ph	900	van den Hul Pre-amp	6		1,800				
The state of the s				Concordant Exquisite			1,950	Woodside SC27 Line	9		949	'20W' - Rated RMS outp	ut pov	ver per	
Ph – Phono input fitted				Conrad-Johnson PV-10AL	6		995	Woodside SC26 Line			1,557	channel into a nominal 8	Ohm	load.	
(may be an option on some of	ther mo	odels).		Conrad-Johnson PV-10A	6	Ph	1,295	XTC PRE-1	<b>3</b>		1,350		400	Singappe -	
UP TO £500	A STATE OF THE STA	N 230	A (2)	Conrad-Johnson PV-12AL	6		1,990	YBA 3a Line	ø		995	UP TO £500			
J. 10 2300				Conrad-Johnson EF-1		Ph	1,990	YBA 2a Line	6	100	1,450	Arcam Alpha 8P	50W		260
Arcam Alpha 9C	0		400	Conrad-Johnson PF-2	6	Ph	1,990	OVER £2000				Arcam Alpha 9P	70W		400
	AND DESCRIPTION OF THE PERSON	Ph	500	Copland CSA303	6	Ph	1,099	Adyton Temper			2,495	Creek A43	50W	1000	399
Aria Simply Phono	Section 1		495	Copland CTA301 MkII	0	Ph	1,249	Adyton Modus	0		2,695	Creek A52	70W		499
Audio Analogue Bellini		Ph		CR Dev Carmenta	6		659	Art Audio VPS Dual Mono Line	0		2,350	Crimson CS620C	50W		450
Audio Analogue Bellini Audio Note M Zero	6		299			-	699	ATC SCA2			2,999				200000000000000000000000000000000000000
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21	6	Ph	299 499	CR Dev Argento		Ph			2002000			Cyrus XPA	50W		350
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1	6	Ph Ph	438	CR Dev Argento Credo CMP004		Ph	1,246	Atma-Sphere MP-3		Ph	3,795	Cyrus Power	50W		500
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis	6	Ph		CR Dev Argento Credo CMP004 Credo CMP005		Ph		Atma-Sphere MP-3 Atma-Sphere MP-1		Ph Ph	3,795 7,600	Cyrus Power Earmax Headphone	50W 0.1W		500 375
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis Creek OBH-9	6	Ph Ph	438 349 160	CR Dev Argento Credo CMP004 Credo CMP005 Cyrus aCA7	0		1,246 1,876 800	Atma-Sphere MP-3 Atma-Sphere MP-1 Audio Note M3Line	6 1		3,795 7,600 2,650	Cyrus Power Earmax Headphone Earmax Headphone Pro	50W		500
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis Creek OBH-9 Creek P43/R	6 6 0	Ph Ph	438 349 160 350	CR Dev Argento Credo CMP004 Credo CMP005 Cyrus aCA7 Cyrus aEQ7/PSX-R	0 0	Ph	1,246 1,876 800 826	Atma-Sphere MP-3 Atma-Sphere MP-1 Audio Note M3Line Audio Prism Avanti			3,795 7,600 2,650 7,995	Cyrus Power Earmax Headphone Earmax Headphone Pro LFD Mistral Power	50W 0.1W 0.1W 60W		500 375 425 449
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis Creek OBH-9 Creek P43/R Creek P52	6 6 0	Ph Ph Ph	438 349 160	CR Dev Argento Credo CMP004 Credo CMP005 Cyrus aCA7 Cyrus aCQ7/PSX-R Densen Beat B-200	0 00		1,246 1,876 800 826 1,000	Atma-Sphere MP-3 Atma-Sphere MP-1 Audio Note M3Line Audio Prism Avanti Audio Research LS25	6		3,795 7,600 2,650 7,995 4,999	Cyrus Power Earmax Headphone Earmax Headphone Pro LFD Mistral Power LFD PAO Powerstage	50W 0.1W 0.1W 60W 50W		500 375 425 449 499
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis Greek OBH-9 Creek P43/R Creek P52 Cnmson CS610D	6 6 0 6 6	Ph Ph Ph	438 349 160 350 499 475	CR Dev Argento Credo CMP004 Credo CMP005 Cyrus aCA7 Cyrus aEQ7/PSX-R Densen Beat B-200 Densen DM-20	0 0 0	Ph Ph	1,246 1,876 800 826 1,000 1,380	Atma-Sphere MP-3 Atma-Sphere MP-1 Audio Note M3Line Audio Prism Avanti Audio Research LS25 Audio Research REF 1	6		3,795 7,600 2,650 7,995 4,999 8,495	Cyrus Power Earmax Headphone Earmax Headphone Pro LFD Mistral Power LFD PAO Powerstage Magnum MF120	50W 0.1W 0.1W 60W 50W 85W		500 375 425 449 499 365
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis Creek OBH-9 Creek P43/R Creek P52 Cnmson CS610D Cyrus aEQ7	6 6 0 6 6	Ph Ph Ph	438 349 160 350	CR Dev Argento Credo CMP004 Credo CMP005 Cyrus aCA7 Cyrus aCQ7/PSX-R Densen Beat B-200	@ @ @	Ph Ph	1,246 1,876 800 826 1,000 1,380 1,000	Atma-Sphere MP-3 Atma-Sphere MP-1 Audio Note M3Line Audio Prism Avanti Audio Research LS25	6 6 0		3,795 7,600 2,650 7,995 4,999 8,495 4,995	Cyrus Power Earmax Headphone Earmax Headphone Pro LFD Mistral Power LFD PAO Powerstage Magnum MF120 Marantz MA-500	50W 0.1W 0.1W 60W 50W 85W 125W		500 375 425 449 499 365 250
Audio Analogue Bellini Audio Note M Zero Beam-Echo PP-21 Bryston BP1 CR Dev Themis Creek OBH-9 Creek P43/R Creek P52 Cnmson CS610D	6 6 0 6 6	Ph Ph Ph	438 349 160 350 499 475	CR Dev Argento Credo CMP004 Credo CMP005 Cyrus aCA7 Cyrus aEQ7/PSX-R Densen Beat B-200 Densen DM-20 DNM 3 Start		Ph Ph	1,246 1,876 800 826 1,000 1,380	Atma-Sphere MP-3 Atma-Sphere MP-1 Audio Note M3Line Audio Prism Avanti Audio Research LS25 Audio Research REF 1 Audio Valve Fanfare	6		3,795 7,600 2,650 7,995 4,999 8,495	Cyrus Power Earmax Headphone Earmax Headphone Pro LFD Mistral Power LFD PAO Powerstage Magnum MF120	50W 0.1W 0.1W 60W 50W 85W		500 375 425 449 499 365

Moth 30 Stereo	30W	249	Musical Fidelity X-A200	200W		1,000	Chord SPM 600	130W	2,040	Tron Type WE300B Mono	15W	13,100
Moth Phones-01	0.1W	299	Myryad MA240	120W		1,000	Chord SPM 1000B	200W	2,920	Tube Tech Genesis Sig.	100W	4,700
Moth 30 Mono/40 Musical Fidelity X-CANS	40W	469 130	NAD 218THX NAD S200	200W		850 1,400	Chord SPM 1200B	250W	3,790	Tube Tech Synergy DMA van den Hul Power amp	150W	6,400 2,500
Musical Fidelity E30	0.1W 100W	500	Naim NAP140	200W 45W		770	Chord SPM 1200C Chord SPM 1400E mono	330W	4,210 5,650	Wavac MD572	65W 50W	6,250
Musical Fidelity X-A50	50M	500	Naim NAP180	60W		1.112	Chord SPM 5000	500W 580W	14,500	Wavac EC300B	10W	16,500
Myryad T-60	50W	300	Naim NAP135	75W		1,705	Conrad-Johnson MF2250	130W	2,295	Wavac EC838	35W	21,750
Myryad MA 120	60W	500	Naim NAP250	70W		1,705	Conrad-Johnson MF-2500	250W	3,495	Wavac HE 4304	15W	24,750
NAD 912	30W	200	Papworth TVA50	50W		1,425	Conrad-Johnson Premier 11A	70W	3,500	Wavac HE 833	100W	27,500
NAD 214	80 W	370	Parasound HCA-1000A	125W		600	Conrad-Johnson Premier 12	140W	6,900	Wavac HE 805	45W	27,500
NAD 216THX	125W	470	Parasound HCA-1500A	205W		1,000	Conrad-Johnson Premier 8XS	150W	17,000	XTC POW-1	200W	2,500
Naim NAP90/3	30W	460	Quad 99 Stereo Power	85W		550	Conrad-Johnson Premier 8A	275W	17,000	YBA 2a HC Stereo	70W	2,350
Parasound HCA-750A	75W	450	Quad 909	140W		900	CAT JL1		17,550	YBA 3a Mono	45W	2,425
Rega Maia	85W	475	Quad 99 Monoblock	150W		1,300	CR Dev Artemis	35W	4,995	YBA 2a HCDT Stereo	70W	3,050
Rotel RB971 Mk II	70W	225	Rega Exon	125W		598 595	Credo LPO 804		2,456	YBA 1a HC Stereo	85W	4,400
Rotel RB981 Shearne 3.5	130W	355 489	Roksan Caspian Power Roksan ROK-S1.5	70W		1,495	Credo PMP 155 Credo LPO 455		2,676 4,975	YBA 2a HCDT Mono YBA 1a HC Mono	70W	5,000 6,650
Talk Electronics Tornado 1	35W 50W	450	Rose RP-190 (Dual Mode)	70W 75W		550	Credo LPO 455 Credo LPO 155		6,983	YBA Sig. Stereo	85W 100W	6,995
Technics SE-A1010	MANOC	350	Rotel RB991	7000		500	DNM PA3S	23W	2,900		250W	8,775
£501 TO £2000	TOWER THE PERSON NAMED IN		Rotel RB-1090	380W		1,575	Dynavector HX1.2	130W	3,995	YBA Sig. Mono	100W	9,995
Alchemist Kraken Pwr	55W	549	Rothwell Rubicon	10W		949	EAR 86 1	32W	3,599	YBA Sig. HC Mono	100W	16,650
Alchemist Forseti Pwr	150W	1,399	Shearne Phase 3	50W		639	EAR 509 Mk II	100W	3,999			
Alchemist Signature Power	100W	1,999	Shearne Phase 3 Reference	50W		749	EAR 519	100W	4,699			
Arcam Alpha 10P	100W	600	Shearne Phase 5 Mono	100W		1,598	EAR 549	200W	6,499			
Aria Power 35	35W	1,500	Sonic Frontiers Anthem Amp 1	40W		1,299	Exposure IV	90W	2,199			<b>医</b>
Art Audio Quartet	15W	1,753	Sonographe SA250	125W		1,195	Exposure XVI	125W	4,000			
Art Audio Concerto	25W	1,960	Sonographe SA400	220W		1,695	Gamma Aeon	20W	4,999			
Audio Analogue Donizetti	60W	595	Sugden Audition Power	田田田		549	Gamma Space Ref	18W	7,999			
Audio Note The P	40W	550	Sugden A21a Power	25W		649	Gamma Aeon Ref	CONTRACTOR OF THE PARTY OF THE	49,999			
Audio Note P Zero	8W	599 750	T+A A1210 T+A PA1220R	90W		875	Gate TR201A	22W	3,335	CONTRACTOR OF THE PARTY OF THE		(1) 经营业
Audio Note P1 Audio Note P1SE	12W	999	T+A A1500	MACAN		1,535	Golden Tube Audio SE-100 Graaf GM20	100W	2,495		- 1	
Audio Note P2	12W 20W	1,000	T+A PA1500R	140W 135W		1,665	Graaf GM100	60W 100W	4,450			
Audio Note P2SE	18W	1,499	TAG McLaren 60P	60W		849	Jadis DA8	80W	2,990	SECOND SECOND		
Audio Note Conqueror	8W	1,599	TAG McLaren 100P	100W		1,099	Jadis DA7	100W	4,790	William Control of the State of	9/81-11-	E STATE OF
Audio Prism Antares	35W	1,695	Talk Electronics Tornado 2	65W		600	Jadis JA30	30W	5,180		Own	
Audio Research D130	130W	1,890	Talk Electronics Tornado 3	100W	7.60	750	Jadis SE300B	10W	7,980	CABLES		
Audio Research VT60	35W	1,999	Talk Electronics Tornado 4	110W		1,100	Jadis JA80	60W	9,580	Analogue Interc	onna	cts
Audio Valve RKV	0.1W	595	Thorens TTA-2000	30W		599	Jadis JA100	W001,	10,298		Jillie	cus
Audio Valve PPP25	25W	1,095	Trilogy 948	50W		1,895	Jadis JA200		13,980	KEY		
Audio Valve PPP45	45W	1,395	Trilogy 948T	22W		1,895	Jadis JA500	400W	19,990	Stranded construction	n.	
AVI S2000MM	150W	1,399	Tube Tech Unisis Sig. Pwr	30W		1,900	Krell KAV250a	250W	3,145	<ul><li>Solid-core constructi</li></ul>		
Beauhorn Obligato	7W	1,695	Woodside SA240	40W		1,199	Krell KAV500/2	100W	3,195			
Bryston 2B-LP	75W	750	Woodside MA100	100W		1,733	Krell FPB200	200W	5,998	Prices of interconnects ar	e	
Bryston 3B-ST PRO	150W	1,160	Woodside STA50	50W		1,880	Krell FPB250m	250W	8,994	for a one-metre terminate	ed pair.	
Bryston 3B-ST	150W	1,160	XTC POW-2	150W		1,600	Krell FPB300	300W	9,500			
Bryston THX3B	150W	1,262	YBA 3a DT Stereo	45W	2000	1,455	Krell FPB600	600W	12,900	Acoustic Precision Eikos	0	89.00
Bryston 4B-ST PRO	300W	1,756	OVER £2000		May.	7 405	Krell FPB350m	STATE OF THE PARTY	15,994	Argento Copper I/C	•	120.00
Bryston 7B-ST Bryston 7B-ST PRO	500W	1,815 1,815	Adyton Cordis 1.6 Adyton Cordis 3B	120W	100	3,495 12,995	Krell FPB650m Lexicon 225		23,800	Argento Silver I/C	•	255.00
Bryston THX4B	500W	1,850	Aria Smart 845	280W		3,500	Lexicon 501	250W	2,500 5,000	Argento VDM Silver Art Yam Church 5000	•	865.00
Bryston THX7B	300W 500W	1,886	Aria Smart 300B	24W 24W		4,250	Linn Klout	500W 80W	2,400	Audio Note AN-A	0	515.00
Canary Audio CA-706	40W	1,695	Art Audio Symphony	7W		2,500	Linn Klimax 500	500W	11,200	Audio Note AN-C	69	35.00
Canary Audio CA-708	50W	1,950	Art Audio Tempo	30W		2,714	Lumley M125	120W	3,750	Audio Note AN-S	8	99.00
Chord SPM 400	100W	1,565	Art Audio Maestro	60W		3,884	Lumley M250	250W	7,500	Audio Note AN-V	0	179.00
Conrad-Johnson MV-55	50W	1,995	Art Audio Diavolo	13W		4,000	Magnum Class A mono	180W	2,450	Audio Note AN-Vx	•	450.00
Copland CSA515	150W	1,299	Art Audio Jota	18W		6,000	Magnum A200SE	275W	3,750	Audioquest Jade	CONTRACTOR OF THE PARTY OF THE	37.00
Copland CTA505	67W	1,899	Art Audio Ellesse	100W		8,500	Mana Stealth	300W	4,800	Audioquest Turquoise		<ul><li>60.00</li></ul>
CR Dev Amphion	12W	1,949	Art Audio Chiara	25W		10,000	Levinson 334	125W	5,495	Audioquest Topaz		<ul><li>80.00</li></ul>
Credo PMP 804		1,876	ATC SPA2-200PRO	200W		2,056	Levinson 335	250W	7,495	Audioquest Coral	0	100.00
Creek A52SE	100W	599	ATC SPA2-150	200W		2,699	Levinson 336	350W	8,995	Audioquest Viper		<ul><li>160.00</li></ul>
Crimson CS630D	100W	850	Atma-Sphere S-30 Mk II	30W		2,450	Levinson 33H	150W	19,395	Audioquest Python		395.00
Crimson CS640D	200W	1,300	Atma-Sphere M-60 Mk II	60W	10.0	4,195	McIntosh MC150	150W	3,499	Audiosource Petros Blue	•	48.00
Cyrus aPA7 Densen B-300	100/4	900	Atma-Sphere MA-1 Mk II Audio Note P3	150W		7,995 2,150	McIntosh MC300 McIntosh MC500	300W	3,999 8,999	Audiosource Petros Blue Plus	•	58.00
Densen DM-30	100W	1380	Audio Note Quest	9W 9W		2,750	McIntosh MC1000	500W 999W	14,999	Audiosource Stratos Ser. 2	0	125.00
DNM PA Start	45W	1,000	Audio Note Yubi	18W		3,850	Meracus Tentare	75W	2,245	Cable Talk Improved 3  Cable Talk Improved 3/Tape	0	25.00 45.00
DNM PA1 Start	45W	1,300	Audio Note Conquest	18W		4,450	Meracus Cantare	-W	8,995	Cable Talk Monitor 3	0	50.00
DNM PA3	50W	1,900	Audio Note Tomei	30W		8,500	Muse Model 160 Ser. II	160W	2,290	Cable Talk Professional 3	0	75.00
DPA Enlightenment pwr	100W	995	Audio Note Neiro	7W		11,360	Muse Model 150	125W	2,690	Cable Talk Broadcast 3	0	100.00
Dynavector HX75	75W	1,995	Audio Note Ankoru	60W		14,500	Muse Model 175 Ser. II	175W	3,490	Cable Talk Reference 3	•	150.00
Exposure XVIII Super	75W	900	Audio Prism Debut Mk II	35W		2,495	Muse Model 300 Ser. II	300W	3,990	Cable Talk Signature 3 Gold	•	300.00
Exposure XVIII Mono	60W	1,800	Audio Prism Mana	100W		12,995	Musical Fidelity F16	200W	2,500	Cambridge Atlantic	0	10.00
Golden Tube Audio SE-40	40W	1,100	Audio Research VT50	50W		2,950	Musical Fidelity NuVista 300	350W	3,300	Cambridge Arctic	0	20.00
Golden Tube Audio SE-300B MkII	and the same of	1,790	Audio Research 100.2	100W		3,395	Musical Fidelity F19	300W	4,000	Cambridge Pacific	0	30.00
Graaf Venticinque P Graaf 5050	25W	1,395 1,995	Audio Research VT100 MkII Audio Research VT200	100W		4,950 8,790	Papworth M100 Papworth M200	100W	2,645 3,825	Cambridge Studio Reference	0	40.00
Hi Q Sound MCM	50W 70W	715	Audio Synthesis Desire Decade	200W		2,495	Plinius SA50/3	200W	2,750	Cambridge Silver Spirit 40	•	70.00
Jadis DA5	40W	1,749	Audio Valve Avalon	200W 60W	758	2,495	Plinius SA100/3		3,450	Cambridge Silver Spirit 60		100.00
Krell KAV150a	150W	1,990	Audio Valve Challenger 115	115W		2,995	Plinius SA250/3		5,850	Cardas Audio 300B-Microtwin Cardas Audio Quadlink-Five	0	115.00 200.00
Lexicon 212	120W	1,850	Audio Valve Challenger 140	140W		3,495	Roksan ROK-M1.5	160W	2,250	Cardas Audio Cardas Cross	•	360.00
LFD PA1 Powerstage	60W	999	Audio Valve Challenger 300	300W	1900	7,995	Rowland Model 2	75W	4,999	Cardas Audio Hexlink-Five C	0	530.00
LFD PA2 Powerstage	75W	1,599	Audio Valve Baldur 200 Plus	149W		8,995	Rowland Model 6	150W	10,999	Cardas Audio Hexlink Golden-5 C	0	600.00
LFD PA2M Powerstage	90W	1,999	Audiolabor 500	230W		5,998	Rowland Model 8T	250W	12,499	Cardas Audio Golden Cross	0	700.00
Linn LK100	50W	650	Beam-Echo DL7-35	30W		3,525	Rowland Model 9T		27,999	ChordCo Chrysalis	0	40.00
Linn LK240	120W	750	Belcanto SET40	40W		3,450	Sharp SM-SX1000	165W	10,000	ChordCo Cobra 2	0	55.00
Linn AV5105	100W	1,200	Belcanto Orfeo 30S	35W		4,750	Shearne Phase 1 Pwr Ref	100W	2,399	ChordCo Siren	•	69.00
Lynwood Ruby Magnum ME330	120W	985 685	Belcanto SET80 Border Patrol 300B SE	80W	100	6,750	Siemel TA20	50W	2,350	ChordCo Chameleon 2	0	90.00
Magnum MF330 Magnum MF660	150W	825	Border Patrol 300B SE (WE)	9W 10W		4,495	Sonic Frontiers Power 1 Sonic Frontiers Power 2	55W	2,499	ChordCo Solid		<ul><li>125.00</li></ul>
Magnum A500SE	125W 200W	1,485	Boulder 102AE	100V		2,800	Sonic Frontiers Power 2 Sonic Frontiers Power 3	110W	4,999 8,599	ChordCo Chorus	•	199.00
Magnum A50SE	200W	1,485	Boulder 102M	100W		3,100	Sony TA-N1	220W	4,500	ChordCo Anthem	0	275.00
McIntosh MC7100	100W	1,999	Boulder 500AE	150W		4,995	Sugden Masterclass Power	200W 75W	2,995	Clearaudio Trident	0	85.00
Meracus Ciere	60W	1,095	Boulder 500ML	150W		5,500	Sunfire Load Invariant	300W	2,280	Clearaudio Phocus	0	215.00
Meridian 555	60W	750	Boulder 2060	600W		25,000	Sunfire Signature	600W	2,600	Clearaudio Silverline Clearaudio Quint	0	265.00 320.00
Meridian 556	100W	895	Boulder 2050	999W		43,500	T+A A3000	190W	2,850	Clearaudio Quint Clearaudio Sixstream	•	365.00
Meridian 557	200W	1,400	Bryston THX8B	150W		2,385	TACT Millenium II	150W	7,000	Connections UK Ultra	0	28.00
Meridian 505	160W	1,590	Canary Audio CA-304	40W		2,695	TAG McLaren 125M	125W	2,399	Connections UK Midas	6	39.00
Michell Alecto Stereo	50W	1,150	Canary Audio CA-301	22W		2,995	Talk Electronics Tornado 5	200W	2,100	Connections UK HD	•	46.00
Michell Alecto Mono	1000//	1,950	Canary Audio CA-303	24W		5,495	Trilogy 958T	45W	3,395	DBF Acoustics Black Velvet	0	30.00
Maria da Arta D	Section 1	0.0000000000000000000000000000000000000	C CAD									
Monrio Asty P	100W	950	Cary CAD-572SE	20W		2,250	Trilogy 958	100W	3,395	DBF Acoustics Black Velvet SE	•	40.00
Moth Stereo 60	100W 60W	950 599	Cary CAD-2A3.SE	5W		3,150	Tron Type PX25	5W	6,150	DBF Acoustics Black Velvet SE DBF Acoustics Azure SE		75.00
Moth Stereo 60 Moth 30 Mono/100	60W 100W	599 879	Cary CAD-2A3.SE Cary CAD-300SE	5W 20W		<b>3,150 4,495</b>	Tron Type PX25 Tron Type WE300B	5W 8W	6,150 6,550	DBF Acoustics Black Velvet SE DBF Acoustics Azure SE DNM-Reson TCC75	0	75.00 40.00
Moth Stereo 60	100W 60W 100W 100W	950 599 879 1,490	Cary CAD-2A3.SE	5W		3,150	Tron Type PX25	5W	6,150	DBF Acoustics Black Velvet SE DBF Acoustics Azure SE	0	75.00





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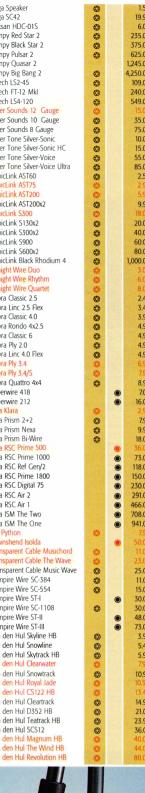
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Audioquest Gibraltar Audioquest Caldera	Hele		65.00 120.00
Cable Talk Theatre 2.1	•		1.75
Cable Talk Flat 1 Cable Talk Talk 3.1	<b>**</b>		2.00 2.50
Cable Talk Flat 1 Biwire  Cable Talk Talk 4.1	<b>©</b>		4.00 4.50
Cable Talk Talk 3.1 Biwire	•		5.00
Cable Talk Flat 2 Cable Talk Concert 2.1	<b>**</b>		5.00 8.00
Cable Talk Talk 4.1 Biwire Cable Talk Flat 2 Biwire	•		9.00
Cable Talk Symphony 3	0		10.00 14.00
Cable Talk Concert 2.1 Biwire Cardas Audio 300B-Microtwin SC	•		16.00 35.00
Cardas Audio Quadlink-Five SC Cardas Audio Cross SC	•		59.00 99.00
Cardas Audio Hexlink-Five SC	0		109.00
Cardas Audio Hexlink Golden5 S Cardas Audio Golden Cross SC	C 😁		175.00 789.00
ChordCo Carnival	•		3.00
ChordCo Myth ChordCo Legend	•		6.00 15.00
ChordCo Odyssey DNM-Reson LSC	•		17.00 6.95
DNM-Reson LSCB		•	13.95
Ecosse Ref FS2.16 Ecosse Ref CS2.2	•		1.75 2.50
Ecosse Ref CS2.3 Ecosse Ref CS2.15	•		3.75 5.75
Ecosse Ref MS2.2	0		15.00
Ecosse Ref MS2.3 Ecosse Ref MS2.15	•		20.00 30.00
Ecosse Ref US2 Electrofluidics Monolith 2020		0	450.00 45.00
Gale XL105	•		1.00
Gale XL189 Gale XL315	<b>**</b>		1.00 2.00
Gale XL160-2 Gale XL315-2	<b>***</b>		2.50 3.99
Gamma Wonder Line	•		99.00
Goertz M1 Goertz M2		<ul><li></li></ul>	16.00 32.00
Goertz Big Boy Harmonix Harmonic-Strings		•	64.00 30.00
Harmonix HS-101T-1			56.00
Harmonix HS-101SC lxos 607	•		88.00 2.00
lxos 6004 lxos Gamma 6003	0		3.00 3.00
lxos 605	•		3.00
lxos Gamma 6006 Kimber 4PR	0		5.00 5.00
Kimber 4VS Kimber 4TC	•		9.00 19.60
Kimber 8TC	<b>0</b>		32.70
Kimber 4AG Kimber 8AG	•		394.00 656.00
LAT International SS 800 LAT International BIWIRE	•		16.00 23.00
LAT International SS 1000	0		36.00
Lieder Pad Lieder Bel Canto	•		133.00 188.00
Lieder Spoor Lieder Straat	0		253.00 463.00
Lieder Weg	•		663.00
Linn K20 Linn K400	•		4.00
Linn K600 Lumley Silver 12/2	0		15.00 35.00
Lumley Silver 14/4	0		40.00
Monster XP Clear Monster XP Navajo			2.20 2.40
Monster Superflat Mini Monster XP HP	•		2.75 3.70
Monster Original	•		4.40
Monster New Monster Naim NAC A5	<b>©</b>		5.50 5.70
Nordost Octava Nordost 4-Flat			3.00 9.95
Nordost Solar Wind Bi-wire	•		27.95
Nordost Blue Heaven Spkr Nordost Red Dawn	•		58.95 110.00
Nordost SPM Ortofon SPK100	<b>©</b>		325.00 3.00
Ortofon SPK200	0		5.00
Ortofon SPK300 PHY-HP Speaker	•	•	8.00 40.00
Precious Metals SL32 Precious Metals SL102	<b>0</b>		7.50 10.00
Precious Metals SL34 Precious Metals SL104	•		15.00 20.00
Precious Metals SL106	0		30.00
Precious Metals SL108 Profigold Silverflex LC8258	<b>©</b>		40.00 4.00
Prowire Out of Sight QED QED Micro		•	1,99
QED QED Micro Bi-wire	0		1.50 3.00
QED QED Mk II Bi-wire QED QED Silver Anniv.	0		4.85 5.00
QED Profile 4x4 QED Profile Silver 12	0		9.00 15.00
QED Genesis S'r Spiral	0		30.00
QED G's S'r Spiral B/W	•		60.00
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#### **CARTRIDGES** MM - Moving-magnet type. MC - Moving-coil type.

MEN CHARLES TO SELECT THE SELECT		
Audio Note IO1	MM	9
Audio Technica AT-91	MM	
Audio Technica AT-95E	MM	2
Audio Technica AT-110E	MM	7
Audio Technica AT450E	MM	2
Audio Technica AT440ML	MM	9
Benz-Micro MC20EII	МС	
Denon DL110	MC	
Denon DL160	MC	c
Denon DL103	MC	10
Goldring Elan	MM	
Goldring Elektra	MM	2
Goldring 1006	MM	6
Goldring 1012GX	MM	
Grado Prestige Black		4
Grado Prestige Green	MM	
Grado Prestige Blue	MM	6
	MM	
Grado Prestige Red	MM	9
N'ham Tracer I Ortofon OM 3F	MM	9
Ortofon OM 5E	MM	
	MM	2
Ortofon OM 10 Ortofon 510	MM	
	MIM	
Ortofon OM DJ	MM	5
Ortofon OM 20	MM	
Ortofon 520	MM	
Ortofon MC1 Turbo	MC	
Ortofon Concorde DJ	MM	8
Ortofon OM 30	MM	9
Ortofon 530	MM	10
Pickering TE-15	MM	2
Pickering VE-15	MM	2
Pickering T-E	MM	2
Pickering V15-DJ	MM	2
Pickering TL-E	MM	3
Pickering TL-2E	MM	4
Pickering XV15-625E	MM	5
Pickering XV15-150-DJ	MM	5
Pickering TL-2-S	MM	5
Pickering XV15-757S	MM	6
Pickering XV15-625DJ	MM	6
Pickering XV15-1800S	MM	7
Pickering TL3S	MM	8
Pickering XEV-3001E	MM	9
Pickering XLZ-3500	MM	10
Pickering TL-4-S	MM	10
Rega Bias	MIM	4
Rega RB78	MM	4
Rega Super Bias	MM	6
Rega Elys	MM	8
Shure SC35C Shure M44G Pro	MM	3
Shure M44G Pro Shure M447 Pro	MM	4
Stanton 500AL II	MM	5
Stanton 500EL	MM	3
	MM	
Stanton 680AL/X Stanton 680EL/X	MM	5
Sumiko Oyster	MM	3
Sumiko Oystei Sumiko Black Pearl	MM	5
Sumiko Pearl	MM	7
Sumiko Blue Point	MM	10
Julia Dile Pulli	MC	10

Allaerts MC1 Eco

SonicLink Digital Optical

MC

Allaerts MC1 B Allaerts MC1 B MklI MC MC 1 995 Allaerts MC2 Finish 2,995 139 795 Audio Note IO2 MM Audio Note Soara MC Audio Note IO1V 1,095 Audio Note IOI td MC 4,500 MC MC MC MC MC Audio Technica AT-33PTG 489 Benz-Micro The Glider 600 Benz-Micro Reference 1,100 500 Renz-Micro Reference Ruby Benz-Micro Ruby Open Air 1,600 Clearaudio Alpha Mk 2 MM MM 135 190 Clearaudio Beta Mk 2 250 295 Clearaudio Beta-S Mk 2 MM Clearaudio Virtuoso MM Clearaudio Sigma 590 MC 810 Clearaudio Camma-S MC MC MC MC MC 960 Clearaudio Victory Clearaudio Signature 1,540 2,515 Clearaudio Accurate Clearaudio Insider Clearaudio Insider Ref. 6,810 MC MC Dynavector 10X4II 189 Dynavector DV20XH 299 Dynavector DV20XL MC 299 Dynavector 17D2 Dynavector XX-1L Dynavector XX-1 Dynavector Te-Kaitora Goldring 1022GX Goldring Eroka LX Goldring Eroica Goldring 1042 Grado Prestige Silver 119 Grado Prestige Gold Koetsu Red T 1,359 MC MC MC MC MC 1,899 1,999 Koetsu Red K Sig Koetsu Urushi Koetsu Signature 2,999 Koetsu Gold PR 5 498 Linn Klyde MC MC 500 Linn Arkiv 1,000 London Decca Maroon London Decca Gold 359 MM London Decca Maroon Dp MM 379 London Decca Gold Dp 439 MM London Decca S Gold Dp MM 519 London Decca Jubilee 999 Lyra Clavis Da Capo Lyra Parnassus DCt N'ham Tracer II 310 MM N'ham Tracer III MM 410 N'ham Tracer IV 660 MM Ortofon MC15 Super II Ortofon 540 Ortofon MC3 Turbo Ortofon MC25F Ortofon MC10 Supreme 450 Ortofon MC20 Supreme MC Ortofon MC2000II MC 800 Ortofon MC Rohmann Ortofon MC3000 II MC MC Ortofon MC Jubilee 1.250 Ortofon MC7500 2,000 Pickering TL-3003 145 Pickering XLZ-4500 150 MM Pickering TL-4004 MM Pickering XSV-5000U MM MM 200 Pickering XLZ-7500 200 MM 200 150 Pickering TLZ-7500-S Rega Super Elvs Rega Exact MM 195 Reson Mica MM Reson Aciore 330 MC MC Reson Etile 485 Reson Lexe 1,300 Roksan Corus Black Roksan Shiraz 995 MC Shure V15XMR 295 Stanton 890AL/X MM 120 MC MC 950 Transfiguration Esprit Transfiguration Spirit Transfiguration Temper Supreme MC 2,250 van den Hul DDT-II van den Hul MC-10 van den Hul MC-One van den Hul MC-ONE Super 1,050 MC van den Hul MC-Two van den Hul The Frog Low o/p van den Hul The Frog HO MC 1,700 van den Hul Grasshopper IIISLN 2,000 van den Hul Grasshopper IIISLA

van den Hul White Beauty S-X	ě
van den Hul White Beauty HO	
van den Hul Grasshopper IIIGLN	18
van den Hul Grasshopper IIIGLA	
van den Hul Grasshopper IIICMN	
van den Hul Grasshopper IIICHN	
van den Hul Grasshopper IVGLA	
van den Hul Black Beauty	
Wilson Benesch Matrix	
Wilson Benesch Analog	
Wilson Benesch Carbon	

MC	2,500
MC	2,500
MC	2,800
MC	2,800
MC	2,800
MC	2,900
MC	3,000
MC	3,000
MC	786
MC	1,572
MC	1,573



#### CASSETTE DECKS

- Autoreverse - no need to remove and turn around the tape. 3-H - 3 heads, i.e. separate record and replay heads.

#### UP TO £200

Ariston WX-510			
Denon DRM-555	_		
Denon DRW-585	_		2
H/K DC520	_		2
JVC TD-X372BK			
JVC TD-R472BK	-		
Kenwood KX-W4080	=		
Kenwood KX-3080			1
Kenwood KX-W6080	-		2
Kenwood KX-5080S			2
Marantz SD-455	-		
Marantz SD-57			
Onkyo K 185	-		2
Pioneer CT-W208R	=		1
Pioneer CT-S250			1
Pioneer CT-W606DR	-		2
Sony TC-KE240			1
Sony TC-WE435	-		1
Sony TC-WE635	=		1
Sony TC-KB820S			1
Sony TC-WE835	-		2
Teac W-416			1
Teac V-615			1
Teac RH-300	-		1
Teac W-790R	-		1
Teac V-1050		3-H	
Teac RH-500	-		2
Technics RS-BX501	-		
Technics RS-TR373	=		1
Technics RS-TR474	-	1	2
Technics RS-AZ6		3-H	2
Yamaha KX-393			1.
Yamaha KX-W321			1
Yamaha KX-493			1

	3-Н	2
		3364
	3-H	2
-		3
		2
		2
-		3
	3-H	8
		2
-		2
-		3
		3
		3
-		3
-		3
	3-H	4
$\Rightarrow$		3
		2
	3-H	6
-	3-H	1,1
-		2
-		4
	3-H	5.
300	3-H	6
	3-H	2
-		21
	1 111 1 11 11 1 1	3-11



#### CD PLAYERS

 ■ Multiplayer: can be loaded with more than one disc. 1010 - Electrical (coaxial) digital output. Many players also include an

UP TO £250			
Ariston CDX700			50
Ariston CDX710	251511		70
Ariston CDX720			80
Cambridge CD5			100
Cambridge D100			120
Cambridge CD4		<b>110</b>	150
Cambridge CD4SE		1010	200
Cambndge D500		1010	200
Denon DCD-435			130
Denon DCD-655			180
Denon DCD-735			230
Eclipse CD101a			40
H/K FL8350	<b>■</b>	1010	200
H/K HD720		1010	230
JVC XL-V120BK			110
JVC XL-V130BK			120
JVC XL-V230BK	10000		140
JVC XL-F116BK	■ •		180
JVC XL-F216BK	■>		200
JVC XL-Z574BK			250
Kenwood DP-1080			110
Kenwood DP-2080		7 5	130
Kenwood DP-R3090	■		140
Kenwood DP-R4090	■		160
Kenwood DP-3080			
Kenwood DPF-3010		_	180
Kenwood DPF-3030		<b>110</b>	180
Kenwood DPF-R6030	=	10	180
Kenwood DP-R6090	=>		200
Kenwood DP-4090		1010	250
Marantz CD-38		1	130

Marantz CD6000
NAD C520
NAD 522
NAD 510
NAD 524
NAD 523
NAD 512
Onkyo DX-7222
Pioneer PD-107
Pioneer PD-207
Pioneer PD-F607
Pioneer PD-M603
Pioneer PD-F1009
Pioneer PD-F958
Pioneer PD-F706
Sansui CD220
Sherwood CD-4030R
Sherwood CDC680
Sherwood CDC6050R
Sony CDP-XE220
Sony CDP-XE330
Sony CDP-M305
Sony CDP-XE530

Marantz CD5000 Marantz CC3000 Marantz CC-38

Marantz CD-57

Pioneer PD-F958 Pioneer PD-F706 Sansui CD220		
Sherwood CD-4030R Sherwood CDC680	<b>■</b>	1001
Sherwood CDC6050R	=	1001
Sony CDP-XE220	40000	
Sony CDP-XE330		
Sony CDP-M305		
Sony CDP-XE530		
Sony CDP-CE435	<b>■</b>	
Sony VDP-CE740E		101
Sony CDP-CX235	■>	
Synergy CDJ1210		
Teac CDP-1120		
Teac CD-P1820		
Teac CD-P1440		
Teac CD-P3450SE		
Teac PD-D2400	■	
Teac PD-H500i		101
Technics SL-PG390A		101
Technics SL-PG490A		101
Technics SL-PG590A		101
Technics SL-PD6	■>	1010
Technics SL-PD8	<b>■</b>	1010
Technics SL-PS7		101
Technics SL-PS670D Technics SL-PS770D		1010
Technics St-rs7/00	-	1010

Yamaha CDX-396 Yamaha CDC-575 Yamaha CDX-496 Yamaha CDX-675 Yamaha CDX-596	<b>⇒</b>	1010	1: 10 10 2: 2
£251 TO £500	1200		
Arcam Alpha 7 SE		1010	3
Arcam Alpha MCD		Street Street	3. 51
Arcam Alpha 8SE Cambridge CD6		1010 1010	3
Cyrus dAD1.5		1010	40
Denon DCD-835		1010	28
Denon DCM-260	■	EFFE	30
Denon DCD-1550AR H/K HD740		100 10 100 10	30
H/K FL8550	■>	1010	30
H/K HD760 JVC XL-Z674BK		1010 1010	50
Kenwood DP-R7080	■	1010	30
Kenwood DP-9090		1010	30
Kenwood DP-5090 Kenwood DP-7090		1010	30
Marantz CD-67SE Mkll		10010 10010	30
Marantz CD6000 OSE		<b>111</b> 10	30
Marantz CC-870	■	1010	40
Marantz CD-63IIKI Marantz CD6000 KI		100 10 100 10	40 50
Musical Fidelity E60		1010	30
Musical Fidelity A2 CD		1010	50
Musical Fidelity E624 Myryad T-10		1010 1010	50 40
NAD 513	■	Mario	29
NAD C540		1010	32
NAD 515 NAD 514	■>	100 10 10 10 10 10 10 10 10 10 10 10 10	35 37
NAD 517	■	1010	40
Nakamichi MB10	■>	1010	40
Onkyo DX 7210 Onkyo C721		1010 1010	26 29
Onkyo DX 7511		1010	30
Onkyo DXC 320	<b>■</b>		38
Onkyo CM 716 Parasound C/DP-1000	■	1010	45 49
Philips DVD750	- ■>	1010	40
Pioneer PD-F1007	■		30
Rega Planet Roksan Kandy		1010	47
Rotel RCD-951		1010	35
Rotel RCD-971 Rotel RCC-955		1010	45 50
		10010	30
Sony CDP-XB930E Sony CDP-CX450	=' <b>⇒</b>	1010	
Sony CDP-XB930E Sony CDP-CX450 Sony CDP-X3000ES	<b>=</b>	100 100 100 100 100 100 100 100 100 100	30 40 50
Sony CDP-XB930E Sony CDP-CX450			30
Sony CDP-X8930E Sony CDP-CX450 Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000	<b>=</b>	1010 1010	30 40 50 30 30
Sony CDP-XB930E Sony CDP-CX450 Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 E501 TO £1000 Acurus ACD11	<b>=</b>	E010	30 40 50 30 30 30 89 60
Sony CDP-XB930E Sony CDP-CX450 Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9	<b>=</b>	1010 1010	30 40 50 30 30 30 89 60 80
Sony CDP-XB930E Sony CDP-X3450 Sony CDP-X3400ES Synergy CDI2010 Technics SL-MC7 ES01 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini	<b>=</b>	1010 1010 1010 1010 1010	30 400 50 300 30 899 600 800 756
Sony CDP-XB930E Sony CDP-CX450 Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1	<b>=</b>	1010 1010 1010 1010 1010 1010	30 40 50 30 30 30 89 60 80
Sony CDP-XB930E Sony CDP-X3450E Sony CDP-X3450E Synergy CDI2010 Technics SL-MC7 #501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession	<b>=</b>	1010 1010 1010 1010 1010	30 40 50 30 30 89 60 80 75 59 99 99
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomea Obsession AVI \$2000MC 24 Ref	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	30 40 50 30 30 89 60 80 75 59 99 99 99 99
Sony CDP-XB930E Sony CDP-CX450 Sony CDP-X3000ES Synergy CDJ2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	30 40 50 30 30 89 60 80 75 59 99 99
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD3 Cyrus dAD3 Cyrus dAD3 Cyrus dAD3 Q24	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 300 300 899 600 800 755 999 999 999 599 600 900
Sony CDP-XB930E Sony CDP-CX450 Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 £501 TO E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomaca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 300 300 899 600 800 755 999 999 999 600 700
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD3 Cyrus dAD3 Cyrus dAD3 Cyrus dAD3 Q24	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 300 300 899 600 800 755 999 999 999 599 600 900
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomaca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 899 600 800 756 599 999 999 999 600 900 700 950 575 700
Sony CDP-XB930E Sony CDP-X3500E Sony CDP-X3500ES Synergy CDI2010 Technics SL-MC7 F501 T0 £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD3 Cyrus dAD3 Cyrus	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	893 604 803 755 993 995 995 599 995 599 700 700 950 950 950 950
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomaca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 899 600 800 756 599 999 999 999 600 900 700 950 575 700
Sony CDP-XB930E Sony CDP-X3000ES Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 F501 T0 £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD3 Cyrus dAD3 Cyru	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 899 600 899 999 999 999 990 700 700 700 897 700 897 700 897 700 897 897 897 897 897 897 897 897 897 897
Sony CDP-XB930E Sony CDP-X300ES Synergy CDJ2010 Technics SL-MC7 ES01 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cy	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 893 999 999 999 999 900 950 950 950 950 950
Sony CDP-XB930E Sony CDP-X3000ES Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 F501 T0 £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD3 Cyrus dAD3 Cyru	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 899 600 899 999 999 999 990 700 700 700 897 700 897 700 897 700 897 897 897 897 897 897 897 897 897 897
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 ES01 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dA	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 899 600 899 999 999 999 995 599 600 700 955 875 995 995 800 799 800 799 800 800 800 800 800 800 800 800 800 8
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7  £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomea Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 899 600 999 999 999 600 900 700 955 955 955 955 956 956 957 957 958 959 959 959 959 959 959 959 959 959
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7  #501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note CD1 Audio Note CD1 Audio Note CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 C24 Denon DCD-1650AR DPA Renaissance int CD Ezo FOG Helios Model 3 Helios Model 2 Linn Mimik Linn Genki Magnum CD2020 Marantz CD-17 II Musical Fidelity AS CD Myryad MC100 Quad 99	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 300 300 599 999 999 999 999 999 999 999 999 9
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7  £501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomera Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dA	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 300 300 300
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7  #501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note CD1 Audio Note CD1 Audio Note CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 C24 Denon DCD-1650AR DPA Renaissance int CD Ezo FOG Helios Model 3 Helios Model 2 Linn Mimik Linn Genki Magnum CD2020 Marantz CD-17 II Musical Fidelity AS CD Myryad MC100 Quad 99	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 300 300 599 999 999 999 999 999 999 999 999 9
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 ES01 TO E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 500 300 300 300 599 999 999 999 900 700 950 800 800 700 800 800 700 895 800 800 700 800 800 800 800 800 800 800
Sony CDP-XB930E Sony CDP-X3000ES Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 F501 T0 €1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus MOS Q24 Denon DCD-1650AR DPA Renaissance int CD Ezo FOG Helios Model 3 Helios Model 2 Linn Mirmik Linn Genki Magnum CD2020 Marantz CD-17 II Musical Fideliny X-RAY Musical Fideliny X-RAY Musical Fideliny A3 CD Myryad Cameo Myryad T-20 Myryad Cameo Myryad T-20 Myryad MC100 Quad 99 R-20 D20 Roksan Caspian Rotel RCD-991 Sony CDP-XA555ES Sugden Audition	<b>■</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 599 999 999 995 5995 5
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7 ES01 TO E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI S2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dAD	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 889 999 999 9995 9995 995 800 955 800 800 700 958 800 800 800 800 800 800 800 800 800 8
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X3000ES Synergy CDJ2010 Technics SL-MC7 F501 T0 €1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD3 Cyrus dAD3 Cyrus MOS Q24 Denon DCD-1650AR DPA Renaissance int CD Ezo FOG Helios Model 3 Helios Model 2 Linn Mirmik Linn Genki Magnum CD2020 Marantz CD-17 II Musical Fidelity X-RAY Musical Fidelity A3 CD Myryad Cameo Myryad Cameo Myryad Cameo Myryad Gameo Myryad Gameo Myryad Gameo Myryad Gameo Myryad MC100 Quad 99 R-20 D20 Roksan Caspian Rotel RCD-991 Sony CDP-XA555ES Sugden Audition Talk Electronics Thunder 1 Talk Electronics Thunder 2 Talk Electronics Thunder 3	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 899 999 999 599 990 700 956 800 700 895 800 800 700 895 1,000 649 550 649 1,000 649 1,000
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X300ES Synergy CDI2010 Technics SL-MC7  #501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 C24 Denon DCD-1650AR DPA Renaissance int CD Ezo FOG Helios Model 3 Helios Model 2 Linn Mimik Linn Genki Magnum CD2020 Marantz CD-17 II Musical Fidelity A3 CD Myryad MC100 Quad 99 R-20 D20 Roksan Caspian Rotel RCD-991 Sony CDP-XA555ES Sugden Audition Talk Electronics Thunder 1 Talk Electronics Thunder 2 Talk Electronics Thunder 2 Talk Electronics Thunder 2 Talk Electronics Thunder 3 Teac VRDS-8	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 889 999 999 9995 9995 995 800 955 800 800 700 958 800 800 800 800 800 800 800 800 800 8
Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 F501 T0 E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyru	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 300
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Sony CDP-XB930E Sony CDP-X300ES Sony CDP-X3000ES Synergy CDI2010 Technics SL-MC7 F501 T0 E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD1 Audio Note AN-CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyru	<b>=</b>	1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 300
Sony CDP-XB930E Sony CDP-X300DES Synergy CDI2010 Technics SL-MC7 F501 T0 E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Creek CD3 Cyrus AD3 Cyrus dAD3 Cyr		1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 300
Sony CDP-XB930E Sony CDP-X300ES Synergy CDP-X300ES Synergy CDI2010 Technics SL-MC7  #501 TO £1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Audio Note CD2 Audiomeca Obsession AVI \$2000MC 24 Ref Creek CD43 Cyrus dAD3 Cyrus dA		1010 1010 1010 1010 1010 1010 1010 101	300 400 300 300 300 300 300 899 600 600 950 600 600 649 550 600 600 600 600 600 600 600
Sony CDP-XB930E Sony CDP-X300DES Synergy CDI2010 Technics SL-MC7 F501 T0 E1000 Acurus ACD11 Alchemist Nexus Arcam Alpha 9 Audio Analogue Paganini Audio Note CD1 Creek CD3 Cyrus AD3 Cyrus dAD3 Cyr		1010 1010 1010 1010 1010 1010 1010 101	300 300 300 300 300 300 300 300 300 300

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CDX-396 CDC-575	<b>=</b>	1010 1010	130 180	Alchemist Forseti Int. Alchemist Forseti		1010	1,2
CDX-496		1010	180	Arcam FMJ CD23		1010	1.
CDC-675	■	1010	230	Audio Analogue Maestro		1010	1,1
CDX-596		1010	230	Audio Research CD2		1010	3,3
			C. Contract	Audiomeca Keops		1010	1,5
TO £500				Audiomeca Talisman		1010	2,1
pha 7 SE	200	1010	300	Audiomeca Talisman SE		1010	2,3
pha MCD	-	1010	330	Balanced VK-D5		1010	3,9
pha 8SE		1010	500	Cary CD-301		1010	2,3
ge CD6		1010	300	Classe CDP3		1010	1,3
D1.5		1010	400	Conrad-Johnson DF-2			1,6
CD-835		1010	280	Conrad-Johnson DV-2b			2,4
CM-260	■>		300	Copland CDA-266		1010	1,1
CD-1550AR		<b>10</b> 10	350	Copland CDA277		1010	1,6
40		1010	300	Copland CDA289		<b>110</b>	1,8
50	■>	1010	300	Copland CDA288		1010	1,9
60		1010	500	Cymbol CDP12		1010	1,2
574BK		1010	300	Densen B-400		1010	1,2
DP-R7080	■>	1010	300	Exposure CD Player	223	<b>11110</b>	1,0
DP-9090		1010	300	Helios Model 1		1010	1,2
DP-5090		<b>111</b> 0	300	Helios Stargate		1010	2,2
DP-7090		1010	400	Jadis Orchestra		1010	1,3
CD-67SE MkII		1010	300 300	Krell KAV250cd		1010	2,4
CD6000 OSE		<b>111</b> 10	100 (A10 (A10 (A10 (A10 (A10 (A10 (A10 (	Krell KAV300cd Krell KPS25s		<b>10</b> 10	3,5
C-870	■	1010	400	Linn Ikemi		<b>110</b>	19,9
D-63IIKI		1010	500	Linn Sondek CD12		(T)40	
D6000 KI		1010	300	Marantz CD-17KIS		<b>10</b> 10	12,0
idelity E60		<b>110</b>	500	Marantz CD-7		10 10 m	3.5
delity A2 CD delity E624		100 10 mm 100 mm	500	Levinson 39		100 10 100 10	4,99
10		1010	400	McIntosh MCD7009		10010	3,69
10	■>	Main	290	Meracus Tanto		1010	130
)		1010	329	Meracus Imago Player		1010	4,49
	■>	10010	350	Meridian 506		<b>1110</b>	1.10
		1010	370	Meridian 508		1010	1.9
	■	Ш	400	Myryad MCD500		1010	1.30
i MB10		1010	400	NAD \$500		1010	1,10
7210		1010	260	Naim CD3.5			1,0
21		1010	290	Naim CDX			2,20
7511		1010	300	Naim NACDSII/XPS			5,6
C 320	■		380	Oracle CD Player		1010	9,49
1716	■>		450	Pink Triangle Numeral		1010	1,04
C/DP-1000		1010	499	Pink Triangle Litaural		1010	2,20
D750	- ≣>	1010	400	Proceed CDP		1010	3,39
D-F1007	<b>■</b>		300	R-20 D302		1010	1,50
et			475	Resolution CD50		1010	2,99
ndy		1010	475	Roksan Attessa-DP3P		1010	1,49
-951		110	350	Shearne Phase 7	1	1010	1,49
-971		1010	450	Sherwood CD1		1010	1,10
-955	= ▶		500	Sonic Frontiers Anthem CD1		1010	1,69
-XB930E		1010	300	Sonic Frontiers SFCD-1		1010	3,79
-CX450	<b>=</b>		400	T+A CD1210R		1010	1,18
-X3000ES		<b>111</b> 10	500	T+A CD1220R	100	1010	1,54
DJ2010		-	300	TAG McLaren CD20R Theta Miles SE		1010	2.70
L-MC7		III)10	300	Tube Tech Fusion II		1010	2,39
O £1000	0.256	FFOLO	899	Tube Tech Fulcrum		110 110 110	1.05
D11		1010	600	Wadia 860x			7.40
Nexus		1010	800	XTC CDP-1	1	1010 1010	2.35
ha 9 logue Paganini		1010	750	YBA Integre a		1010	1,09
logue Paganini e CD1	To Laborator	100 10 10 10 10 10 10 10 10 10 10 10 10	599	YBA CD3a	227	10 10	1,85
e AN-CD2		1010	299	YBA CD2a		1010	2,95
Obsession		1010	999	YBA CD1a		1010	3.89
MC 24 Ref		1010	999	YBA CD1a a2 spec.	192	1010	5,02
3		1010	599		100		
3		2010	600				
3 Q24	16.50		900			390130	
Distant		The same of	THE REAL PROPERTY.	NAME AND ADDRESS OF THE PARTY O	-	NAME OF TAXABLE PARTY.	



#### CD TRANSPORTS

1010 - Electrical (coaxial) digital output. Many players also include an optical (Toslink) output.

Alchemist Forseti Drive	1010	1,100
Altis CDT III	1010	4,995
Audio Note CDT Zero	<b>111</b> 10	549
Audio Synthesis Transcend Decade	1010	3,995
Audiomeca Damnation	1010	999
Audiomeca Damnation SE	1010	1,100
Audiomeca Talisman	1010	1,850
Audiomeca Talisman SE	1010	1,999
Audiomeca Talisman DOB	1010	2,250
Conrad-Johnson DR-1	1010	1,795
DPA Enlightenment Drv	1010	775
ladis JD3	1010	1,999
ladis JDI	1010	9,190
Linn Karik	1010	1,850
evinson 37	FT010	3.995

Hama SL273

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Elemental Reference X2

Levinson 31.5	1010	9,295
Meracus Imago	1010	3,995
Muse Model 5	1010	1,800
Muse Model 8	1010	3,500
Oracle CD Drive	1010	7,399
Pink Triangle Cardinal II	1010	909
Rega Jupiter	1010	598
Resolution VT960	1010	3,500
Roksan Attessa-DP3	1010	1,295
Sonic Frontiers Transport 3		5,999
T+A CM1200R	1010	875
TAG McLaren CDT20R-T2L	1010	1,499
Teac VRDS-T1	1010	550
Teac P-30	1010	2,500
Theta Pearl	1010	1,349
Theta Jade	1010	2,650
Thorens TCD-2000	1010	999
Trichord Digital Turntable	1010	719
N. H. M.	4-13	



#### **DIGITAL TO ANALOGUE CONVERTERS (DACS)**

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4 – Number of digital	Immuster	
- Mulliber of digital	iliputs.	
Alchemist TS-D-1		300
Alchemist Forseti DAC	0	1,100
Altis Reference	0	4,995
Audio Note DAC Zero		369
Audio Note DAC One 1x		700
Audio Note DAC2		1,099
Audio Note DAC3 Audio Research DAC5		1,750 2,335
Audio Research DAC3 MkII	0	3,999
Audio Synthesis DAX Decade	6	2,995
Audiolabor 531	o	7,550
Audiomeca Elixir	0	799
Audiomeca Ambrosia		1,850
Boulder 2020	0	21,000
Cary CD-303		2,695
Chord DSC900E Chord DSC1100E		2,040
Chord DSC1500E	0	2,815 4,895
Conrad-Johnson D/A-3	0	1,195
Conrad-Johnson D/A-2b	the second	1,990
dCS Delius	6	5,000
dCS Elgar	0	8,500
DPA Little Bit 3	0	325
DPA Renaissance DAC		595
DPA Enlightenment DAC		850
DPA SX128		2,000
DPA SX256 DPA SX512		4,000
Harmonix Reimyo DAP-77		8,000 2,790
Jadis JS2		2,499
Jadis JS1	0	6,990
LFD DAC2		1,950
LFD DAC3		3,000
Linn Numerik		1,500
Levinson 360	0	4,395
Levinson 360S	0	6,895
Levinson 30.6		16,495
Meracus Auriga		1,295
Meracus Flagrare Meridian 566		2,495 1,095
Muse Model 2		2,190
Muse Model 2 Plus	0	2,500
Muse Model 2/96	0	3,000
Musical Fidelity X-ACT		200
Musical Fidelity X-24K		300
Musical Fidelity X-DAC		300
Onkyo DX 7310		330
Rega lo		475
Resolution D92	0	1,500
Roksan Attessa-DA2 Samuel Johnson PDC100	0	1,292
Sonic Frontiers Processor 3	0	5,999
Sumo Theorem IIB	Ð	1,155
Teac D-T1	0	500
Theta Chroma 396 Std		799
Theta Pro Geny		1,099
Theta Pro Prime IIa	ALC: U	1,699
Theta Pro Basic IIIa		2,990
Theta Casablanca LS		6,158
Thorone TDA-2000		



#### DIGITAL RECORDERS

KEY	V I	ATAMA	W. 75%
MD – MiniDisc			
DAT - Digital Audio	Tane		
Portable			
Denon DMD-1000	MD	17	300
Denon CDR-1000			400
Denon DMD-1600AL	MD		600
JVC XM-448	MD		200
JVC XL-R5000 Kenwood DMF-5020	MD		450 250
Kenwood DMF-9020	MD		499
Kenwood DM-7090	MD		500
Kenwood DM-9090	MD		550
LG ADR-620			350
Marantz CM635	MD		500
Marantz DR700			600
Marantz DR-17 Onkyo MD-121	MD		1,500 450
Onkyo MD 122	MD		700
Philips CDR770			1
Philips CDR570			1
Philips CDR775			350
Philips CDR951			380
Pioneer MJ-D508 Pioneer PDR-509	MD		200 300
Pioneer PDR-W739			400
Pioneer D-05	DAT	olo	900
Pioneer D-C88	DAT	olo	2,000
Sharp MD-R1 MkII	MD		180
Sharp MD-R3H	MD		300
Sharp MD-R2	MD	-0-	300 350
Sharp MD-MS200H Sharp MDXV300H	MD	<u>िं</u>	1,000
Sony MZ-R90	MD	ত্যীতা	1,000
Sony MDS-S41	MD	(SEZELSE)	1
Sony MZ-R70	MD	olo	- 1
Sony MDS-JE530	MD		180
Sony MDS-JB940	MD		300
Sony MDS-JB930 Sony MDS-JA555ES	MD		300 550
Teac MDH300	MD		300
Teac RW-800	11.0		350
Teac MD-H500i	MD		350
Teac MD-8	MD		600
Teac MD-5	MD		600
Teac MD-10	MD		900



MD

400

#### HEADPHONES

Traxdata Traxaudio 900

Yamaha MDX-595

Yamaha CDR-S1000

'D' – Dynamic type, compatible with virtually all normal headphone outputs. 'E' - Electrostatic type; generally includes a separate power supply.

Open-back construction. - Closed-back construction.

#### UP TO £40

AKG Rox Aural Envelope DX200 Aural Envelope DX220 Beyer DT131 Beyer DT131TV Beyer DT75 Beyer DT231

Hama SL275 JVC HA-CD88 JVC HA-D525 JVC HA-F65 JVC HA-D626 Kenwood KPM-310 Kenwood KPM-410 Maxell HP-2000 Pioneer SE-A40 Pioneer SE-A20V Pioneer SE-M250 Pioneer SE-M350 Sennheiser HD56 Sennheiser HD433 Sennheiser HD400 Sennheiser HD470 Sony MDR-250V Sony MDR-A34L Sony MDR-ED228LP Sony MDR-G52LP Sony MDR-E848LP/MP Sony MDR-ED238ML Sony MDR-G56V Sony MDR-G62LP Sony MDR-G59G Sony MDR-G72LP Sony MDR-V300 Sony MDR-IF130K Sony MDR-EX70LP Sony MDR-ED268LP Stanton ST Pro Technics RP-F200 Technics RP-F400 Technics RP-F500 Vivanco SR250 Vivanco FMH 3000 Vivanco IR5800

AKG K240DI AKG K222IR AKG K401 AKG K501 AKG K333IR AKG K444IR

AKG K1000 Audio Technica ATH910PRO Audio Technica ATHD40FS Audio Technica ATH-M40 Audio Technica ATH911 Beyer DT331 Beyer DT433/863

Beyer DT531 Beyer DT831 Beyer DT100 Beyer DT931 Denon AH-D210 Denon AH-D650 Denon AH-D750 Grado SR60 Grado SR80 Grado SR225

Grado RS2 Grado RS1 Hama SL276 Hama IR Cordless Jecklin Float Model Jecklin Float Model 2 Jecklin Float ELS JVC HA-D727

JVC HA-W60 IVC HA-D910 JVC HA-W200RF JVC HA-DX1

JVC HA-D50

JVC HA-D1000 JVC HA-F25 Koss TD/80 Koss R/100 Philips HD910

Pioneer SE-M550 Pioneer SF-M750 Precide Ergo Model 1 Precide Ergo Model 2 Sennheiser HD200 Sennheiser HD490

Sennheiser HD500 Sennheiser RS30 Sennheiser RS40 Sennheiser HD270 Sennheiser HD25 SP

Sennheiser HD495

Sennheiser RS60 Sennheiser HD265 Linear

Sennheiser HDC 451-1 Sennheiser HD250II Sennheiser HD25-13 Sennheiser HD590 Sennheiser RS80 Sennheiser HD25 Sennheiser HD 580 P'cision Sennheiser HD600 Sennheiser HE60/HEV70 Sennheiser Orpheus Sony MDR-V500DJ Sony MDR-RF830RK Sony MDR-D77 Sony MDR-DS5100 Stanton DJ Pro 101/HB Stanton DJ Pro 1000 Stanton DJ Pro 1001 10 10 10 Stax SR-0001 Stax SR-Lambda Nova C 10 Stax System II 9999 Stax SR-Lambda Nova S Stax Omega Technics RP-HC100 Vivanco SR750 Vivanco SR850 Vivanco FMH7980 Vivanco SR950 10 40 20



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#### **EQUIPMENT SUPPORTS** Hi-Fi Tables

4 - Number of shelves.

Aavik Furniture A4 Alphason SM17 Alphason VSM17 85 85 Alphason GSM17 Alphason GMV1P 120 150 Alphason R17/17 Alphason GMH1P Alphason VR17/17 190 Alphason GR17/17-AS Apollo Soprano 275 Arcici Air Head 1 Arcici Air Head 2 425 Arcici Air Head TNT 725 Arcici Suspense 4 Arcici Suspense 5 1.895 79 Audiophile Base 01 Audiophile S4T120 280 Audiophile S4T120P 560 Audiophile Furniture Base BCD Model 1006/8 795 BCD Model 1000 1,250 ustom Design Aspect 650 280 Custom Design Aspect 850 Custom Design e'lite E5 Custom Design Aspect 500AV 290 300 Custom Design e'lite XE5 Custom Design e'lite AVE 350 Deadrock 701 60 Deadrock 802 130 Deadrock 703 Deadrock 705 Deadrock 704 169 Elemental Isotube X1 Elemental Isotube BS Flemental Isotube TS 209 Elemental Isotube IS 209 329 379 Elemental Reference B1 Flemental Isotube X2 Elemental Isotube X3 Flemental Reference BS 499 Elemental Reference X1 549 549 Flemental Reference TS Elemental Reference IS

Trichord Pulsar Ser One

Woodside DVAC-18

Tube Tech Fulcrum Xport

849Elemental Isotube X4/Ref	4		1,199
Elemental Reference X3	3		1,199
Elemental Isotube X4Rse Elemental Reference X4	4		1,349
Fi-Rax R4	4		399
Finite Elemente A03 pagode	4		479
Finite Elemente E03 pagode	4		649
Finite Elemente HD03 Frameworks H175	4		1,995
Frameworks FS1	1		150
Frameworks H500	3		265
Frameworks FT2 Frameworks FT3	2		285 350
Frameworks H700	3		355
Frameworks H900	3		389
Impulse Iso-plate			190
JPW 3 Tier JPW 5 Tier	3 5		80 100
Linn K3000			85
Mana Sound Frame			125
Mana Mini Table Mana Power supply table			150 150
Mana Reference flat top			150
Mana Sound Shelf			175
Mana Sound Stage Mana Sound Table			200
Mana Ref Shelf			325
Mana Reference Table			350
Mana 2 Tier Stand			375
Mana 3 Tier Stand Mana 4 Tier Stand	4	No.	450 500
Mana 5 Tier Stand			600
Mana 6 Tier Stand			700
Mana 7 Tier Stand Mana 8 Tier Stand	7 8	P.E.	800 900
Mission Stance	8		100
Optimum OPT 3406	3		149
Optimum G5 Optimum OPT 4906	5		180 199
Optimum G5P	4		200
Optimum OPT 3000	3		200
Optimum OPT 6606	5		249
Optimum OPT 340 Optimum AV200	3 2		249 270
Optimum OPT 5000	5		280
Optimum OPT 490	4		299
Optimum AV30 Optimum OPT 440	3		299 299
Optimum OPT 10206	4		299
Optimum OPT 660	4		349
Optimum AV 300 Optimum OPT 7000	3		349 359
Optimum OPT 1020	7		399
Optimum OPT 8000	8		400
Optimum OPT 1190	7		450
Optimum AV400 Projekt A3	4		450 145
Projekt A4	4		215
Projekt A5	5		235
Projekt B3 Projekt A6	6		255 280
Projekt B3i	6	,	300
Projekt B4	8		340
Projekt B Multi Projekt B3ii	8 7		345 345
Projekt C3	9		375
Projekt D3	12		420
Projekt C3i Projekt B5	8		420 425
Projekt C3iii	11		465
Projekt C3ii	10		465
Projekt D3i Projekt C4	12		500
Projekt C4 Projekt C3iv	12		500 510
Projekt D3ii	14		545
Projekt C Multi	9		555
Projekt D4  Quadraspire Q4S mini shelf	16		560 65
Quadraspire Q4S shelf	1		65
Quadraspire QKS Cabinet shelf	1		80
Quadraspire QAV shelf Quadraspire Q4M mini table	1 4		130 250
Quadraspire Q4 table	4		250
Quadraspire Q4SP Table	4		320
Quadraspire QAV table Quadraspire QAVSP Table	3		350 400
Quadraspire QK Cabinet	3		450
Reson DOMOPS	1		195
Reson DOMOWS Roksan Glass stand	1		195 495
Solid Steel Model B	4		141
Solid Steel Model A	1		152
Solid Steel Series 3 Solid Steel Series 5	4		220
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H I - F I		P	R
Solid Steel H.3	5	177.00	372
Solid Steel H.5	5		517
Sonus Systems Elite 4	4		330
Sound Org Z540	4		140
Sound Org Z560	5		160
Sound Org Z545	4		160
Sound Org Z530	3		170
Soundstyle Radius SR210	2		200
Soundstyle X053	4		230
Soundstyle X100	4		240
Soundstyle Finewoods W100	4		245
Soundstyle X058	5		250
Soundstyle Radius SR310	3		250
Soundstyle Radius SR100	4		250
Soundstyle X310	3		260
Soundstyle X6053	4		260
Soundstyle X105 Soundstyle XS100	5		100000
Soundstyle Radius SR105	4		280
Soundstyle X6058	5		290
Soundstyle Finewoods W105	5		295
Soundstyle X6105	5		300
Soundstyle X6310	3		300
Soundstyle Finewoods W310	3		360
Standesign Design 4	4		190
Stands Unique Isolation Platform	1		55
Stands Unique Sound Support	4		260
Stands Unique Sound Tower	5		299
Stands Unique Compact Sound Sup	P4		329
Stands Unique Sound Support 10	4		329
Stands Unique Sound Twr Cabinet	5		389
Stands Unique Ref Wall Support	1		560
Stands Unique Ultimate Tower	10		720
Stands Unique Ref Floor Support	6		840
Target B5 Townshend Seismic Sink 1-CD	5		175
Townshend Seismic Sink 1-3D			400
Townshend Seismic Sink AV1-4	4		599
Townshend S/Sink Stand 1-4	4		999
Townshend Seismic Sink Stand	4		1,245
Vibraplane Passive	1		1,895
Vibraplane Active	1		3,600
Wilson Benesch Standard Shelf	1		130
Wilson Benesch Mono Block	1		265
Wilson Benesch Asside Basic	4		590
Wilson Benesch Asside	4		720
Wilson Benesch Triptych	1		990
The second second	100	862	



#### **EQUIPMENT SUPPORTS Speaker Stands**

Atacama SE415

Atacama SI 400

Atacama SE1000S

60 - Height of stand in cm

00 - Height of Stanta II	CII	
Acoustic Solutions Platform Eight	49	2
Aliante Base		4
Aliante Vela		75
Alphason NCI	60	
Alphason Akros I	60	
Alphason RS1	120	
Alphason Akros II	60	
Alphason NCII	60	1
Alphason HDS	60	1
Alphason Titan S	60	17
Apollo Olympus	60	
Apollo AZ6	66	
Apollo A4/6	51	8
Atacama Nexus 6	60	5
Atacama BD21	56	5
Atacama BD17		5
Atacama BD25		
Atacama SE16		6
Atacama SE12		$\epsilon$
Atacama SX500		6
Atacama F2		7
Atacama F1		7
Atacama SX600		7
Atacama SL200		7
Atacama SE24	61	7
Atacama SE20		7
Atacama SX700		7
Atacama SL300		7
Atacama TP600		7
Atacama TP500		7
Atacama SE615		7
Atacama SE515		7

Atacama R724	60	-	15
AVF P6171BP	100	100	3
AVF Tower P6144BP	60	1000	3
BCD Model 1010	60		59
Black Box Speaker Stand	100		79
Credo STD 001			28
Custom Design M Range	56		8
Custom Design R/S 300 Mk II	61		10
Custom Design Ref. stands	60		20
Deadrock 903	60		6
Deadrock 902	47		6
Deadrock 901	39		6
Elemental Reference SB1	8		39
Elemental Isotube SZ	49		49
Elemental Isotube SZse	61		59
Elemental Isotube SCZ	49		69
Elemental Isotube SCZse	49		79
Elemental Reference SZ	52		99
Elemental Reference SCZ	52		1,49
Heybrook Stand-S6	63		6
JPW MS2	45		4
JPW MS3 JPW MS1	61		5.
	46		8
JPW HS1 JPW HS2	63		12
Mana Sound Base	45		17
Opera WS1/E	8		23
Opera S1	60		29
Opera S2	60		34
Partington A-4	60		11
Partington Dreadnought Ultima	60		29
Pioneer CP-7	03		50
Pioneer CP-8			80
Projekt Signature	55		80
Royd Royd	55		99
Russ Andrews Torlyte	61		59
Silverado Silverado 1 Stand	60		350
Solid Steel SL	63		186
Solid Steel SS	63		333
Solid Steel SS801	25		366
Sonus Faber Ironwood			475
Sonus Faber Stonewood			497
Sonus Systems Excel	65		99
Sound Org Z522	59		89
Soundstyle Finewoods W122	57		95
Soundstyle X122	57		95
Soundstyle Select	59		95
Soundstyle Radius S122	57		110
Stands Unique Speaker support	59		165
Stands Unique Tuned Spkr Support			230
Stands Unique Tuned Carbon Fibre	59		299
Stands Unique Vivas CF Spkr Supp	60		349
Target TR60	60		68
Target HM60	55		10€
Target R1	53		280
Townshend Seismic Sink L/S	4		499
		TO CASE OF	



#### LOUDSPEAKERS

± - Floorstander; larger models requiring no separate stand. ■ – Stand mount; smaller models designed to be raised above the floor. **≱** – Wall mount; designed to be sited on or near the wall. Box type, including infinite baffle, reflex and transmission line types. ☐ - Horn type; mostly large and

□ - Panel type, including electrostatic

and planar magnetic types.

UP TO £130

very efficient.

Acoustic Energy Aegis Compact Allison Micro Monitors 10 10 0 Allison Mini References 120 0 0 Ariston MSX 03 먹묘 Ariston MSX 05 00000 명명명명명 Denon SC-M2 Denon SC-E313SE 130 99 Eltax Liberty 1+ Eltax Monitor III Mk II

Gale Mini Monitors Gale Gold Monitors Gale 2i □ Genexxa GX300 0 Genexxa GX330 80 90 GLL Arena 0 GLL Imagio IC208 100 Interaudio XL1000 0 130 120 Jamo Artina Jamo 28 🛚 130 90 90 100 130 90 100 120 130 Jamo Cornet 145 0 JBL CM40 JBL MX300 00000000 JBL Control 1X JBL CM42 IPW MI 110i JPW ML210i JPW ML310i JPW MI 410i JVC SX-SC1VBK 60 80 100 130 IVC SP-V50 0 JVC SP-X220TBK IVC SP-X550BK Kenwood LS-90UK 0 130 Monitor Audio Bronze 1 0 130 NAD 801 100 100 120 0 0 0 Paradigm Micro v2 Paradigm Atom v2 Pioneer CS-3070 Polk AB410 000000 100 100 56 100 100 60 # Realistic Minimus 26 Realistic Minimus Pro-77 Tangent Monitor 3 0 0 0 0 Tannoy Mercury M1 120 Tannov mX1 TDL Nucleus 1 Teac LS-X8 Mk II 00000 80 100 80 100 Technics SB-CS65 W'dale Valdus 100 W'dale Diamond 7.1 W'dale Valdus 200 W'dale Modus Micro

Acoustic Energy Aegis Centre oustic Energy Aegis One Allison Model 4A B&W DM302 Ser II 00000000000 B&W DM601 S II Bose 201 IV 回回和回回和和回回回 200 Boston CR6 Boston 325 149 169 Boston Micro 80 Sat Boston Runabout Boston 335 179 189 Boston 351 Boston CR7 Boston Runabout II 200 199 Celestion 15i Cerwin-Vega CT-165 Eltax Liberty 3+ Eltax Liberty 5+ 千千 0 0 0 Genexxa GX650 140 10 10 GLL Imagio IC218 0 140 200 GLL Imagio IC318 Heybrook Heylette Interaudio XL2000 00000000000000 200 回四四刊刊刊 Jamo Cornet 165 Jamo 38 150 150 Jamo 560 150 170 Jamo 660 Jamo D165 中国中国中国中国 200 Jamo 68 200 200 150 170 200 Jamo 892 JBL CM52 IRI MX1000 JBL LX20 IBL MX1500 200 JM Lab Tantal 505 199 0 180 JPW ML610i KEF Cresta 2 KFF Coda 8 000000 KEF Model 60S 199 Kenwood I S-200G 200 의 의 의 Magnat Vector 22 179 Mission 701 Mission 771e 0

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Monitor Audio Monitor 1

Mordaunt-Short MS206

Paradigm Mini Monitor Pioneer CS-5070 Pioneer CS-7070 Polk M2 Polk RT3 Polk AB610 Royd A7X Sequence 200 Sony SS-126EB Sony SS-126EB Sony SS-176E Tangent Monitor 9 Tangent Monitor 11 Tannoy Mercury M2 Tannoy Mercury M2 Tannoy Saturn S6C Tannoy Revolution R1 TDL Nucleus 3 Technics S8-CS9S	200 150 200 180 200 200 200 180 200 155 199 150 200 150 180 140 150 200 200 200 200	TLC Maestro 130S TLC Voyager 350 W'dale Modus Music Four W'dale Valdus 500 Yamaha NS-120 Yamaha NS-120 Yamaha NS-200 ZVP A1 ZVP A2S  #301 TO #500 Acoustic Energy AE105SE Acoustic Energy AE109 SE Acoustic Energy Energy AE120SE Allison Model 2A Arcaydis ASC Audiovector C1	的时代的 化化化 医二甲代氏征		289 289 230 300 250 300 229 299 350 450 500 420 399 399 350	Polk AB705 Polk RT10 Polk RT10 Polk AB805 Promenade SP2 Promenade SP3 Rega Alya Rega LA Roksan ROKone 1 Royd The Squire Royd Minstel SE Royd Doublet Ruark Icon Sequence 400 Sony S5-X7 S Coast Odette Spendor S3/5	**************************************	330 400 500 500 399 499 365 475 498 400 350 399 485 399 329 400 325 499	M&K S-85 Mirage Ftx-7 Mission 752f Mission 782 Mission 753f Mission 7756 Monitor Audio Silver 7i Mus Tec Falcon Naim Intro Neat Mystique 2 Neat Petite II NHT Super Two Opera Seconda Opera Pavarotti Opera Platea Opera Operetta Origin Live Resolution Paradigm Studio/60	- 阿阿佐比阿佐阿佐比比比比比比比		700 550 578 699 798 800 600 680 680 575 745 550 595 695 795 795 732
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ALR/Jordan Entry 2 AR 15 Araydis Baby 1 Audio Gem Opal B&W DM602 Ser II B&W 602 S2 Blueroom Minipod Bose 151 Bose 301 IV Boston 361 Boston CR8 Boston S81 Boston CR9 Boston Voyager	249 275 299 230 300 300 250 220 220 239 219 239 259 279	Celestion 25i Celestion 30i Celestion 30i Celestion 35i Cerwin-Vega VS-10 Chario Syntar 100T Chario Ref 1000 Dali 104B Dali Royal Menuet MkII Dali 606 Dali Royal Def Tech Celsius Dynaudio Audience 40 Dynaudio LR/C120 ELAC CL82 MkII	五 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		399 449 499 350 399 499 370 400 500 395 399 439 399	W'dale Modus Music 1/6 Yamaha NS-300  E501 TO E800 Acoustic Precision Eikos FR1 Aliante Stile Aliante Voce Allison Model 3A Arcaydis AK3 Arcaydis AK3 Arcaydis AK2 Audio Gem Emerald Audio Note AN-K/D Audio Note AN-I/B	**************************************	800 580 600 525 599 699 699 540 620 799	Royd Abbot Ruark Templar II Ruark Sceptre Ruark Talisman II Shinpy Polarys Silverado Raider Snell K5 Soliloquy 5.0 Sonus Faber Concertino S Coast Lancelot S Coast Hades S Coast Merlin Monitor Spendor S1 System 1150	<b>子四四年四日四日日子四子</b>		695 559 599 799 595 695 795 599 575 695 795 549 750
Castle Richmond Castle Keep  Celestion C1  Celestion 23i  Cerwin-Vega VS-8  Cerwin-Vega CT-330  Chario Syntar 100  Chario Ref 100  Chario Ref 100  Dali 102B  Dali 150  Eltax Linear Resp. 4.5  Eltax Liberty 7+	<ul> <li>249</li> <li>250</li> <li>299</li> <li>250</li> <li>299</li> <li>250</li> <li>300</li> <li>249</li> <li>300</li> <li>260</li> <li>300</li> <li>260</li> <li>300</li> <li>249</li> <li>249</li> <li>249</li> </ul>	Eltax Linear Resp. 6.5 Eltax Chroma Front Eltax Linear Resp. 8.5 Energy e:XL25 Epos ES12 GLL Imagio IC248TL GLL Imagio IC348TL Heybrook Heylo Heybrook HB4/2000 Indigo One Indigo Three Jamo Classic 6	*************************************		349 349 449 399 499 350 450 500 359 500 330	Audiovector M1 Improved Audiovector C2 AVI Biggatron B&O Beolab 2500 B&W 603 S2 B&W COM1 SE Bose 501 Bose A'mass AM3 Boston VR30 Castle Severn 2SE Celestion A Compact Celestion 45i Celestion C2	Ktoktankuntanta	650 700 599 750 550 600 600 650 600 700 599 599 699	T+A TB 100 Tannoy Revolution R3 Tannoy Definition D100 TDL Cotswold CF200 Titan Orbital Titan Logic T/2B Titan Logic T/2 TLC Classic 2 TLC Classic 1 Totem Mite Totem Rokk Triangle Zephyr II	<u> </u>	0000000000	700 550 689 650 598 600 699 535 800 599 765
GLL Imagio (C238TL Heybrook HB2/2000 Heybrook HB3/2000 Heybrook HB3/2000 Interaudio XL3000 Interaudio XL4000 Jamo Cornet 175 Jamo Classic 4 Jamo E850 Jamo Art Jamo D265 JBL CM62 JM Lab Tantal 507 JPW ML/10i	250 240 269 269 250 300 250 300 250 250 250 250 250 250 250 250 250 2	Jamo Comet 195 Jamo 98 Jamo 98 Jamo D365 Jamo Cassic 8 Jamo Craphic Jamo 128 Jamo Atmosphere JBL LX60 JBL Ti 200 JM Lab Tantal 515 Jordan Watts JHFLG Jordan Watts JHFLG JPW ML910i JPW ML910i	444444444444		350 350 400 400 450 500 350 400 499 380 420 350	Cenvin-Vega VS-12 Cervin-Vega VS-15 Chario Constellation Lynx Chario Ref 100T Chario Hiper 1000T Cura CA-10 Dali 107 Dali 350 Dali 450 Dali 109 Def Tech BP2X Def Tech CLR2002 Def Tech BP6B Dimerco Micro II	10000000000000000000000000000000000000	550 700 549 599 699 690 600 700 800 595 595	Acoustic Energy AE1 Acoustic Energy AE2-II Acoustic Solutions Eight Aliante Moda Arcaydis AK5 ATC SCM10 Audio Note AN-I/D Audio Note AN-I/SPX Audio Physic Step Audiovector M1 Super Impr.			845 1,245 1,375 1,200 1,399 1,000 930 1,060 1,299 1,415 1,299 880
JPW ML710  JPW ML810i  JVC SX-SW10  KEF Coda 9  KEF Model 70S  Linn Kan  Mission 750  Mission 772  Mission 772  Mission 703  Monitor Audio Monitor 2  Monitor Audio Bronze 3  Monitor Audio Silver 3i  Mordaunt-Short Declaration 904	C 250 C 300 C 299 C 299 C 295 C 248 C 250 C 299 C 250 C 250 C 250 C 270 C 250 C 250 C 250 C 250 C 250	KEF Q35.2 KEF RDM One KEF Q35.2 Linn Sekrit Magnat Vector 55 Magnat Vector 77 Mission 751 Mission 773 Mission 773 Mission 774 Mission 774 Mission 774 Mission 776	************		450 350 499 500 395 349 350 449 348 399 400 450 500	Diapason Micra II Dynaudio Audience 50 Dynaudio Audience 60 ELAC CL102 MkII ELAC CL310i JET Eltax Linear Resp. 10.5 Energy e:XL26 Epos ES14 Harbeth BBC LS3/SA Harbeth HL.P3ES Heybrook Duet Indigo Four Infinity Kappa 60 Infinity Kappa 70	n pa pa pa pa pa k k pa k k pa pa o o o o o o o o o o o o o o o o o	750 577 729 599 800 549 600 675 699 799 750 595	Audiovector M1 Sig Improved Audiovector M3 AMI Positron B&O Beolab 4000 B&W DM604 Ser II B&W CDM7SE B&W Nauflus 805 Bandor Trident BC Acoustique Araxe BKS Audio Hybrid 107 Bose A'mass AM5 Bose 701 Boston VR40 Carlsson OA-52.2	* 作品的性作品的作性性作品		1,180 1,200 899 1,100 849 1,000 1,500 846 1,140 1,500 900 1,000 1,000
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Ruark Epilogue Sequence 300 Sony SS-176EB Tannoy mX3 Tannoy Mercury M3 TDL Nucleus 4	239 249 250 229 230 300	Opera Prima Origin Live OL-1AS Origin Live Monarch Paradigm Studio/20 Paradigm Monitor 9 PMC TB1S		0 0 0	495 499 499 350 400 470	KEF Q65.2 Kelly KT2 Linn Tukan Passive Linn Keilidh Passive Magnat Vintage 710 Meridian A500	十 十 十 十 十 十 十 1 1 1 1 1 1 1 1 1 1 1 1 1	700 700 550 750 799 750	Def Tech BP10B Diapason Prelude II Diapason Karis Diapason Nux Dynaudio Contour 1.1 Dynaudio Audience 70	4400404	00000	1,500 875 995 1,395 879 1,100

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Dynaudio Contour 1.3	9	0	1,198	Alon I Mk II	<b>±</b>		1,795	Totem Tabu	Ŧ	•	2,299	Meridian DSP6000	TI
Dynaudio Audience 80	#	0	1,460	Alon II Mk II	+		2,495	Totem The Forest	¥1	0	2,675	Monitor Audio Studio 50	¥
Epos ES15	#	0	890	ALR/Jordan Note 7	+		2,500	Veritas 25	¥	0	1,750	Monitor Audio Studio 60	#1
Epos ES22	和	0	1,185 1,495	ATC SCM20SL	₩		1,750	Veritas H1 Wilson Benesch Orator	#1		2,995 2,900	Naim NBL Naim DBL Active	和
Final 0.3 Harbeth HL-K6	5		899	ATC SCM20 Tower SL Audio Note AN-E/D	R		2,400 1,520	Zingali Overture 2S	*	0	1,975	Neolith NEO 2	<u>0</u>
Harbeth HL-Compact 7		0	1,299	Audio Note AN-E/SPx	<u>=</u>	0	2,250	OVER £3000				Neolith NEO 3	보
Harbeth BBC LS5/12A	묘	0	1,499	Audio Physic Spark 2	=		1,749	Acoustic Energy AE5	Ŧ	0	7,995	Ocellia Tilia	*
Impulse Kora Infinity Overture 1	#		1,250 900	Audio Physic Tempo Audio Wk'p Cyclone 34	<u>+</u>		1,999	Alon Lotus SE Alon V Mk II	和	0	3,500 5,495	Ocellia Olea Ocellia Kedros	和
Infinity Kappa 80	9 9	0	995	Audiostatic DCI	±		2,495	Alon Adriana	<u>P</u>	0	8,500	PMC MB1P	Ŧ
Infinity Kappa 90		0	1,295	Audiovector M3 Super	<b>±</b> 1		1,700	Alon Circe	*	0	12,000	PMC BB5-P	和
Infinity Overture 2 Jadis Orchestra	± .	0	1,500 999	Audiovector M3 Sig B&O Beolab 6000	和		2,200 1,550	Alon Phalanx ATC SCM20A PRO	里	0	19,000 3,140	PMC MB1-A PMC BB5 A	<u>R</u>
Jamo Concert 8	<u>+</u>	0	1,365	B&O Beolab 8000	<b>T</b>		2,100	ATC SCM20TASL	±	0	3,995	PMC MB1/XBD-A	业
JBL SVA 1600	<b>±</b>	0	850	B&O Beolab Penta 3	#	0	2,650	ATC SCM50PSL	±	0	4,377	PMC BB5/XBD-A	#1
JBL 4312 MkII-WX JBL SVA 1800	和	0	1,000	B&W Nautilus 804 Bandor Bandoline	<b>±</b> 1		2,500 2,350	ATC SCM100PSL ATC SCM50ASL	和	0	5,098 5,948	ProAc Response 3.8 ProAc Future 1	和
JBL SVA 2100	#	0	1,250	Bandor Bandora/Mora	¥1		2,350	ATC SCM100ASL	和	0	6,669	ProAc Response 5	Ŧ
JM Lab Cobalt 815	#1	0	999	BKS Audio Hybrid 128	±	0	2,549	ATC SCM70PSL	Ŧ	0	8,842	ProAc Future 2	#
JM Lab Electra 905 JM Lab Cobalt 820	9	0	1,199	Bose 901 VI	=	0	1,650	ATC SCM70ASL	*	0	10,500 16,843	ProAc Response 4 Rehdeko RK145	±1
Jordan Watts JH1+1	和	0	1,199 1,150	Boston Lynfield 300L Castle Inversion 100	₽ ±		2,000 1,975	ATC SCM200ASL ATC SCM300ASL	和	0	19,150	Revel Gem	모
KEF Ref. Model One	Ŧ	0	1,199	Celestion A3	Ŧ	0	2,399	Audio Note AN-JSE Silver	9	0	7,900	Rockport Merak	2
KEF RDM Three Kelly KT3	#	0	1,500	Celestion Kingston	和		2,500	Audio Note AN-ESE Silver	<u>.</u>	0	9,600 3,399	Rockport Syzygy Rockport Procyon	和
Linn Tukan Aktiv	里	0	1,200	Chario Academy 2 Chario Academy Mill'm 2	<u>R</u>	0	1,649 2,100	Audio Physic Virgo 2 Audio Physic Avanti 2	和	0	6,699	Ruark Solstice	Ŧ
Linn Keilidh Aktiv	Ŧ	0	1,250	Credo SPB 003	¥		1,820	Audio Physic Caldera	Ŧ	0	10,599	Ruark Excalibur	#
L Voice Auditorium	#1	0	1,500	Credo SPB 009	¥	0	2,453	Audio Physic Medea	#	0	24,999	Shahinian Hawk	¥
Lumley L/M3.5 Magnat Vintage 720	业	<u></u>	1,050 1,199	Cura CA-30 Dali Grand Coupe	和		1,799 2,500	Audiostatic DCI Plus Audiovector 5X	和		3,750 3,999	Shahinian Diapason Shinpy Enigma	和
Magneplanar SMG-C SE	<b>T</b>		990	Def Tech BP2004	#		1,700	Audiovector 6X	和	0	4,800	Shinpy Euphonia	<b>±</b> I
Magneplanar MG-0,6 SE	#		1,370	Def Tech BP2002	¥	0	2,400	Avalon Avatar	Ŧ	0	5,995	Shinpy Magnifica Suprema	¥
Meridian Argent 1 M&K S-125	<u>B</u>	0	995 1,150	Diapason Adamantes III  Dynaudio Contour 1.8	里	0	1,995	Avalon Arcus Avalon Eclipse Classic	和	0	6,995 8,995	Shun Mook Bella Voce Snell XA-75ps	#1
Mission 705a	<b>±</b>	0	900	Dynaudio Crafft	9	0	2,598	Avalon Radian HC	和	0	13,995	Sonus Faber Guarneri Homage	9
Mission 783	#1	0	1,000	Dynaudio Contour 3.0	¥	0	2,930	Avalon Eidolon	¥	0	20,495	Sonus Faber Amati Homage	¥
Mission 754f Monitor Audio Silver 9i	和	0	1,298 1,000	ELAC CL330 JET ELS Res'ch Vision	土	0	2,499 2,800	Avalon Sentinel Avantgarde Uno	和		79,995 5,300	Sony SS-M9ED Sound-Lab Dynastat	和
Mus Tec Condor	±1	0	1,000	Epos ES30	和		2,385	Avantgarde Duo	和		7,500	Sound-Lab Aura	Ŧ
Mus Tec Hawk	#1	0	1,250	Eurostatic Model 1	¥		2,250	Avantgarde Trio Compact	#	D	16,500	Sound-Lab Pristine III+	#
Mus Tec Eagle Naım Credo	Ŧ	0	1,500	Final 0.4 Gamma Epoch Ref Five	事		2,950 2,999	Avantgarde Trio Classic	#		17,300 4,250	Sound-Lab A-3 Sound-Lab Ultimate II	#
Neat Elite	和	0	1,090 1,195	Harbeth HL-S8	和		1,999	AVI Gravitron B&W Nautilus 803	和	0	4,000	Sound-Lab Orlinate II	和
Opera Terza	业	0	995	Helius Syrius II	±	0	2,395	B&W Silver Signature		0	5,500	Sound-Lab Ultimate III	Ŧ
Opera Super Pavarotti Opera Callas Gold	Ŧ	0	995	Helius Syrius I	Ŧ	0	2,850	B&W Nautilus 802	Ŧ	0	6,000	Sound-Lab Ultimate I S Coast Excalibur Ref.	业
Opera Callas Gold Opera Divina II	므므	0	1,095 1,495	Heybrook Octet Hi Q Sound SM108	<b>*</b> 1	0	1,799 2,000	B&W Nautilus 801 B&W Nautilus	和	0	8,500 35,000	Spendor FL10	和
Orelle Swing	<u>±</u>	0	1,200	Impulse Lali	和		1,850	Beauhorn Virtuoso Bronze	Ŧ		4,065	T+A A4D	±
Origin Live Soveriegn	¥	0	1,130	Infinity Overture 3	*	0	1,750	Beauhorn Virtuoso Gold	¥		4,185	T+A A3D	#1
Paradigm Studio/100 PMC LB1	里	0	950 999	Infinity Kappa 100 Inner Sound Isis	±1		1,895 2,375	Beauhorn Virtuoso Ref. DX3 Beauhorn Virtuoso Ref. DX4	和	8 8	4,420 4,945	T+A A2D Tannoy Edinburgh TW	和
PMC FB1	<u>+</u>	0	1,275	Jamo Concert 11	Ŧ	0	2,250	Beauhorn Accelerando	Ŧ		6,600	Tannoy Definition D900	Ŧ
Polk CS1000	<b>H</b>	0	999	JM Lab Electra 915.1	#1	0	1,899	BKS Audio Hybrid 175	#	0	3,995	Tannoy GRF Memory TW	<b>±</b> 1
Polk LS70 Polk RTE1000	和	0	1,200 1,300	JM Lab Electra 920.1 Jordan Watts JH2K	和	0	2,399 2,400	Boston Lynfield 500L Carfrae Little Big Horn	和		4,449 6,795	Tannoy Westminster TW Tannoy Canterbury 15 TW	和
Polk RT20p	Ŧ	0	1,500	Jordan Watts JH5K	Ŧ	0	3,000	Carfrae Carfraehorn	Ŧ		18,000	Tannoy Westminster Royal	±
ProAc Tablette 2000 Sig	<u>=</u>	0	899	KEF Ref. Model Two	#1	0	1,599	Chario Academy 3j	#	0	5,999	TDL Ref Standard-m	#
ProAc Studio 125 ProAc Response 1 SC	中	0	999 1,199	KEF Ref. Model Three Linn Kaber Passive	<b>±</b> 1	<u> </u>	1,999	Credo SPB 012 Credo SDL 001	和	0	3,147 5,677	Titan Goliath T/4 Totem Mani-2	事
Rega Naos	<u>+</u>	0	998	Linn Kaber Aktiv	±1	0	2,640	Dali Grand	Ŧ	0	4,000	Totem Shaman	±1
Rehdeko RK115	<u>H</u>	0	1,500	L Voice Aud'm Avatar	¥	0	2,400	Def Tech BP2000	<b>±</b> I	0	3,600	Veritas 45	¥
RMS Revelation S 1 Roksan O <sub>l</sub> an 3X	#1	0	1,299 995	Lowther Accolade 2 Lumley L/M2 Mk3	Ŧ		1,950 2,995	Diapason Adamantes Ltd Dynaudio Contour 3.3	₽	0	3,995 4,815	Veritas H2 Veritas H3	Ŧ
Royd The Albion	业	0	985	Magnat Vintage 760	和	0	1,999	Dynaudio Confidence 3	和	0	4,846	Wilson Audio Cub	和
Ruark Prologue One R	#1	0	949	Magneplanar MG-10 SE	Ŧ		1,650	Dynaudio Confidence 5	#	0	5,924	Wilson Audio WATT 5	<u>=</u>
Ruark Solus Shahinian Super Elf	<u>n</u>	0	1,200 875	Magneplanar MG-1,5 SE Magneplanar MG-2.7 SE	和		1,780 2,650	Dynaudio Consequence Dynaudio Evidence	<b>±</b> 1	0	14,566 50,909	Wilson Audio WITT II Wilson Audio Maxx	보
Shahinian Starter	<u>+</u>	0	1,195	Martin-Logan Aerius i	Ŧ		2,199	Eggleston Rosa	和	0	8,500	Wilson Benesch Actor	Ŧ
Shahinian Compass	±	0	1,495	Meridian M60	0	0	2,150	Electrofluidic Sonolith 2.2xi	#1	0	5,999	Wilson Benesch ACT1 spkr	#1
Shinpy Micraphonica Silverado Ryder	=	0	1,099 1,395	Mırage OM-5 Monitor Audio Studio 20SEC	业	0	3,000 1,900	ELS Res'ch Vista ELS Res'ch Illusion MkII	和		3,900 9,000	Wilson Benesch Act 2 Wilson Benesch The Bishop	±1
Soliloquy SM 2A3	五	0	1,095	Naim SBL Active	和	0	1,885	Eurostatic Model 2	和		3,650	THISOT DETICOT THE DISTUP	-
Sonus Faber Concerto	#	0	945	Naim SBL Passive	#1	0	2,030	Impulse Ta'us	#		3,100		
Sonus Faber Concerto GP Sonus Faber Signum	五	0	999 1,200	Neolith NEO 1 O'hEocha D1-f	9	0	2,999 1,760	Inner Sound Eros Jadis 2	和		3,995 5,900		
S Coast Classic	<u>D</u>	0	1,175	Opera Caruso II	<b>±</b>	0	2,495	Jadis 1	和	D	18,900	STATE OF THE PARTY	
Spendor SP3/1P	<u>=</u>	0	825	Origin Live Conqueror	#	0	1,750	Jamo Oriel	#	0	9,000		400
Spendor FL6 Spendor SP2/3	土	0	1,099	PMC AB1 PMC IB1S	<u>R</u>	0	1, <b>758</b> 2,697	JM Lab Mini Utopia JM Lab Mezzo Utopia	보	0	4,500 7,300		
Spendor FL8	± ± 1	0	1,355	Polk LS90	<b>∓</b>	0	1,700	JM Lab Mezzo Utopia  JM Lab Utopia	#	0	18,300		
T+A TAS 1200E	±	0	1,050	ProAc Response 1.5	Ŧ	0	1,790	JM Lab Grande Utopia	¥	0	35,000		1
T+A TB 120 TAG McLaren Calliope	±1	0	1,060	ProAc Response 2.5 Rehdeko RK125	<u>+</u>	0	2,700 2,650	Jordan Watts JH10K KEF Ref. Model Four	#	0	7,570		
Tannoy Definition D300	보	0	1,495 999	Ruark Crusader II	<u>±</u>	0	1,649	Kochel K-300S	和		3,299 10,000	The second second	
TDL Cheviot CF300	#	0	850	Ruark Equinox	H	0	2,000	Linn Keltik Aktiv	Ŧ	0	6,000		
Technics SB-M1000 Titan Enigma T/3	#	0	1,500 825	Shahinian Arc Shahinian Obelisk	#	0	1,995	L Voice Avatar OBX	#	0	4,000		
Titan Enigma 1/3 Titan Logic T2B3	<u> </u>	0	900	Shahinian Obelisk Shinpy Euritmica	<b>₽</b>	0	2,850 1,995	L Voice Air Scout L Voice Air Partner S	和	D D	19,500 37,200		5 8 9 W
Titan Sovereign T/4	Ŧ	0	1,175	Shinpy Altair	•	0	2,895	Lowther Fidelio	#1		3,100	CUDWOOFFDC	
Totem The Arro Totem The Staaf	<b>±</b> 1	0	959	Silverado Silverado 1	<u>P</u>	0	1,995	Lowther Academy	#	D 8	3,550	SUBWOOFERS	
Totem Model One	#	0	1,249	Snell XA-60 Soliloguy 5.3	和	0	2,500 1,750	Lowther Bel Canto Lowther Delphic	和		3,750 4,300	KEY	
Veritas 7	<u></u>	0	1,000	Sonus Faber Electa Amator 2	<u>=</u>	•	2,849	Lumley L/M 2 Sig. Mk3	Ŧ	0	4,500	Active; includes a de	dicated
Veritas 15	<u>=</u>	0	1,300	Sound-Lab Quantum	¥		2,150	Magnat Vintage 770	业	0	3,500	power amplifier.	
Veritas 20 Vienna Acoustics Mozart	业	0	1,400	S Coast Excalibur Spendor SP1/2	丑	0	2,150 1,674	Magneplanar MG-3.5SE Magneplanar MG-20 SE P	和		3,800 10,300	THX - THX-approved	
Zingali Colosseum		0	975	Spendor FL9	¥	0	2,220	Magneplanar MG-20 SE A	±		11,000	for use in Home THX inst Acoustic Energy Aegis Sub	allation
£1501 TO £3000			1.005	Spendor SP100 T+A TB 140	<b>±</b> 1	0	2,234	Martin-Logan SL3	#		3,399	Allison Mini Ref Sub	9
Acoustic Energy AE1 Sig Acoustic Energy AE2 Sig	<u> </u>	0	1,995 2,995	Tannoy Definition D500	±1 ±1	<u> </u>	1,760 1,999	Martin-Logan CLS IIz Martin-Logan Re-Quest Z	和		4,555 5,875	Alon Poseidon	0
Aliante Zeta	<u> </u>	0	1,850	Tannoy Stirling TW	<b>±</b> I	0	2,200	Martin-Logan Statement S2	<b>±</b> 1		8,967	ATC SCM 0.1/15 Audio Physic Terra	0
Aliante Linea Aliante One	五	0	2,060 2,700	Tannoy Definition D700 TDL Studio Monitor-m	和	0	2,500 2,750	Mendian DSP5000 Meridian DSP5500	和	0	3,295 5,950	Audiovector M Sub	•
		-	2,700		4		2,130	Wichidian DJI JJ00	A	_	3,330	Audiovector M Sub Sig.	

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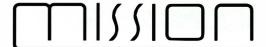
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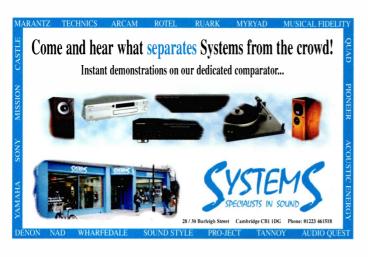
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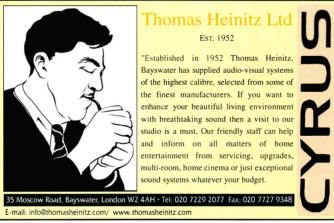
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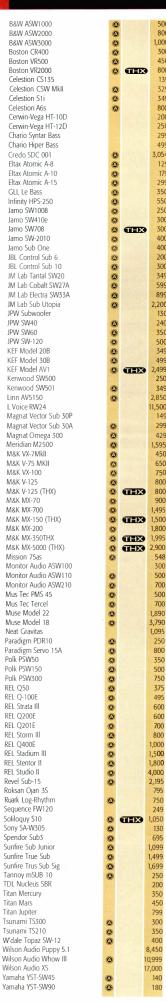




FACILITIES

ECTRICALLY UNBEATABLE

#### II-FI PRICE GUIDE



Yamaha YST-SW160	0		R
Yamaha YST-SW300	0		
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TONEARMS KEY			
<ul><li>Pivoted.</li></ul>			
# - Parallel tracking.T Air Tangent IC	ONEA	RMS #	4,
Air Tangent 10B Air Tangent Reference		##	8 14
Audio Note AN-ARM 1	•	**	
Audio Note AN-0s Audio Note AN-1s	9		
Audiomeca SL5 Clearaudio Souther TQ-1		#	2
Clearaudio Master TQ-1		#	3
Dynavector 507 Graham Mk 2.0 Basic	9		1,
Graham Mk 2.0 Deluxe Helius Orion 4 Copper	9		2,
Helius Cyalene 2	9		1
Kuzma Stogi S Kuzma Stogi	9		
Kuzma Stogi Ref Linn Akito	9		1,
Linn Ekos Moth Mk I	9		1,
Moth MKIII Stainless	9		
Moth Mk III Tungsten Moth Moth 900	9		
Naim ARO N'ham Interspace Arm	9		1,
N'ham Space N'ham Mentor	9		
N'ham Foot N'ham Anna Log Arm	0		1,
Pro-Ject 9	9		
Rega RB250 Rega RB300	9		
Rega RB600 Rega RB900	9		
Rockport Series 7000 Roksan Tabrız	0	#	6,
Roksan Tabriz Zi	9		
Roksan Artemiz SME 3009 Ser II Imp	9		
SME 3009 S2 Ser II Imp SME Series II 3009-R	9		
SME Series II 3010-R	9		
SME Series II 3012-R SME 309	9		
SME 310 SME 312	9		
SME Series IV	•		1
SME Series V Triplanar V1A	9		3,
Friplanar V1B Wilson Benesch Act 0.5	9		3,7
Wilson Benesch ACT2 Zeta AS	9		1,3
Zeta VDH	9		
TUNERS	J.		

Arcam Alpha 8

L C E G	U	ΙЦ	
Arcam Alpha 10 DRT	P07		80
Arcam FMJ DT26	P07		1,00
Ariston TX-510 AVI S2000MT2	P20 P99	RDS	5 89
Cambridge T500	P64		18 39
Creek T43 Cymbol C-DAB1	P64 P08		99
Cyrus FM7.5	P29		40
Davidson-Roth FM Ref Classic  Denon TU-260L Mkll	P40	RDS	5,59
Denon TU-425RD	P40	RDS	20
Denon TU-1500RD Fanfare FT1	P40 P08	RDS	1,39
H/K TU930	P30		15
H/K TU950 Kenwood KT-2080	P30 P20	RDS RDS	20 13
Kenwood KT-3080	P30	RDS	18
Linn Kudos Linn Kremlin	P50 P80		77 2,60
Magnum Dynalab FT11	100		49
Magnum Dynalab FT-101A Magnum Dynalab Etude			79 1,25
Magnum Dynalab MD108			4,99
Marantz ST-48 Marantz ST-17	P60 P60	RDS RDS	12 60
McIntosh MR7084	P50	RDS	2,49
McIntosh MX118 McIntosh MX130	P50		4,99 6,99
Meridian 504	P50 P30		69
Musical Fidelity E50	P20		30
Myryad T-30 Myryad Cameo	P29 P29	RDS	49
Myryad MT100	P29	ND3	60
NAD 412 NAD C440	P24	RDS	19 20
NAD 414RDS	P30	RDS	25
NAD 710	P24		27
NAD 712 Naim NAT03	P24		33 61
Naim NAT02			1,130
Naim NATO1 Onkyo T 421ORDS	P30	RDS	1,78
Onkyo T 409	P30	RDS	230
Onkyo T 411RDS	P30	RDS	260
Pioneer F-208RDS Quad 99	P30 P25	RDS	700
Rega Radio R	P24		350
Roksan Kandy Roksan Caspian	P50 P50	RDS	37! 69!
Rotel RT940AX	P20		225
Rotel RT-955 Sony ST-SE200	P30 P30	RDS	350
Sony ST-SE300	P30	RDS	120
Sony ST-SE520	P30	RDS	130
Sony ST-SB920 Sony ST-S3000	P30 P30	RDS	180 250
Sony ST-SA3ES	P30	RDS	280
Sony ST-D777ES T+A T1200R	P99 P60	RDS RDS	550 790
TAG McLaren T32R	P99	J	1,400
TAG McLaren T32R DAB Teac T-R400	P99		2,295
Teac T-R460	P40 P40	RDS	120
Teac T-H500	P30	RDS	170
Technics ST-GT350L Technics ST-GT550L	P30 P39	RDS	130
Technics ST-GT650L		RDS	230
Technics ST-GT1000 Thorens TRT-2000	P97 P59	RDS	500 499
Yamaha TX-396L	P40	AD3	100
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Audio Note AN-TT 1 Dual CS435-1	<b>O</b> 1	-	349 140
Dual CS 455-1	01		220

Dual CS 455-1

Dual 505-4 UK

Dual CS-750-1

Genexxa Lab-710

Genexxa Lab-810

Kenwood KD-492F

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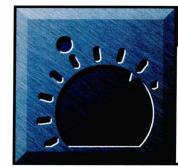
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#### THE WORLD'S MOST COMPREHENSIVE HI-FI LISTING. PROBABLY.



#### **Amplifiers**

The amplifier is at the heart of any hi-fi system, accepting the outputs from various music sources, increasing the amplitude of their signal and then driving the loudspeakers to produce sound. One-box 'integrated' amps rule the roost at low-to-middle price points, but if you pay more, the low-level and highlevel signal processes are separated into preamp and power amp boxes, and even separate 'outboard' power supplies come into play. nother luxury is a separate amp for each stereo channel: such devices are known as monoblocks. Finally, output power and sound quality are not necessarily related. Some of the finest amplifiers outputs only 12 Watts, but will yield loudness aplenty when partnered with high-efficiency loudspeakers.

#### KEY TO SPECIFICATIONS

LINE INPUTS: Number of input | MC PHONO INPUT: An input sockets for line-level (non-vinyl) for moving coil (low output) sources such as CD players, tuners and cassette decks. specially designed for moving magnet (high output) phono pickup cartridges.

phono pickup cartridges. REMOTE CONTROL: An infra-MM PHONO INPUT: An input | red handset to adjust volume etc. HEADPHONE SOCKET: An integral output for headphones. POWER OUTPUT (Watts):

Our measurement of an amp's RMS power output into 8 Ohms. **RECEIVER:** An amplifier with built-in radio receiver (tuner). ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

R BEST BUY

RECOMMENDED

SPECIFICATIONS

**EDITOR'S** CHOICE

## **Amnlifiers**

STATUS	Amp		ifiers	PHONO IN	REMO ONO INI PUTS	HEADA TE COL DUTS	POWE HONES VIROL	R OUTPL OCKET	ISSUE ECEIVER IT (M)	NUMBER
	PRODUCT	(E)	COMMENTS					×	_	
	Affordable Valve Co. EL34	650	A real bargain on the face of it, but the sound is oh so soft, warm and old-valve. Too much of a good thing	4					40	202
	Alchemist Kraken APD6A	599	Compact, with Darth Vader styling, yet sound quality is meek and mild, despite strong midband dynamics	5	•				55	175
0	AMC 3025a	140	Surprisingly potent and easy on the ear, if not especially analytical — classic bargain-basement material, in fact	4	•		•	•	30	171
0	AMC 3050a	170	Tremendous value for money, and a full, big, if rather uninformative sound	4	•		•	•	45	167
0	Arcam Alpha One	230	Rather like an Alpha 7 but without the remote control and what appears to be better sound quality still	6	20000				35	186
	Arcam Alpha 7R	300	Decent, if slightly system fussy amplifier that no longer pulls all the right strings	5	•		•	•	45	196
0	Arcam Alpha 8R	380	The Alpha 8R sets a high level of resolution and stability, and has some useful features for home cinema user	5 5			•		50	192
0	Arcam Alpha 9	500	Not quite a match for the Alpha 9/9P combo, the solo integrated is nevertheless colourful and explicitly detailed	7			•	•	70	168
0	Arcam Alpha 10	800	Although not the best sounding in its class, the Alpha 10's modular nature demands it be taken seriously	5			•	Office 1	100	181
0	Arcam FMJ A22	1,000	Powerful, articulate, and expandable into a home cinema or multiroom amp/controller	7				•	100	201
E	ATC SIA2-150	1,984	An impressive sounding integrated amp with a dynamic, open and detailed sound	4			•	· Appli	150	192
_	Aria S2	1,000	Glamorously packaged valve amp produces a real eyes closed, feet up kind of sound	4					12	190
0	Audio Analogue Puccini	450	Superbly finished, the entry-level Audio Analogue performs way out of its class	5					40	175
	Audio Analogue Puccini SE	595	Upgraded, more powerful Puccini is disappointingly sluggish and curiously lacking in musical vitality	5		•			40	181
0	AVI S2000MI	999	Fine, detailed amplifier with excellent timing and strong control of a wide range of loudspeaker loads	5		5	•	n e	100	175
	Bryston B60R	1,249	Great build, but the lazy bass and opaque treble bracket an articulate midband. Comes with 20 year guarantee	5			•	•	60	175
0	Cambridge Audio A500RC	200	Solid value, decent build and a surfeit of watts make this an attractive proposition, but it can sound slightly loose	6					50	196
0	Canary Audio CA-608	1,495	If you value the grand scheme of things and appreciate a bit of dynamic vigour this could be the amp for you	4				726 11	24	202
0	Copland CSA8	945	Sophisticated yet transparent, this is one of those amplifiers that sounds good even when the gloss has worn of	5					60	168
0	Copland CSA 28	1,249	Elegant Scandinavian cool, abundantly detailed if somewhat system dependent	5			•		60	189
	Copland CTA 402	1,698	A unusually flexible valve amp with an attractive and textured sound	5			•		35	193
0	CR Developments CR324	569	Solid and capable on paper, this is a bit of a blunt instrument when let loose on the music	5					150	181
	Cymbol CA1	499	Lacklustre amplifier tends to underperform with complex material. Best with straightforward compact loudspeakers	6					40	178
	Creek 4330	279	Diminutive but classy amp will drive anything, and can be specified in various configurations	4					40	192
0	Cyrus 5	500	A enjoyable amp that is assured and unflappable, although detail is unremarkable	7		- 1	•	•	45	205
0	Cyrus 7	700	Welcome return to form for the Cyrus stable: this is the best sounding audio brick around	6			•	•	60	196
0	Denon PMA-250SE	140	This amp can sound rough when extended, but within its limits it is open, detailed and likeable	5				•	30	171
0	Denon PMA-350SE	180	Reinvented in the minimalist tradition, this SE model is a control freak, but can sound wonderful	5				•	50	162
•	Denon PMA-535R	230	The kind of amp they made in the 70s, dressed to the nines, and nowhere to go	5			•	•	50	192
	Denon PMA-725R:	350	Warm, bold, up-front presentation, but musically unexciting	5			•	•	97	157
0	Denon PMA-1500R	500	Recommended for its outrageous power, especially with problem speakers	5					70	181
Ö	Densen Beat B-100 MkII	650	High 'air guitar' factor, and can punch above its weight, but check it will complement your system	5					60	175
•	Densen DM-10	1,375	Big, bold and expressive amplifier, but sometimes rough around the edges, and not as powerful as it appears	1000000					75	189
	Edmund Audio ESI10	400	Honest but unexciting straight line amp from REL associate company	. 6		- 10		EL I SED	85	192
	Electrocompaniet EC1-3	1,000	Basically good, but too many rough edges to warrant recommendation	6		- 10	•		75	201
	Graaf Venticinque	1,790	Smart and practical, but it just never seems to shine sonically	6				(198	25	202
ß	Harman/Kardon HK630	200	Sharp, clean but sometimes slightly raw-sounding budget amp	4			•	•	40	192
₩	Harman/Kardon HK690	530	Bold, dynamic amplifier with plenty of balls, but not the most sophisticated sound on earth	6	•		•	•	100	196
	Holfi Audis Signature	750	A 'no-feedback' circuit giving outstanding resolution, but significant load dependency	4	•				65	181
	JoLida 202	695	Well-built and technically accomplished, affordable valve integrated with subtle refined, if not quite gripping sound	4					40	168
1	JVC AX-R5	200	Versatile, and lots of even-handed, articulate detail; but let down by superficiality	5			•	•	45	149
	Kenwood KAF-3010R	180	Plenty of twiddly bits yet weak on inputs, and basically good, but somewhat uneven sound quality	4	•		•	•	70	186
	Kenwood KAF-3030R	250	Highly capable amp with good treble, bass and fine detail						65	205
0	Kenwood KA-5090R	300	Large, well equipped and high tech integrated, but TRAITR output still gives a harsh, unsubtle performance	5				•	65	171
	Krell KAV-500i	5.000	More at home in background listening/home cinema applications than out-and-out audio maniac set-ups	5	-			1100	250	192
	Lundahl Mag Amp	1,735	Unusual valve/magnetic amp hybrid with relaxed balance and good timbre	5		- 15			230	192
0	Magnum IA120	265	Mirror finish amplifier with bold, colourful delivery, but needs careful system matching to avoid loss of clarity	6	-			•	65	171
		330		_				-		NAME AND ADDRESS OF
0	Magnum IA170	599	Gives a realistic sense of instruments playing within a very believable acoustic; preserves colour and dynamics	7		- 51		•	96	142
0	Magnum (lass A SE	795	Sweet, valve-flavoured solid state amplifier which flatters where it doesn't cast light  A MOSFET amplifier drawing inspiration from the world of valves, this is an erratically refined, detailed amplifier	5	-		100		160	162
-	Magnum Class A SE			5					80	175
4	Marantz PM-6010SE	229	Good starter amplifier, with characteristic smooth, low key delivery	6					50	196
	Marantz PM7000	300	Lots of power for the price, but detail and subtlety seem to have been sacrificed	0					115	205

## Amplifiers

	SPECIFICATIONS	
9	LIMM P. MC PI REM HEAD POWER SES	
	MM PHONO INPUTS  INE INPUTS  INDUTS  MEMORY POWER OF SCHOOL SOLET MAY  INPUTS  INPUTS	MRE
	OTS OTS HOL CKET MY	P

STAT	<b>-</b>				·UTS	07	3 .40	CKI	T'M	ER
2	PRODUCT	(£)	COMMENTS		<b>V</b>	V	•	<b>V</b>	V	V
B	Marantz PM66 KI-Signature	400	It knows how to rock and roll with holographic detail and stereo, but prefers small/medium scale	acoustic material	5	•		•	50	16
	Marantz PM-17	900	Probably worth it for the WBT terminals and other build features alone, but this model doesn't		6	•	•	•	60	18
	Marantz PM-17 KI-Signature	1,300	Full feature audiophile amp where the end results don't quite justify the fantastic ingredient	S	6	•	•	•	60	18
_	Monrio Asty	400	Engaging, but ill-disciplined, even OTT amplifier with unpredictable system compatibility		5	-		-	55	17
B	Musical Fidelity E1 Musical Fidelity E11	1 <b>99</b> 299	Richly flavoured tone and realistically-scaled imagery distinguish this entry-level Richer Sounds Well built minimalist amp with a five year guarantee, but can sound congested when extended		<b>6</b>		200		<b>30</b> 60	17 17
B	Musical Fidelity X-A1	479	Idiosyncratic visuals just another plus for an amp that is powerful, well built, and serves the mi	-	6	200			50	18
	Musical Fidelity A3	849	Similar to the XA-100R internally, and a lit le too relaxed for some		5	•	•	•	85	19
3	Musical Fidelity X-A100R	999	Sings like a thoroughbred, but better with Mozart than Mötörhead		6				75	189
	MVL A2	970	Curiously designed, and curious sounding amplifier with Sound Sentinel circuits to address percentage of the control of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits to address percentage of the curious sounding amplifier with Sound Sentinel circuits and the curious sounding amplifier with Sound Sentinel circuits and the curious sounding sentinel circuits and the curious sounding sentinel circuits and the curious sentinel circuits and circu	eived weaknesses	9	•			100	20
	Myad T-40	400	The T-40 is a well built and sensible, but needs more dynamics and finesse		6	•		•	50	19
3	Myryad Ml120	600	Well styled, well built: a good, even tempered amplifier, although it can sound rather brittle		6				60	17:
B	NAD 310	100	Fleet and sure of foot, it seems likely to set all appendages tapping with its blend of enthusiasr		5				20	14
B	NAD C320	200	Excellent budget amp from the maker of the seminal 3020 offers better darity and neutrality		6				40	18
3	NAD C340	270	A dassic NAD amplifier copes with any speaker, delivers plenty of power, and does so with		6	•	-		50	19
Ð	NAD 317	470	Build quality aside, the current improved version is a real powerhouse, but smooth and deta		6	-	1000000			19
	NAD S300	1,900	Substantial integrated with loads of power and no shortage of finesse, slightly bass-strong		5 5			•	100 <b>30</b>	18
B .	Naim Nait 3 Naim Nait 3R	575 780	Distinctive and highly musical sounding integrated amp. Perhaps too distinctive for some taster. Remote control variant of the basic Nait has a similarly dynamic credible sound but ultimate		5	1			30	15
	Opera Aida	795	Low power (in practice) minimalist integrated amp, but the mahogany wings don't help it t		5	•			60	20
	Pathos Classic One	995	Unusual looks and even more unusual electronic design, but compromised musical potentia	/	5			•	55	20
B	Pioneer A-300R	200	Its bright and breezy sound is a natural tonic to those of us worn down by the ongoing stress		5	•			50	1149
3	Pioneer A-407R	230	Clean, consistent, finely detailed sound, good finish and (mainly) good build		5	•			45	180
3	Pioneer A-607R	300	Lively, articulate amp with plenty of drive and a hint of brightness		5	•			60	19:
3	Pioneer A-300R Precision	400	Sophisticated variant of the A-300R. Not an obvious winner, but it slowly plys you with its subtl		5	•			35	16.
_	Pioneer A07	999	Curious blend of high-end attributes and inconsistent, though undeniably detailed sound		5	•		•	80	17
<b>3</b>	Præcisa Acustica Sonoro	1,800	It is not often that transistor amplifiers are made to sound so palpably valve-like		5				100	189
B	Primare A10	500	Sharp, clean and agile sound quality, class leading build and an excellent control system – what r		6			•	50	20
3	Primare A20 MkII	799	Everything except packaging has changed in Mk II version: but ballsier model has lost none of		5				70	18
3	Primare A30.1	1,499	Superb build and aesthetics, and undemonstrably musical down to its smallest screw		6			•	100	189
	Rega Elex	398	Minimalist amplifier, derived from Elicit, is a little uninspiring, although at least it is well behave		4	•			50	16.
_	Restek Fantasy II	1499	Muscular, but ultimately rather strident amplifier which needs careful system matching		6		755,654	•	100	189
9	Roksan Kandy KA-1	475	Power with control, barely compromised by a small degree of dryness		6	•	10000		120	20
)	Roksan Caspian	795	Mainstream Roksan line level amp works well under most circumstances		5				70	20
	Rose Scion Rotel RA-931	615 150	Unique two-box integrated gives real subtlety and low level resolution, but the sound lacks sca Rather dry and unforgiving sound from this internally well specified and attractively priced amp		4	•			65	16
3	Rotél RA-971 MkII	225	Improved AR971 is a chip off the old block: bags of power, but with added precision and cla		5				60	196
	Rotel RA-972	450	Better in the treble than the bass, which is a little too rounded and woolly		6	-			90	20
	The second secon	10,000			/a				110	200
9	Sony TA-FB740R	200	Very open and clear sound, comfortable with a wide range of musical styles		5	•			THE RESERVE	20!
3	Sony TA-F448BE	250	Minimalist interface is matched to carefully considered circuit with satisfactory effect — but keep the		5	•			55	17
9	Sony TA-F3000ES	500	Champagne 'shoebox amp' may lack power reserves, but is quick and articulate. In every sens		5	•			35	170
	T+A PA-1220R	1,445	Unique presentation and feature set, but sometimes rather relentless sound quality		7				100	189
	Tact Millennium Mk II	7,000	This digital class D amplifier represents a bold declaration on the future expansion of digital a		/a			•	150	194
	TAG McLaren 60i	800	Clean, slightly antiseptic sound from this beautifully turned out entry level Audiolab 8000LX		อ์				60	18
	TAG McLaren 60iRv	999	Looks, feels and sounds better than the Audiolab it supersedes. Smooth, open, refined but lack		6			•	60	18-
9	Talk Electronics Storm 1	500	Good soundstaging and strong detail are provided by this unassuming and not especially pow		5				50	162
	Talk Elec ronics Cyclone 1	550	Much improved build quality and silver finish, but the sound lacks physicality and can sound		6				65	19
9	Talk Electronics Storm 2	650	Crisp, dean, well defined sound, arguably lacking warmth, but a good midrange purchase over		6		(		50	17:
	Teac A-E2000	180	Has the potential to cause significant damage in the budget amp sector once the wrinkles are		6				50	195
	Technics SU-A660 Mk 3	200	Plenty of wellie for the price, but the sound can be a tad coarse and lacking in fine detail		5	•			37	186
	Technics SU-A808	300	Intriguing amplifier, with abundant detail but dynamically rather flat		6	•			55	196
•	Technics SU-A800D Mk 2 Technics SU-A900D Mk 2	<b>300</b> 400	Two-box amplifier looks great, has plenty of gadgets, and makes good, if slightly overexuberant Looks like a pre/power amplifier, but in effect it's an integrated, with a rather soft-centred soun			•			<b>55</b> 70	178 179
•	Token Audio K50	350	Stainless steel finish, others available. Sound is warm and attractive, though a little undynam		-				50	186
,			A very attractive product which combines many classic valve attributes to good effect			•			30	202
	Yamaha AX-392	170	Standard budget fare, and it's easy to pick holes, but in undemanding surroundings it works			•			60	193
•	Yamaha AX-492	220	Powerful, well equipped amplifier at an attractive price, offers powerful and engaging music-m		-	•			85	170
	Yamaha AX-592	280	Fine, middle ranking amplifier, with a detailed midband but performance declines at frequency ext			•	•		100	17
	PREAMPLIFIERS									
		3,000	Three-box affair with a clean, spacious sound and plenty of slam. A touch steely, but undeni-		5				50	187
	Alchemist Kraken APD7A Mkll		Unusual looks and unusual sound too, rather rough and lacking detail		5					18
9	Arcam Alpha 9C	400	Well specified and flexible preamp with sound only just lacking in greatness							183
	Audio Note M Zero	299	Neat shoe box-size preamp. Able to impart music with real life and soul when partnered with P		-					19
)		1 249	Sweet sounding, but never gets bogged down in audio treacle		-	•				15
9	Creek P43R	350	Excellent sound, remote control operation and upgrade options from this fine value preamp	(				•		187
3	Crimson CS610	709	Good, clear sound, including a decent phono stage, but fl xibility is limited	ad with		•	•			187
-	Cyrus aCA7 Densen Beat B-200	798	A decent enough unit at the price but not as good as the Cyrus aPA7 power amp it was tested a versatile preamp with a high 'air-quitar' factor and Decen's characteristic styling.	ed with						190
В		1,000 <b>3,995</b>	A versatile preamp with a high 'air-guitar' factor and Densen's characteristic styling  True high end preamplifier combines precision and warmth with unusual configurability	-	-				-	191
9	LFD Mistral Linestage	449	Strong ergonomics, generally decent sound, but a little lacking in detail							195 165
-		1,295	Extremely sophisticated analogue controller with tremendous flexibility and a fast and tidy pres							16:
-		1,650	Line-level design with a gorgeous remote and focused, spacious sound. (Tested with Alecto p		100		0.0000			187
	Moth 30 Active Line Stage	349	Excellent-sounding ultra-simple miniature preamp	power amps)	-					165
		1,990	Natural sounding tranny preamp with useful audiophile features. Works beautifully with 160 pow							166
	Musical Fidelity X-PRE	200	Cleverly configured preamp with many upgrade options, and open, lively and engaging sound	2	-			1 1 1 1 1		175
	Musical Fidelity X-P100		Good long-term listening prospects; detail d and a little fruitiness (tested with X-A200 power		-	•				200
)	Widsical Fidelity A-F 100	800	Good long-term listerling prospects, detail a and a little fiduliess (tested with x-7200 power	arrip)	100					

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#### CONTINUED REMOTE CONTROL ALLO PHONE SOCKET SPECIFICATIONS MC PHONO INPUTS **Amplifiers** MM PHONO INPUTS POWER OUTPUT AND ISSUE NUMBER LINE INPUTS RECEIVER NAD Silverline S100 Beautifully built kit that sounds as good as it looks (tested with S200 power amp) 600 200 0 Naim NAC92R 630 Upgradeable preamp uses proprietary socketry. (Tested with NAP90 power amp) 165 More of a 'character act' than a neutral reproduction system, majors on excitement at the expense of subtlety Naim NAC102 1,000 6 200 Rega Hal Passive line stages dedicated to Exon power amps 6 165 0 Rotel RC-971 Low price is offset by rather coarse sound quality with certain types of music. (Tested with RB-971 power amp) 178 Highly capable, though less astonishing value than matching RB-991 power amp (tested as pair) Rotel RC-995 525 200 Samuel Johnson pca100 1.800 Stylish wood and metal facia - precise, clean sound with an emphasis on leading edges 6 201 TAG McLaren PA20R Refinement of Audiolab original with clean, detailed sound but limited thrill power. (T/w 125M monoblocks) 184 1 500 6 Talk Hurricane 2L 649 Design of integrity which gets to the heart, if not the soul, of the music 165 Technics SU-C3000 Price includes SE-A3000. Supremely clean and even sounding combo, though it could be more musically involving 188 2 997 300 Although the sound's basically all there, it's arguable that a good integrated offers more, for less 200 **POWER AMPLIFIERS** Unusual looks and unusual sound too, rather rough and lacking detail Alch, Kraken APD8A Mk II 55 187 Clear, colourful and well-disciplined, the Arcam is a strong all-rounder that can compete with conviction 165 Arcam Alpha 10P 600 Well made and flexible: upgradeable to 3 channels. Good sound lacking the last degree of detail 100 187 0 191 Audio Note P Zero Neat shoe box size valve monoblocks, priced per pair. Impart music with life and soul. (Tested with P Zero preamp) 599 8 Border Patrol 300B SE Single ended valve power amp with passion, grace and fire, and plenty of grunt to boot 186 3.995 8.5 Cary CAD 2A3SE 196 1 575 Monoblock valve power amp. Low power but gives delightful speed, coherence and transparency 5 Copland CTA-505 2 099 Grown-up amplifier with a refined, yet never over-civilised air 67 151 410 202 Chord SPM-4000 8,500 Sound is as stylish as its appearance is bold. Probably one of the best amps you are likely to hear 599 Well designed and built amplifier with plenty of power, detail and refinement 187 Crimson CS630 Space-saving slimline monoblocks with both grunt and finesse 100 187 800 O Not entirely satisfactory power amp which has dynamic strengths, but underachieves when the volume is raised 181 Crimson 6200 875 50 Detail and midband clarity and stand-out qualities. Smooth and refined with most types of music but bass-soft 183 Cyrus Power 50 498 1.896 190 vrus aPA7 Low feedback design that's a positive departure from the transistorised norm. (Tested with Cyrus aCA7 pre) 150 183 0 Densen B-300 800 Expensive but highly musical. Colourful and and warm sound with strong timing and listener involvement 100 2.995 ngle MOSFET pair per side gives tremendous resolution and timing (balanced only). Formerly Sirius 200 183 Gamut D200 125 A mailed fist in a velvet glove; refined, authoritative and transparent 195 Levinson 334 5,495 E LFD Mistral Power 449 Infectious upper band vitality, but LF dynamics lacking - likewise 'grip' and transparency 60 165 A monoblock with an uncanny ability to drag you into the music, and spend half the night sitting up listening 4.800 200 199 Hefty beasts offering real power and striking imaging. Not the last word in timing. (Tested with Orca preamp) 100 187 Michell Alecto Monoblocks 1.950 Miniature power amp lacks control and finesse — not comfortable with difficult speaker loads Moth 60 Watt Stereo 599 60 165 Tested with Active Preamp. Demonstrated solid balance and proved adept at delivering vital musical qualities 879 100 155 Moth 30 Series Monoblods a Musical Fidelity X-A50 500 Cleverly configured and attractively packaged, open, lively and engaging sound. Reviewed with X-PRE 50 175 Good long-term listening prospects; detailed and a little fruity (tested with X-P100 preamp) 200 Musical Fidelity X-A200 1,000 200 0 Powerful smooth sound with tremendous bass extension. Capacity to fulfil the demands of the most dynamic material 199 Musical Fidelity NuVista 300 350 Myrvad MA120 450 Based on MI120 integrated – see latter for comments, but sounds significantly better when bi-amped with MI120 60 165 165 AD 214 370 A little lightweight, but detailed, consistent sound quality, and excellent value for money 80 O Beautifully built kit that sounds as good as it looks with heaps of power (tested with \$100 preamp) NAD Silverline S200 200 0 1.400 200 Power amp from a Nait integrated with some improvements Naim NAP90 450 30 165 Naim NAP180 More of a 'character act' than a truly neutral reproduction system, majors on excitement at the expense of subtlety 60 200 Samuel Johnson ppa100 2,200 Stylish wood and metal facia - nimble, high resolution and highly coherent sound 50 201 200 Technics SE-A1010 Although the sound's basically all there, it's arguable that a good integrated offers more, for less 90 Technics SE-A3000 Price includes SU-C3000. Supremely clean and even sounding combo, though it could be more musically involving 100 188 100 187 Thule Spirit PA100 600 More successful than matching preamp; sound is gutsy and lively, and generally clear Monoblock, priced each, dedicated for Hal preamp. Bold, outgoing, in-command kind of sound 1196 Rega Exon 125 165 595 Excels musically and in conventional hi-fi terms. A power amp for people with long-term satisfaction in mind 183 70 0 Rotel RB-971 200 Somewhat better than the accompanying preamp - clean, mean and bridgeable. (Tested with RC-971) 70 178 0 Top stuff and stunning value: rather outshone the matching RC-995 preamp (tested as pair) 200 600 200 Rotel RB-980BX 450 Tames enthusiastically recorded material with a laid-back and occasionally smeared sound 120 155 TAG McLaren 125N Refined Audiolab replacement monoblocks with clean sound but limited thrill power. (T/w PA20R preamp) 145 184 Good, but slightly retiring sound which lacks the authority to stand out in a crowd 65 165 Talk Tornado 600 PHONO STAGES Slightly inconsistent balance marrs the performance of this lively performer Clearaudio Symphono 201 740 A neat little unit with an essentially neutral and listenable character Creek OBH-9 160 0 189 Cyrus aEQ7/PSX-R 826 Very hi-tech product which tends too much towards smoothness except at climaxes, which can be rough 0 189 Quite unusual design in many ways: sound is mostly good but never quite shakes off a 'synthetic' quality 0 189 Densen DP-Drive/DP-02 350 Electrocompaniet ECP-1 495 An excellent phono amp that combines well-rounded balance with detail and low noise 0 189 O Fine sound all round, in any kind of music, from this bargain phono sta 249 An enjoyable listening experience in its way, but a bit short on inner details Musical Fidelity X-LP2/X-PSU 628 0 201 A basic phono stage that does its job rather coarsely: a bit bass-shy too 0 NAD PP-1 40 189 0 Pass Labs XOno 2 995 Not absolutely neutral, but the overall result is so beguiling it's hard to resist 201 Primare R-20 500 Fights a little shy of densely scored music, but generally an enjoyable and neutral performer 0 . 201 Pro-Ject Phono Box 40 Moving-coil compatibility is a dubious extra in a way, but MM performance is acceptable at this giveaway price 0 . 201 0 It's cheap, it's cheerful, it's OK - perfectly adequate for use with a phono-less integrated, though not very refined 189 OED Discsaver DS-1 35 0 0 Roksan Artaxerxes X/DS1.5 1.150 Delicate and well balanced, slightly congested at climaxes. Power supply expensive, but runs two Roksan components • 189 TAG McLaren PPA20 One of the best-equipped phono stages available. Resolution is excellent, but timing is marginally behind the best 0 187 1.549 Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for information retrieval off any LP 0 201 Tom Evans The Groove 1,500 0 MULTI-CHANNEL AMPLIE 0 Packed with a diversity of electronics that against engineering odds sounds extremely good 198 Arcam Alpha 10 DAVE/10P 2,500 5 110 Few processors are as adept with music. An effective multi-channel solution for music fans N/A 201 yrus AV 1,000 Not as powerful as Denon claims, but nonetheless capable of impressive high-fidelity multi-channel sound 0 Denon AVR-3300 4 75 198 500 Something of a rough diamond, but a powerful and entertaining package 0 Musical Fidelity HTP/HT600 3.998 A very well matched pairing with considerable musical talents 8 100 207 Lacks both transparency and subtlety while the omission of dts will be a drawback for some at this price 90 198 1,000 **NAD T770** A very powerful AV receiver that's easy to install and set-up with a civilised and subtle performance 198 Nakamichi AV-10 140 1.000 A flexible heavyweight AV receiver whose sound is just a little too stodgy and lacking in crispness • Pioneer VSX-908RDS 1,000 80 198 O A potent combination offering the bare essentials of DD and dts decoding Roksan Caspian DSP 2.290 130 198 0 Rotel RSP-985/RPB-985 MkII The hugely versatile processor is the weaker subjective link in this otherwise impressive combo 130 198 2.225 Dual purpose model with enthralling midrange and presence, that does music and movies with equal aplomb 6 100 205 Big, gold, powerful and remarkably versatile but fails to cut the sonic mustard 198 Sony TA-E9000ES/N9000ES 2,300 110



#### Cables

- ables are an integral part of a hi-fi system, required to connect source
- Analogue Interconnects connect source components and amplifiers, and run between pre and power amps. They are priced for one-metre terminated pairs.
- Digital interconnects connect CD transports to DACs or digital recorders. They come in optical and electrical varieties, the former being made of plastic or glass. The prices shown are for a terminated linear metre.
- Speaker cables are used between the amplifier and speaker. Our prices are per unterminated metre. Termination (plugs and soldering) costs vary.

#### SPECIFICATIONS T O

• SYMMETRICAL: A twisted pair

 COAXIAL: A central 'hot' conductor and a shield that carries the negative signal.

• STRANDED: Multiple strands with no intervening insulation.

• SOLID CORE: Single or multiple, individually insulated strands.

COPPER: Material used for conducto

SILVER: Material used for conductor.

● DIG CABLE TYPE: O - ontical digital: E - electrical digital for CD Players, DACS and digital recorders.

ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

RECOMMENDED **BEST BUY** 

**EDITOR'S** 

## Cables

	0-11				- 0			4	
S	Cabl	P	S. S	METRICAL	STRAN	SOLID CON	OPPER SILVER	CABLE TO	E NUMBER
STATUS	OWNI	U		AL		10 3	E		PE "BER
5	The second secon	(£)	COMMENTS			<b>V V</b>	V		<b>V V</b>
		ECTS (	PRICES PER TERMINATED METRE PAIR)						
	Acoustic Precision Eikos	89	Not entirely neutral: probably best suited to upbeat music. Very stiff construction			• •		)	188
	Audio Note AN-A	18	Not especially impressive: warm but well-rounded balance that restricts 'air' but is quite clear		•	•			108
	Audio Note AN-C	35	Neutral but lacking in subtle texture and unable to distinguish fine detail	YE					131
0	Audio Note AN-S	99	Up-beat and enthusiastic sound with satisfyingly deep and grumbly bass		•		•	•	131
	Audio Note AN-V	179	15 individually insulated silver strands make up this very clean and dynamically unchallenged cable		•	•		•	131
l	Audioquest Topaz X2	60	Well made but let down by a pervading sense of muddle and congestion in the sound		•		• •		188
0	Audioquest Coral	99	Slightly forward imaging hardly detracts from its excellent tonal qualities and detail		•	•	•		200
0	CableTalk Advanced 2	35	Slight roughness in loud music barely detracts from a well-balanced performance with good imaging	15		•	•		176
0	Cable Talk Studio 2	65	A first-class performer from tonal, dynamic and rhythmic standpoints		•	•	•		160
	Cambridge Pacific	30	Lacks subtlety and bass impact but is otherwise quite serviceable for the price	1					176
0	Cambridge Audio Studio Ref	40	Dynamic cable with strong soundstaging and only a slight lack of detail				•		160
	Cambridge Silver Spirit 60	100	Good bass but a lack of detail and differentiation of instruments		•		•		188
	Chord Cobra 2	50	Good, strong sound with full-bodied music, less happy with smaller forces						176
	Chord Chameleon 2	90	Deep bass is fine but despite that the sound can be a bit hard and lacking body and resonance	100	•		•		188
0	Connections Midas HD	39	Canary yellow cable with excellent plugs and an open sound. Slight treble glare		•		•		160
0	DNM Reson	40	Seemed a little harsh in the test system, but can work well and should be tried						200
	Goertz M1 Interconnect	145	Soft sound lacking in bite, with excessive and plummy bass (NB sample used in review was only 0.5m)		•				176
	Insert Audio IC100 MkII	47	Mostly good sound is let down by pervasive dryness	167					176
0	Insert Audio Image 5.1	85	Very good detail and imaging: perhaps a touch bass-light						200
0	lxos 104	20	Open and detailed presentation, full bass and silky if overly smooth treble	900					131
	lxos Gamma 1002	39	Lumpy bass, grainy treble, and poor integration. Nice colour, though	176	•		•		176
0	Ixos 103	45	Even-handed and generous sound, bass has a well-rounded, bouncy quality	100			•		131
	lxos 102	60	A bit bright and undynamic, this cable is nevertheless a good all-rounder, whose faults are largely subtract	tive					160
	Ixos 1000	90	Nothing badly wrong, just a little bit bland and outshone by others at the price		•	•	•		200
	Ixos 101	100	A cable with personality: its veiled and shut in quality bring an earthiness to vocals and rhythm guitar alike	e				•	131
0	Kimber PBJ	68	Assured sound, solid and natural bass and clear treble — excellent performance all round						188
0	Kimber Hero	110	Slight roughness detracts from some music; seems well suited to rock and jazz. Lively and detailed	(1)	•	•		1000	176
0	Moth Lev Line Black	100	Offers a full sound, neutral yet very solid and confident in delivery. Expansive imaging retains music's ene	rgv	•	•	•	•	108
•	Moth Ley Line Grey	200	Detailed, but there's a sense of distance between music and listener: vocals are coarse rather than liquid	07				•	108
	Nordost Black Knight	60	Flat black cable that is distinctive but slightly coloured – but not in a wholly negative manner	1000	•				160
0	Nordost Solar Wind	85	Good tone and dynamics, with just occasionally a touch of bass-lightness in busy music	335	•			1	188
0	Nordost Blue Heaven	145	Very good bass and only slightly grainy treble add up to a well integrated, natural-sounding cable		•				176
w	Precious Metals SS35	50	Extended bass, but dry character suits electronic music better than acoustic				•		188
0	Prowire Silver	60	A good cable in every way, with just the occasional hint of coloration and coarseness	5715				•	176
0	QED Qnect 2	30	Very well balanced, refined and detailed, this is everything a good cable should be, and excellent value	100					176
0	QED Qnect 4S	70	Some coloration and roughness in the midrange and treble, but bass is gratifyingly solid		•		•		188
	QED Qnex Silver Spiral	90	A great cable for lovers of big sounds					10000	200
9	Reference CS1	75	A moderate performer, with a little coloration and a tendency to lose bass at climaxes	100.00	•				188
	Silvertone Ex-Static	35	Pleasantly unfatiguing and competitively priced cable that lacks detail and insight						160
0	SonicLink Silver Pink	35	Dynamically sensitive and muddle-free. We're unsure about the flesh-coloured finish, though		•				160
	SonicLink Black	49	Nickel-plated copper with a slight dryness in the bass and a hint of treble roll-off don't compromise integral	tion	•				176
9			Entransian and an annual management of the composition in the composit						



Tel: 020 8348 5676 (2-7pm) Fax: 020 8341 9368

Email: ConnectionCable@aol.com

#### Esoteric High Fidelity Cables

Dealers in: Absolute • Audio Note • Audioquest • Deltec • Electrocompaniet • Harmonix • Kimber • Mandrake • MIT • Siltech • Symo • Transparent • Van den Hul • WBT • and others

... the RIGHT cables ... in YOUR system ... for YOUR ears ... in YOUR home

Contact us by phone, fax, or email and we'll do our best to help you achieve your goal. (Auditions may be subject to a handling charge)

**CONNECTIONS** (A division of Connection 90' Travel Ltd.)

٦	CONTINUED	No. 1		SPECIFIC				
SIMIOS	Cabl	e	S	SYMMETRICAL	COPPER	DIG CAL	ISSUE NUMB	BER
1	PRODUCT	(£)	COMMENTS	V V	<b>V V</b>		<b>V V</b>	
	SonicLink Lilac	65	Some dryness can affect transient sounds, though tone is generally good, especially in the bo	ass	•	•		18
	SonicLink Violet	85	Better bass than treble – a little dry in the upper octaves  A very confident cable with good bass though porbags a shade of treble loss.					2
	Straight Wire Chorus Straight Wire Sonata	40 80	A very confident cable with good bass, though perhaps a shade of treble loss  Tonal balance favours lower frequencies but despite this it's a very listenable cable					1
)	Straight Wire Encore II	100	Slightly variable bass performance is a weakness in this otherwise capable cable		•	•		2
)	Supra EFF-ISL	80	Excellent sound in all areas — nothing to criticise		•			1
	Tara Labs Prism 22	64	Mild tendency to plumminess offsets some hardness in complex music with mixed results		•	•		1
	Tara Labs Prism 55-i	195	Good with laid-back music, but seems lazy with more exciting material	•	•	•		2
)	TCI Viper	55	Fine performance in all areas: just the smallest hint of sibilance. Very good value	0 0	•			2
)	van den Hul PB5	50	A highly neutral cable with fine dynamic and rhythmic performance too — excellent		•	•		1
	van den Hul Source HB	65	Price for 0.8m. Hybrid carbon-fibre/copper cable that is a paragon of naturalness	•	•	•		1
	van den Hul D102 MkIII HB	80	A fine cable, but the competition has crept up and it no longer leads the pack		•	•		2
	Audioquest Digital One		A neutral and capable cable that adds little or no character to the sound				E	2
	Chord Optilink	35 40	Beautifully made, but performance is practically indistinguishable from other, cheaper, Toslin				0	2
,	Chord Prodac	50	Price for 0.6m length. Lively detailed treble, drives music along confidently with no hint of fiz	THE RESERVE THE PERSON NAMED IN COLUMN		•	E	1
	lxos 1051-100	39.95	Plenty of bass, and detail seems good, but there's a loss of involvement			•	E	2
	Kimber Kable Opti-link	50	Appears to be a bog-standard PMNA fibre, yet sounds a little brighter and livelier than most				0	1
	Moth Leyline Datalink	140	A thin, coaxial version of Leyline Black with a rather hard and unforgiving character. Too expe	ensive		•	E	1
	QED Qunex P75	25	A superbly capable interconnect that's highly detailed and well balanced	•	•	•	E	2
	Ross OP004	19.99	Sounds much like most other Toslink leads: slightly lacking detail, but good value				0	2
	SonicLink Digital Optical	30	Possibly slightly more detailed than other opticals, but still no match for a decent electrical d	-			0	2
	SonicLink Green	60	Spacious, positive and engaging if a bit over-crisp at times — very compelling, however	•	•	•	• E	
	Straight Wire Info-Link	300	A good cable, but bass seems a little light and detail suffers a little at climaxes	•	•		• E	2
	van den Hul Optocoupler	49.95	Noticeably has the edge over other optical leads, but still second best to electrical types	The second secon			0	- 2
	van den Hul The First	140	Exceptionally natural albeit slightly cautious compared to some. Plenty of subtle information	and integration	•	1000	E	
	ALP Jordan OMM			•		77070		
	ALR Jordan QMM Audio Note AN-B	5	Generally neutral, if sometimes bass-shy, but not very communicative  Well suited to valve systems, elastic bass, methodical but unintrusive and musical			•	•	
	Audio Note AN-L		Fruity bass and expressive vocal rendition was appreciated by the panel, which was happy to	accept its foibles	•		•	
	Audio Note AN-SP	150	A calm and civilised presentation, very quiet in the way it reveals subtle low level detail. Great				•	
	Audioquest F-18	3.60	Slightly lumpy bass and lack of midrange detail: can also be a bit dry	poise and clarity		•		
	Audioquest Type 4	5	Four 18-gauge OFHC copper conductors wound in a Litz-type fashion increases capacitance	OFERSON				
	Audioquest Type 6	9	A very inflexible cable in which the sonic ends don't quite justify the means	out restrains bite		•		
	Audioquest Slate	15	Capable across the board, with just the smallest degree of dryness, but very listenable	•	•			
	Bandridge LC7409	4	Detailed and up-beat cable. A bit too steely for classical strings	SER IS	•	•		
	Cable Talk Talk 3.1	2.25	Quite well-balanced but tends to lose bass lines in complex music	•	•	•		
	Cable Talk Talk 4.1	4.25	Smooth and cultured sound that lacks fine detail and is a bit too restrained		•	•		
	Cable Talk Flat 2	5	Rather unexciting sound, with variable bass and dry voices	•	•	•		2
	Cable Talk Concert 2.1	8	Can make stereo images recede, and favours the upper bass	•	•	•		
	DNM LSC350	6.95	Majors on midband and lower treble lucidity at the expense of bass and extreme treble exte	nsion		•		
	Chord Company Odyssey	17	Relatively vice-free cable with good detail throughout the range and generally neutral bass	•	•	•		
	Chord Company Rumour 2	10	Performance is listenable enough but fails to excel in any area		•	•		1
	DNM LSCB500	12	High impedance can influence the treble response, but this was a winner on sound per pour		•			
	Electrofluidics Monolith 2020	45	Excellent bass extension and very fine performance elsewhere - one of the best cables available		•	•		
	Gale XL189	1	Slightly bright and not too subtle, but a perfectly acceptable cable for any starter system	•	•			
	Gale XL315	2	A little lacking in detail but plenty of life and excellent value		•	•		
	Gale XL160-2	2.50	Rhythmic and bouncy-sounding bi-wire cable. Can be slightly manipulative	32.0	•	•		
	Goertz M2	32	Remarkably detailed, smooth, neutral and with excellent bass; check amplifier compatibility	•	•	•		
	Hitachi LC-OFC	7	Very crisp, very clear and very confident. In the right system would be very expensive to bett		•	•		-
	Ixos Gamma 6003	2.99	A little midrange dryness, but bass is among the best at this price, strong and consistent	•	•	9		
	Ixos Gamma 6006	5	Bass is better than treble, which can become spitty and sibilant – though only slightly	o right	•	•		
	Kimber 4PR Kimber 4VS	4.90	Considering the price, this cable's very slight dryness is forgivable when everything else is so A good mix of virtues including particularly fine bass	***************************************	•			
	Kimber 4VS	8.50 18.80	· · · · · · · · · · · · · · · · · · ·	•				
	Kimber 8TC	348	Very capable in all areas, particularly good at imaging and with firm bass. Price for 5m termin					
	Linn K20	4	Seems to work best with lively, unsubtle music – can be dry and edgy	lated pail	•			
	Naim NAC A5	5.5	A 'dinosaur of a cable', this stiff wire rod doesn't belong outside Naim systems, where it wor	The state of the s	•	•		
	Nordost Octava	3	Fair bass but confused treble and some coloration	• I tredit	•	•		
	Nordost Flatline Gold II	9.50	Exciting sound but a bit too 'in-yer-face', and bass is not always even	•	•	•		
	Ortofon SPK 100	3	Grey-sounding – strips instruments of their natural richness and resonance. A bit bass-shy, to	CONTRACTOR	•	•		
	Ortofon SPK200	4.99	Good strong bass and fair detail, only slightly marred by a little dryness	•	•	•		
	Ortofon SPK300	8	Tremendously open and atmospheric, with robust, full-blooded bass — if slightly bright at time	*******	•	•		
	Precious Metals SL102	10	Unusual construction gives rather strained sound, only really cheering up with simple musical		•	•		
	Profigold Silverflex LC8258	4	A pretty-looking cable that does little to offend but is let down by some congestion	•	•	•		
	Prowire Out of Sight	1.99	Special-purpose cable for laying under carpets etc. Fair sound across the board		•	-		
	Puresonic 7845	1.95	Big, weighty sound — but too messy and bloated for its own good		•			
	Puresonic 7891	2.85	Chunky cable design; shame about the sound quality					
	QED Qudos	2.25	Despite high-tech design and excellent Air-Loc plugs, its music-making failed to gel			•	1111	
	QED Qudos Silver	5	A few minor flaws but overall performance is very assured for this price			•		
	QED Profile 4x4	9	Good midrange and treble balance, but bass is rather slack and detail not outstanding	a hast at its price				
	QED Genesis Silver Spiral	30	Commendable bass, with a little dryness and mildly compromised imaging: good, but not the	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM		•		
	SonicLink S300	18	Happiest with simple music; tends to smudge detail in complex pieces  It may look like hell-wire, but ASTSO sounds detailed, ordered and belanced					93 93
	Conictink ACTED		It may look like bell-wire, but AST50 sounds detailed, ordered and balanced	- SI TO S			10000	8
	SonicLink AST50	1.95	Unusual materials and rather unusual performance too strong on qualiforment and and all the standard	ty of bacc				
	SonicLink AST75	2.95	Unusual materials and rather unusual performance too, strong on excitement and with plent	y of bass		•		
	SonicLink AST75 SonicLink AST150	2.95 3.95	Slightly plummy bass and a useful way of holding musical strands together	y of bass		•		
	SonicLink AST75	2.95		y of bass		•		

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	Mahl	_			CATI	Charles of the San Action of	
JS	Cabl	H	S SYMMETRICAL	STRANDED	ID COPPER	SILVER CABLE	VE NUMBER
TATUS				9	0.0		WE CH
2	PRODUCT	(£)	COMMENTS			VV	$\vee$
0	Straight Wire Quartet	8	A good all-rounder with full tone, clear detail and natural ambience	•	•	•	183
0	Supra Ply 3.4/S	6.95	Clean sound which stays together well at high levels, with full bass – perhaps a touch of treble restriction	•	•	•	183
0	Tara Labs Klara	2.95	A good budget cable with an even spread of virtues – and very minor vices – across the board	•	•	•	183
	Tara Labs RSC Prime 500	36	More suited to melodious music than anything with bite and drive, with only moderate detail	•	•	•	203
	TCI Python	7.99	No single major sin, but detail is not outstanding and rhythm isn't always completely solid	•	•	•	203
0	Townshend Isolda	50	Superb sound all round, and amplifier compatibility enhanced by included stabilising inductor	•	•	•	203
1	van den Hul The Clearwater	7.99	Despite its evocative title, the Clearwater turns out to be a disappointingly murky-sounding cable		•	• •	109
1	van den Hul Royal Jade	10.99	Lots of technology, but sound suffers from dryness and woolly bass	•	•	•	203
1	van den Hul CS122 HB	13.99	Good dynamics can make for exciting sound, but fine detail suffers and the treble is often dry	•	•	•	192
1	van den Hul The Magnum	40	Touted as vdH's most prestigious twin-lead cable, The Magnum sounds soft and old-fashioned		•	• •	109
0	van den Hul The Wind	44	'The Wind' kicks up a storm with its lush midrange and bone-crunching bass		•	• •	109
1	van den Hul Revolution	80	Silver-plated OFC combined with carbon fibre prompts a sombre character with an easy and relaxed treble		•	• •	133
1	MAINS CABLES AND CON						
1			Compact and beautifully finished unit that offers positive sonic benefits that justify the price	100			206
0	Lynwood Electronics Mega Power	295	Reasonable price model that improves focus while producing a sweet, tight and clean bass				206
0	PS Audio Power Plant	1,200	Power Plant improves the cleanness and separation of individual voices and instruments, giving an impressive 3-D quality				206
	GTA PHY-HP board	299	Oozing style and quality, the board generates an extremely natural and truthful sound				206
0	Russ Andrews Kimber/Power Block		Improved version that elevates music to a cleaner and more three-dimensional experience with greater stereo imagery				206
	Russ Andrews The Purifier	250	More ambitious version of the Silencer that gives a cleaner, quieter background, allowing more low level detail				206
0	Russ Andrews Silencer	40	A cost effect solution to noise-free mains supply that reduces 'hash' without losing brilliance and immediacy				206
	SonicLink S-Gold mains	225	Delivers a clean incisive sound with excellent detail, clarity and with no increase in noise			Berger	206
0	Trichord Research Powerblock500	300	Isolation transformer that bolsters clarity, openness and gives an increased refinement making for a purer and natural sound				206



## Cartridges

artifiges fall into two groups: high output MM (moving magnet) models, capable of working directly into most phono inputs and generally more expensive low- and very-low-output MC (moving coil) models. MC cartifiges usually have better mechanical integrity, tighter tolerances and give better performance. Many amplifiers are no longer equipped with the necessary phono input for a cartifige, and a separate phono stage is necessary. Phono-input-equipped valve amps need a transformer to cope with MC cartifiges.

Even basic high-output MM cartifige designs will benefit from a customised amplifier input load. Consult your dealer for further details on this topic.

#### KEY TO SPECIFICATIONS

- MM: Moving-magnet cartridge with a normal output, suitable for all amplifier phono inputs.
- MC: Moving-coil cartridge with a low output, only suitable for high-sensitivity MC amplifier phono inputs.
- REPLACEABLE STYLUS: Most MM cartridges have a stylus (needle) that can be removed and replaced when worn out.
- OUTPUT (mV): Cartridge output in millivolts.
- MASS (g): The mass of your chosen cartridge affects the choice of partnering tonearm. Consult dealers or manufacturers to establish which arms and pickups work well together.
- ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

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E EDITOR'S CHOICE

## Cartridges

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2	PRODUCT	(£)	COMMENTS	▼	V	V	V	V	
E	Allaerts MC1B	1,295	Highly capable and entertaining Belgian cartridge that warrants the finest turntable and phono stage you can afford				0.5		203
0	Audio Technica AT-95E	20	Clear and dynamic, though richly balanced				2.8		48
	Audio Technica AT-OC9ML	330	A well-finished cartridge with a sound that's smoothly detailed, but also rather unexciting	5.57	•		0.4	8	192
0	Clearaudio Signature	1,495	A great all-round performer with fine dynamic vitality and a seductive midband intimacy		•		0.55	11.5	175
0	Denon DL110	70	A fine all-rounder, this high output MC model is likely to perform well		•		1.0	6	48
	Denon DL160	90	Although listeners just preferred the 110, its brother here survived lab tests and is still 'thoroughly competent'		•	ALC:	0.1	6	43
	Denon DL103	100	Good performance in bass and good 'life'. Is seriously let down by its spherical stylus which kills subtle detail		•		0.1	6	103
0	Denon DL304	200	Uncoloured, detailed, tracks superbly. Top notch altogether, and a bargain at the price		•				103
0	Dynavector DV-20X L	299	Articulate-sounding, with impressive treble resolve, though lightweight at times. Needs a high quality turntable and arm		•		0.25	8.6	192
	Dynavector Karat 17D2 mk2	450	Clean and controlled sound with taut, tuneful bass. Detailed and musically cogent		•		0.15	5.3	158
0	Dynavector Te-Kaitora	1,698	A real smoothie, but pricey. Worth checking out for its delicate laid-back transparency and low needle-talk		•		0.25	8.5	175
0	Dynavector XX-1L	998	Very clear, very detailed; a response lift around 20kHz seems to do no harm		•		0.25	12	84
	Dynavector XX-1	998	Good, but not immensely competitive at the price, and not helped by comparison with the low output version		•		2.0	12	84
0	Goldring Elan	19	A lightweight and frisky-sounding MM apparently based on Nagaoka MM4 body	•		•	5.0	7	67
0	Goldring 1012GX	79	Slightly harsh but plenty of life and detail. Some high frequency coloration apparent	•		•	6.5	7	85
0	Goldring 1022GX	99	As with 1012, a touch harsh; detail and transient purity improved	•		•	6.5	7	85
0	Goldring Eroica LX	110	Not the most subtle cartridge in the world: can sound edgy at times, but lively and informative		•		0.5	8	84
	Goldring 1042	120	Not terribly subtle, and not such good value alongside 1012 and 1022. Quite lively, though	•		•	6.5	6	91
	Goldring Elite	220	The basics are right, and it will cheerfully tackle any source material, but its sound is not the cleanest		•		0.5	8	103
	Goldring Excel VX	525	Good bass drive but dull and imprecise higher up. An old-fashioned sound that falls short of the true high end		•		0.45	8	175
<b>B</b>	Grado Prestige Gold	149	Rich sounding with an unusually refined top-end for a moving magnet-type cartridge	•		•	4	6	158
	Grado Reference	995	Loads of tracking headroom but treble is limited. A prospect for mid-oriented valve amp users	•			1.7	6.5	175
0	Linn K9	125	Linn improved this model by beefing up the Basik's bodywork and adding a super stylus	•		•	4.5	5	Col
	London Decca Maroon	259	Now manufactured under the London brand name, this Decca cartridge is as iconoclastic as ever	•			5.0	6	67
	London Decca S Gold	399	Immediate and detailed, but coloured and nonlinear, with a questionable effect on records	•			5.0	6	84
0	Lyra Lydian Beta	599	A thoroughly enjoyable cartridge – smooth, agile and dynamic in character		•		0.5	8	192
0	Lyra Lydian	649	Superbly capable all-round musical performer that improves markedly when its body cover is removed		•		0.3	7	158
0	Lyra Clavis Da Capo	995	A stable tracker, and one of the finest cartridges we've heard		•		0.1	7	143
	Lyra Parnassus D.C.t	1,895	A real little jewel of a cartridge, with many good qualities, but handicapped by a rather too obvious treble peak		•		0.22	10.5	175
0	Ortofon 510/P	38	For the price, a good blend of virtues – weight, clarity and neutrality	•		•	3.0	5	85
0	Ortofon 520/P	65	Sensitive to load capacitance, but the 520/P has a lively, effervescent sound	•		•	3.0	5	67

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PRODUCT	(£)		MENTS		
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S	PRODUCT	(E) COMMENTS	Y	V	ુ♥	V	•	V
0	Ortofon MC3 Turbo	130 The 3 Turbo is bright, cheerful and bouncy, but unsubtle – take it as it comes		•		3.3	4	103
0	Ortofon MC15 Super II	130 A good all-rounder, with outstanding resolution, if slightly bright and close up				0.35	7	103
1	Ortofon MC25E	180 An excellent upgrade for a mid-price turntable		•		0.5	11	139
	Ortofon MC25FL	A bit too stark and honest, but faithful to what's on the LP		•		0.5	11	139
0	Ortofon MC 10 Supreme	300 A full and cultured-sounding cartridge, with colle tive attributes far outweighing its shortcomings		•		0.5	10.7	192
	Ortofon MC30 Supreme	525 Highly detailed and even-sounding cartridge that has a special affinity with female vocal recordings		•		0.5	10.7	158
0	Ortofon Rohmann	1,000 A class act in nearly every respect, with fine groove security and a very smooth and even-handed sound		•		0.25	8.5	175
0	Ortofon MC3000II	1,100 A real ear-opener. Nothing to criticise anywhere — one of the very best		•		0.12	10	84
1	Ortofon MC5000	1,500 Limited tracking ability, bright and forward sound, but good stereo		•		0.12	10	91
1	Rega Bias	39 Difficult to mount in some arms due to its shallow body, but the Bias offers a gentle, refined sound	•		•	5	4	67
0	Rega Elys	85 Clearly superior to the Bias, the Elys is more detailed, accurate and convincing	•		•	5.0	5	67
0	Reson Reca	250 If you're after a high quality moving magnet cartridge, they don't get much better than this	•		•	6.5	6.3	192
0	Roksan Corus Black	130 Recognisably related to the Corus Blue, but smoother and more civilised	•		•	6.5	5	91
0	Sumiko Blue Point Special	250 A no-nonsense performer with engaging musical properties – one of the best around for less than £300		•		2.5	9	192
0	van den Hul MM-1	250 If woody midrange could be tamed, imaging and security would pull it through	•		•	5.5	6	103
	van den Hul DDT-II	600 Outstanding stereo imaging and neutral balance are appealing, but rhythmically the DDT-II is a bit lazy		•		0.35	7.6	158
0	van den Hul MC-10	750 A neutral, balanced performer, gives fine depth and focus and a firm, extended bass		•		0.4	6	60
0	van den Hul MC-One	900 This extends all the positive qualities of the 10, but adds greater authority and scale – worth all the extra money		•		0.4	6	60
0	van den Hul MC-Two	1,200 MC-Two rewards with a highly detailed yet fluid and musically convincing portrayal		•		0.4	6	72
0	van den Hul Frog	1,500 Seems to control/suppress surface noise better than its rivals. This delicate and subtle performer has great charm		•		0.65	7	175
0	van den Hul G' hopper IIIGLA	2,800 Undoubtedly one of the finest cartridges available. It has tremendous bandwidth, energy and finesse		•		0.4	6	122
0	Wilson benesch Matrix	786 Extraordinarily well balanced cartridge: neutral and detailed yet lively and rhythmically assertive		•		0.58	6	158
0	Wilson benesch Carbon	1,573 Carbon fibre body contributes to a delightfully clean and open midrange, and a quick, lively and coherent sound		•		0.45	7	175



#### **Cassette Decks**

The compact cassette is still the world's most versatile and ubiquitous music storage medium. Cassette deds hook up to the 'tape loop' inputs and outputs offered by most modern amplifiers. It's worth taking care to choose the best tapes for a specific machine. For example, expensive metal tapes will be a wasted investment for a cheap deds. Many better-specified deds have manual or automatic bias adjustment to get the best from specific samples of tape. Twin deds offer the possibility of copying from tape to tape, playing two cassettes sequentially or recording onto two tapes at once. Autoreverse is a useful feature, but uni-directional mechanisms promise better sound. Dolby S is the ultimate noise reduction system, and three-head deds permit record monitoring off-tape.

#### KEY TO SPECIFICATIONS

DOLBY B/C: The first and second Dolby hiss-killers.

DOLBY S: A desirable
derivative of Dolby SR
professional noise-reduction.

 DOLBY HY-PRO: Extended.

DOLBY HX-PRO: Extends
 headroom for cassette recording,
 the cassette.

BEST BUY

off-tape while you're recording.

TWIN DECK: Contains two deds for dubbing and continuous play.

• AUTOREVERSE:
Automatically plays both sides of the cassette.

deck will automatically set up bias and EQ for any tape.

review appeared.

ADJUSTABLE BIAS: Permits manual optimisation of tape.

ISSUE NUMBER: The issue of Hi-Fi Choice in which an original

● 3-HEAD: Permits monitoring ■ AUTO CALIBRATION: The

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**Cassette Decks** 

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STAT				1		1	1	-	10	ON	45	
S	PRODUCT	(£)	COMMENTS		V	<b>V</b>	<b>V V</b>		•		V	
0	Aiwa AD-F450	120	Basic but well-designed deck. Astonishing value; only the poor metering gives the game away		•		•				•	136
0	Aiwa AD-WX727	170	High-class twin for those who want bells, whistles — and music		•			•	•		•	146
0	Denon DRM-550	160	There are some technical limitations, but this remains a fine-sounding deck, and excellent value		•						•	158
	Denon DRW-580	200	Twin deck: OK for casual use, but will quickly pall with more quality critical applications		•		•	•	•		•	171
0	Denon DRS-640	200	Draw-loading deck, with simple facilities and smooth, well-adjusted sound		•			•			•	140
0	Denon DRM-650S	230	An improvement on predecessors, it offers a wide-ranging, sound. Dolby S is not the best feature		•					•	•	164
	Denon DRM-740	270	Breathed-on DRM-710, with good external treatment, offers good, if somewhat detached sonics		•			•			•	136
	Denon DRS-810	310	Draw-loading deck, carefully designed yet lacking in subtlety on audition		•		•					127
	Harman/Kardon TD420	250	Minor inconsistencies detract from a well-conceived, minimum features design		•		•	•				140
	Harman/Kardon TD450	350	Draw loader with poor tape navigation features; good midband but shallow bass		•		•				•	164
0	JVC TD-R472	200	Excellent auto-reverse deck which doesn't suffer the usual disadvantages and is very sharply priced		•				•		•	158
0	JVC TD-V662BK	270	Assured, clean and agile-sounding recorder, if not quite the most refined in its class		•					•	•	146
	JVC TD-W718	300	Twin deck. Good for creative live recording, but no timer standby. Respectable performance		•		•	•	•	•		171
0	Kenwood KX-W6080	200	Modestly decent-sounding twin deck, with some transport instability and ragged bass		•			•	•		•	171
	Marantz SD455	170	Works well as a single deck, especially on replay, but dubbing at high/low speed compromises sound		•			•	•			184
1	NAD 613	230	Rough and ready, but enjoyable sound, though marred by mechanical motor noise		•						•	158
	NAD 616	300	Twin deck with basic features. No Dolby setting memory, transport is too unstable for audiophile use					•	•	N. S.		171
	Nakamichi DR-10	800	An ergonomic oddity, but one of the last of the great cassette decks. Worth considering against MD		•		•				•	195
0	Onkyo K-611	460	Cute drawer-loading mini-size component with 3 heads and dual capstan transport		•					•	•	146
0	Pioneer CT-S550S	250	Great features, good with cheap low bias tapes, but slightly synthetic sound quality		•		•			•		164
	Pioneer CT-W806DR	300	Had it not been for the iffy transport quality, this sophisticated twin would have been Recommended		•			•	•	•		171
0	Pioneer CT-S830S	500	High-class mechanism, if lacking in battleship externals, and superb sound		•					•	•	146
0	Sony TC-KE600S	300	Mild setting-up problems notwithstanding, this UK-tweaked design has a smooth, open sound		•		•			•	•	158
	Teac V-1050	180	One of the cheapest 3-head machines around, but it shows in very 'thick' sound		•		•					184
0	Technics RS-AZ6	200	For those who can't afford the RS-AZ7; clarity over the widest bandwidth thanks to AZ thin-film head		•		•			•		164
0	Technics RS-AZ7	270	Thin-film head gives a solid, almost CD-like bass and midrange. A clear advance in state-of-the-art		•					•	•	158
0	Yamaha KX-490	200	Electrifyingly transparent and capable deck whose only flaw is a trace of audible wow and flutter		•					•	•	158
0	Yamaha KX-580SE	250	Subtle, engaging and transparent deck, with a lightweight tonality, but stability and strong detail		•					•	•	171



#### **CD/DVD Players**

II CD players offer a basic selection of facilities, and some can keep A II CD players ofter a dasic selection on rounties, and some and track you entertained for hours as you programme in disc names and track orders. All but the excessively inexpensive feature remote control. Most CD players can be upgraded by adding an outboard DAC (see p 129). To do this the player needs a digital output of either electrical or optical type. The former is preferable for the ultimate sound. A CD player can be split into two basic components: the disc drive or transport, and a device which converts the disc's digital bitstream into an analogue audio signal. This is called a digital to analogue convertor, or DAC. Although most players are contained within a single box, expensive players are usually two-box affairs. The first new DVD players have not excelled with CD software.

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**EDITOR'S** CHOICE

#### KEY TO SPECIFICATIONS

- ELECTRICAL DIGITAL OUTPUT: For electrical connection to an outboard DAC.
- AES/EBU ELEC DIG OUTPUT: Balanced digital output to be used with similarly equipped DACs.
- OPTICAL DIGITAL OUTPUT: For optical connection to an outboard DAC.
- ST OPT DIG OUTPUT: High-speed optical output to be used with similarly equipped DACs.
- BAL ANALOGUE OUTPUT: Balanced analogue output for amplifiers equipped with balanced inputs.
- HEADPHONE SOCKET: For 'can' users.

- VARIABLE OUTPUT: Remotely adjustable output level (usually non-audiophile).
- MULTI-DISC: Equipped with a carousel or multi-tray system for continuous play of multiple discs.
- DAC TYPE: BS Philips Bitstream; MB multi-bit; Hyb - hybrid of multi-bit and bitstream technologies; 1bit - single bit types eg MASH, bitstream, PWM, etc; CC constant calibration, DS - delta/sigma
- ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared. Factsback information page.

## CD/DVD Players

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	PRODUCT	(£)	COMMENTS	V		<b>V</b>	•	•	V	V	V V	7
	Acurus ACD11	899	First-rate if costly player, which combines a delightful transparency with an uncontrived naturalness			300					1b	bit
	Acoustic Precision Eikos	1,850	Seriously customised Pioneer with extraordinary resolution and world beating imaging and bass	•							1b	bit
	Advantage CD1S	3,995	A CD player of some stature – what it lacks in dynamics it makes up for in subtlety and flow	•	•	•		•		•	20t	bit
	Alchemist Kraken	1,249			•		18.0				24/9	
	Alchemist Nexus APD32A	597	Refined treble, constrained yet capable bass and attractive all-round presentation	•			8 7 3				Hy	
	AMC CD8A	150	Has balanced output, but is otherwise rather grey and unremarkable			•	4000	•	•	•	BS	-
											CI	<i>C</i>
	AMC CD9/DAC8	200	Beer-budget two-box system (player plus DAC) is smooth, attractive and easy on the ear	•							- 11	10
	Anthem CD1	1,595	Unusual combination of high-end player, complete with HDCD, and changer. Good, but noisy	•	•				122		• MI	
	Arcam Alpha 7SE	300	Sharper, clearer Alpha 7 SE, and more affordable than before	•		•					DS	
	Arcam Alpha MCD	450	Excellent bass and natural midband, but just a touch of treble dryness, from this very listenable changer	•					10.19		• ME	IB
	Arcam Alpha 8SE	600	Excellent (and very reasonably priced) HDCD-compatible player is a strong all-rounder								1b	bit
Ī	Arcam Alpha 9	800	Refined, articulate player which employs new DAC technology to great effect	•							Rin	ng
٠	Arcam FMJ CD23	1,100	World class presentation allied with innovative technology to deliver an engaging standard of music making	•	100	•	•	•			Rin	
	Audio Analogue Paganini	750	Basically good, but sometimes heavy-handed player		-						24b	
					-			-	-		1000	
-	Audio Note AN-CD1	600	Easy on the ear, and for a valve player, easy on the pocket, but a bit Radio 2-flavoured	•	1				1000		Hyl	
	Audio Note AN-CD2	999	High output impedance makes performance unduly system fussy	•							ME	
	AVI S2000MC2	899	A chip off the old block. This model's in-yer-face balance obstructs an otherwise finely detailed sound	•							ME	В
	AVI S2000MC Reference	1,399	Lean, dry, high resolution player, built to outlast most of us. A fine performer in a sympathetic system	•							ME	B
Ī	Balanced Audio Tech VK-D5	3,995	A valve-infused player with a big and engaging sound. Lacks a little subtlety	•				•		•	18b	bi
Ī	Cambridge Audio D100	120	Hard, clangy and coloured sounding, and with suspect control logic		135	•					DS	5
	Cambridge Audio D500	200	Clean and highly articulate player wears well in extended use								DS	
				•					-		- BANK	
	Copland CDA-266		Simple yet elegant design is unexpectedly sophisticated under the skin, and effective in execution				No.				ME	
	Copland CDA 289	1,898		•							20b	-
1	Cymbol CDP12	1,299	Clean, detailed and airy HDCD-equipped player with minimalist trappings	•						•	Hyt	b
(	Cyrus dAD1.5	395	Improved dAD1 variant has improved digital filter for a more natural, easy on the ear quality	•							Hyt	b
(	Cyrus dAD3 Q24	900	Bold, lean and lively player demands sympathetic system matching		100	•			1		DS	S
	Denon DCD-435	130	Good low cost player, and a step up from the DCD-425, its predecessor	No.	Solat.	•			•		DS	
	Denon DCD-655	180	Fine, slightly soft-edged budget player, and a good ameliorative for aggressive, edgy systems							•	MB	
											THE RESERVE	
-	Denon DCD-1550AR	350	Disappointing bland and ploddy sound from an immaculately constructed, high-tech player	•					Ы		MB	
	Denon DCD-1650AR	700	Powerful, authoritative, and well equipped too, but this player sometimes lacks subtlety	•		•	h a said		•	•	MB	
ł	Harman/Kardon HK720	230	Sometimes aggressive and ill-disciplined player, but at least it's well built	•	1000				•		1-bi	oit
ł	Harman/Kardon HD740	300	Powerful but subtle and involving player: welcome back, Harman/Kardon	•		•			•		DS	S
ŀ	Harman/Kardon FL8300	300	Generally capable changer with relaxed sound and firm bass. Just a hint of roughness on occasion	•		•			•		<ul><li>MB</li></ul>	В
-	Harman/Kardon HD760	500	Sophisticated internally, but mildly disappointing when treading the boards in anger	•		•			•		MB	-
	JVC XV-D723GD	500	Convincing DVD-Audio player that is ultimately let down by poor CD performance	•	1900		•				MB	
											IVID	D
-	Kenwood DVF-3030	180	Solid CD player with straightforward features			•			•	•		
k	Kenwood DP-4090	250	Focuses a clear, wide aperture lens on the music — and has CD Text too	•		•			•		1 bit	
k	Kenwood DP-5090	300	Disappointing senior brother to the excellent DP-4090, but surface interface is good	•		•			0	•	1bit	it
k	Kenwood DVF-R9030	800	Kenwood's first DVD-A player suffers from a mild compression of dynamics resulting in a polite yet matter of fact sound	•		•	•	•	•		<ul><li>MB</li></ul>	В
٨	Marantz CD5000	150	Well equipped budget player sounds thin and rough at times	•		•			•	•	1 bi	it
	Marantz CC3000	150	Ragged sounding multidisc player, but it is cheap and well equipped	•	0070						• cc	
	Marantz CD6000	250	Great package with all mod cons, and eminently listenable too		1000						1-bi	
						-				200	1000	
	Marantz CD6000 OSE		Superbly constructed, slightly emasculated sounding, but smooth and articulate	•		•		25.05	-		1bit	
	Marantz CD-17KI Sig		Minor QC problems aside, this is a superbly turned-out machine, but ultimately a little bland	•						•	BS	
٨	Marantz CD-17 Mkll		Sophisticated player with a short but attractive feature set, and a new found bounce in its step	•		•	•	•	•		MB	3
٨	Marantz CD-7	3,500	A superbly designed CD player, both inside and out. Precise and dramatic in equal measure	•		•		•		•	16bi	it
١	Meracus Tanto	1,395	Believable tonal colours and textures, refinement takes preference over dynamics – but it's not cheap	•					177		DS	5
	Meridian 506		Revised 506 includes MSR remote and a new D/A chip, which makes it livelier and more detailed	•			TIME				1 bit	
	Monrio Asty		Well built player has solid, propulsive sound quality that deteriorates towards HF	•	-		TUR				DS	
	Monrio Privilege				100		US TO	30 200	Yang I			
			Costly and well-engineered, but ultimately rather heavy-handed and dull, if refined player	•							MB	
	Musical Fidelity X-RAY		Brilliantly packaged and clean but slightly antiseptic sounding player	•		•			100		MB	-
	Musical Fidelity A3 CD		Excellent player has few faults apart from a slight loss of EHF detail	•			YELL	1518			DS	
١	Myryad T-10	400	Rather ordinary player fails to shine with good music recordings	•							DS	
	Myryad T-20		Matter of fact styling and sound quality, a tad bright for some systems	•			100		-111		DS	
	Myryad MCD500		Well-built, attractive player, showing much promise, but can be a little heavy-going on audition	•	-700		Marie				1bit	
	NAD C520			1000				D CONTRACTOR				
			Significantly improved entry level NAD is smooth and dynamic, if slightly dull	•							DS	
	NAD 524		Clean, clear and essentially musical player in the NAD mould	•							MB	
٨	VAD 523	250	Lacklustre musical presentation was disappointing on test; so was the absence of a digital output								• DS	

	CONTINUED	G-W		S P	E C.L	FL	ATI	0 N	S				
	UD/I	T	D Players	TI-	ST OPT DIC OUT	W HI					Co.		
S		JN	III PIAVEIS	EC D	OPT OPT	DIC	ADPHONE OGUE OU	ABLEO	ULTI-L	DACT	YPE NUM	<b>TA</b>	
STATUS	02/2		2 1 100 0 1 5	OUT	OUT	PUT	T OF OU	SOCKE	TPUT	SC	LE .	BER	6
12	PRODUCT	(£)	COMMENTS	•	V	•		<b>V</b>	7	•	<b>V</b> V	/	•
	NAD C540	330	Not cheap, and disc handling is pedestrian at best, but the C540 is smooth & elegant with just a hint of aggression	•							D	-	200
0	NAD Silverline S500 Naim CD5		It sounds as good as it looks, which is notably refined and easy on the ear Smoother than the CD3.5 but retaining the Naim character of excellent drive and attention grabbing busyness	100		•		•			M	20000	195 207
0	Naim Audio CD2		Provides bags of detail with a solid stereo focus but not all the romanticism we know to be possible								M	100000	163
0	Nakamichi MB-10	400	Jewel of a multi-disc player, with crisp sound and superb fuss-free compact packaging	•		•			•		• D	A	204
E	Naim NACDSII/XPS	5,625										-	188
0	Onkyo DX-7222	150	Competitive following recent price cut, and on the whole a strong performer musically			•		2222	•		В	-	200
	Onkyo DX-7511	300	Earthbound mid-price CD player fails to excite	•		•			•	•	-	-	207
	Parasound C/DP-1000 Philips CD751	499 150	Comes on like a high end player, but ultimately sounds a bit weak and soft-centred Inconsistent and occasionally opaque and scrawny sounding cheapie	•					•		11	-	184 172
	Pioneer PD-S507	200	Low cost Legato Link implementation sounds gentle but slightly muddled			•		200000	•		D	-	191
0	Pioneer PD-S707	300	Idiosyncratic Legato Link dominated sound, but always subtle and interesting	•		•		-	•		M	-	184
•	Pioneer PD-F906	350	Interesting appearance and concept, but this changer's sound is lacklustre and ergonomics frustrating			•			•		• 11	oit	178
0	Pioneer PDS 06	550	Technologically sophisticated. Pioneer's first multi-bit player for years is polished and capable	•		•			•		N		176
	Primare D20	799	Well presented player doesn't quite cut the mustard, though it performs promisingly	•							В	-	188
	Revox Exception E426	2,250	Very stylish with a light, agile sound that extends superbly and has fine timing	•		•		•			B		182
0	Roksan Kandy Roksan Caspian	475 895	Slightly old-fashioned sound quality player available in various colour schemes  Solid, articulate, and fundamentally well-engineered player, but with some subtle low-level limitations	•							-	-	169
w	Rotel RCD-951	300	Disappointing chopped-down RCD-971 – buy the original	•			1000				M	-	191
0	Rotel RCD-971	450	Odd disc handling logic, but bold, detailed and refined sound make this a must	•			EVIZ.					-	184
0	Rotel RCD-991	750	Confirms Rotel's status as must watch brand: great stuff	•	•	•		•				-	195
	Sherwood CD1	1,100	A very neutral, even handed sounding player with a rather flat, lifeless sound. Beautiful construction	•		•	ann's				В	-	163
0	Sony CDP-XE330	100	Unrefined, but lively, detailed and highly affordable			•				•		lse	-
	Sony CDP-XE530	140	Well equipped, but raw, scrappy sounding player lacks depth and weight			•			•	•	-	lse :	
0	Sony CDP-XE510 Sony CDP-XB930E	180 300	Souped up CDP-XE500 which tells a rather bland and unengaging story  Yet another first rate UK optimised player with all the bells and whistles			•			-	•	-	oit Ise	172
0	Sony CDP-X3000ES	500	Shoebox format player, looks to die for, switchable digital filters to tweak the already excellent sound								900	-	169
0	Sony SCD-XB940		First mainstream SACD player that easily outstrips comparable CD players at this price	•	100	•	•	•	•				206
E	Sony SCD-777ES		Beautifully built SACD player that looks like a bit of a CD player bargain	•		•						-	198
E	Sony SCD-1	2,500	The first SACD player sounds fabulous but there's not much competition and limited software as yet	•		•	NE W	•			В	S	194
	T+A CD1210R	1,185	Intriguing player with rather pushy basic sound, but has switchable digital filters	•		•					D	10000	188
	Talk Electronics Thunder 1	550	Entry level upgradeable Talk Electronics player sounds slightly muted								D	1000	200
•	Talk Electronics Thunder 2	699	Fine player, slightly lacking in dynamics, but readily, if expensively upgradable in various ways		100			22(0)			-	_	191 195
0 0	Talk Electronics Thunder 3 TAG McLaren CD20R	1,000	Clean, fast, and availability of a complete upgrade path make this a good long term proposition  Dry and unatmospheric, but plenty of presence – recommended with caution	•			-181				-		188
0	Teac CDP-3450SE	200	For once a budget player where gadgets take second place to respectable, budget amp-friendly sonics			•	100		•				166
•	Teac VRDS-8	600	Superb build quality is matched to good, but not exceptional sound quality	•		•				•	M	-	184
	Teac VRDS-9	700	Well-presented. This Teac is crisp, yet shallow, and inconsistent in sound quality and partnering skills	•		•		1112		•	It	oit	176
	Teac VRDS-25x	1,000		•		•		•		•	N	IB.	195
	Technics SL-PG390	90	It's very cheap. Very, very cheap			•	200					SH	
	Technics SL-PS7	200	Strong, but ultimately rather opaque and hard-sounding, high tech CD player		•				•			SH	
0	Technics SL-MC410		If you fancy a CD player that holds 111 discs, this one's cheap, pretty capable, and easy to use			•				•	• MA	yb	
0	Technics SL-MC7 Thule Spirit CD100	300 600	Maximum storage capacity for a minimum price, and presentable sound too (multidisc)  Definitely a try before you buy machine, but the bass and mid are excellent	•						_			188
	Trichord Genesis	549	Breathed-on Pioneer is warm and mellifluous, but ultimately lacks drive and authority	•					•	•	-	yb	100000000000000000000000000000000000000
	Trichord Revelation	799	Well-ordered and clean sound that may be a little too refined for some, images well	•					•				166
	Tube Technology Fusion MkI		·	•	100	•	•	•				-	206
	Tube Technology Fulcrum			•	•	•					_	bit	194
	Wadia 830	-	Envelope busting dynamics, power and imaging in a rather unexciting box (digital volume control)					•		•			183
E	Wadia 860x		If you want to discover what CDs are really capable of, this has few peers	•	•	•	•	•		•	200	-	199
	Yamaha CDX-493	180	Open and lively, but this player is also messy and lacking resolving power  Well-priced and attractive-sounding, this player can read CD-RW	•		•				•	5.00		191 207
	Yamaha CDX-596 Yamaha CD-X993	230 400	A bit of a lush, though the sound is singularly free of grain, and equipment levels are strong	•		•			•	•			184
	YBA Spécial	695	There is nothing here to justify the pricing or the high-end parentage. Avoid								-	A 2017	195
0	YBA CD1 a		A remarkably fluid and graceful sound – one of the best we've heard below £5,000	•								bit	
	TRANSPORTS												
	Audio Note CDT Zero	399	Neat shoe box size transport sounds smooth and fluid in the right system. (Tested with DAC Zero)	•							100	-	191
	Linn Karik		Based on early Linn transport, the Karik is dry but very positive, detailed and engrossing	•		•		U.S.				-	144
	Roksan Attessa ATT-DP3	-	Not the most detailed or refined but capable of sounding exciting with the right material	•		•	200				11	-	162 144
	Teac VRDS-T1 Theta Carmen	550 3,299	Superb quality engineering is mated to tidy and composed sound. (Tested with D-T1)  A well equipped and extremely upgradable CD/DVD transport. Right now, the finest of its type	•		•							203
	Theta Data Basic II		Uses a Philips CDM9 Pro mechanism and works a treat with more lively DACs	•									130
	Thorens TCD2000	999	Lively presentation not helped by rather loose bass and splashy treble. (Tested with TDA 2000 DAC)	•		•						-	162
0	Trichord Digital Turntable	699	Very detailed, precise, controlled yet involving; a first-rank performer	•		•							162
-	DACS												
	Alchemist TS-D-1	300	24/96-equipped DAC sounds tidy but a little shut-in with both 16-bit CDs and 24-bit/96kHz DVDs								В		187
	Audio Note DAC Zero	369	Neat valve-equipped DAC sounds smooth and fluid in the right system. (Tested with CDT Zero transport)								-	-	191
F	Audionote DAC 5	_	Astonishingly natural and realistic in the right system, the only problem being the extravagant price		•						-	yb	-
E	dCS Delius dCS Purcell	5,000 3,500		•	•		0					ng /a	207 207
E	Musical Fidelity X-24K	300	24/96 ready with a warm, natural sound and good soundstaging (tested with Pioneer DV-717)				100.00				90	0.00	187
				Will.									

CD/DVD Players

AESEBUELEC DIG OUT OPTICAL ST BAL ANALOPHONE SEE OUTPUTS
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OUTPUT

15	PRODUCT	(£)	COMMENTS	•		V		V	V	<b>V</b>		▼ _	▼
	DVD PLAYERS	(-/											
0	Denon DVD-1500	400	Colourful and engaging (if lightweight) sound, with excellent picture quality	•		•			•			1/96	
	Denon DVD-2500	500	Good picture, but nondescript sound, except when using the digital output at full 24/96 throttle	•		•			•				198
0	Denon DVM-3700	1,000		•		•			•			DS	204
E	Denon DVD-5000	1,600	The first DVD-V player that ain't bad as a CD player. A fine musical device	•		•			•			BS	187
0	Encore DV-450	200	Superb value for money, though mainly of interest to the videophile on a shoestring	•		•			•			/96	
	Hitachi DVP-505	300	DVD player has rather dark, unexpansive sound, but good picture quality	•	14 100	•							207
1	JVC XV-D701	500	Good video player, but rather undeveloped musically – CD Text is neat, though	•		•			•				198
1	JVC XV-523	280	Looking impressive on screen, but lacks resolution and consistency when pushed hard	•		•						/96	
	JVC XV-515GD	300	Musically soft as a baby's bottom, and as surprising as yesterday's news	•		•			10000				202
1	JVC XV-D723	500	The first DVD-A player is more of a DVD-V with A added rather than the next generation of hi-fi	•		•			7.5			/192	
	Kenwood DVF-R9030	900	Kenwood's entrée into DVD-A is a multi-disc machine with great potential (pre-production)	•		•						/192	
	Kenwood DVF-9010	1,000	DVD player with brilliant picture and clean, lively sound	•		•						/96	
	NAD T-550	500	Soft-centred but likeable player in the classic NAD mould	•		•							202
	Nakamichi DVD-10	800	Not the most compelling model in the resurrected Nakamichi line-up	•		•			•				198
	Panasonic DVD-RV40	350	Modestly equipped, gives good pictures, but is musically unengaging	•		•						/96	
	Panasonic DVD-A360E	580	Powerful equipment, and unthrottled digital output notwithstanding, sound quality is modest at best	•		•			•				198
0	Philips DVD750	400	Clever DVD with CD-R/CD-RW compatibility and surprisingly keen sound	•		•			•				198
0	Pioneer DV-525	399	Lean, clean and lively sound quality. CD-R and 24/96 compatible, too	•		•							202
0	Pioneer DV-626D	450	Superbly equipped, and more than respectable sound quality	•		•			•				198
	Philips DVD960	530	DVD-V player has strong sound quality and good, though slightly washed out, pictures	•		•						/96	
0	Pioneer DV-717	550	Superb DVD player with good picture quality and which really knows how to play 24/96 discs	•		•							190
	Primare V20	1,000	Elegant and well built DVD performer that possess a strong picture quality and decent CD player	•		•			100				206
	Samsung DVD-907	500	DVD player with below average picture, and lacklustre sound quality	•		•						/96	
	Sony DVP-S735D	500	DVD-V player looks great on and off screen, but sounds rather coarse	•		•			•			/96	
	Sony DVP-CX850D	600	Lacklustre sound quality is a disappointment, but the price is appealing for a 200-disc DVD player	•		•							204
	Sony DVP-S7700	950	Powerfully endowed player offers articulate and believable sound	•		•			•				198
	Sony DVP-S325	330	Bare bones DVD with workmanlike sound, although it can sound 'loud'	•		•			12.5				202
	Sharp DV-760	500	Reasonable picture, but sonically brings new meaning to the term rough and ready.	•		•			•				202
	Teac DV-1000	400	Blowsy, and occasionally astringent sounding, but otherwise straightforward and reasonably priced	•		•							198
	Theta DaViD		A top-notch CD transport, that also plays DVD-Video discs well. Pricey for a DVD transport, but worth it	•	•	•	•					/96	
	Toshiba SD-100E	250	Mainstream player offers so-so features, performance and pricing	•		•	NEW YORK					/96	
	Toshiba SD-3109	380	Defocused and soft-edged, this is more attractive for its picture than its sound quality.	•		•						/96	
	Toshiba SD9000	800	Costly, high tech player with stunning pictures and crisp, slightly lightweight sound	•		•			•				198
	Yamaha DVD-S795	529	Fare price, and an unconstrained digital output, but otherwise unexciting	•		•			•			OS	198
1							No. of Lot, House, etc., in such states of the lot, the l	Section 1	1000	1000	- X		



#### **Digital Recorders**

omestic digital recording has been possible since the launch of digital Omestic digital recording has been possible an ice and ice according to a did add tape (DAT) in the '80s. Since then DAT has remained expensive and largely esoteric, favoured only by well-heeled or professional users. Digital Compact Cassette and MiniDisc (MD) were launched in the early '90s but only MD has stayed the course. A little later came domestic CD-Recorders using CD-R discs, while the latest twist is the arrival of re-recordable CDs know as CD-RW discs. The recording quality hierarchy is as follows: DAT, CD-R/CD-RW, MD. MD is probably the most convenient to use, and offers sophisticated editing facilities, while CD-R is ideal for making digital 'dones' of prerecorded CDs. DAT is the medium of choice for high-quality location recording.

#### KEY TO SPECIFICATIONS

• FORMAT: Type of recorder see left for descriptions. DAC TYPE: Digital to

Bitstream; MB - multibit; Hyb hybrid of multibit and bitstream; • PORTABLE: Battery 1bit - single bit types such as MASH, bitstream, PWM etc

 ADC TYPE: The analogue to sound into digits during live analogue converter: BS - Philips | recording. Types of ADC are as

operable, but not necessarily personal-stereo-sized.

OPTICAL IN/OUTPUTS: ● ELEC IN/OUTPUTS: Digital socketry for electrical cable.

• ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

**BEST BUY** 

R RECOMMENDED



## **Digital Recorders**

ADC TYPE TYPE ISSUE NUMBER DACTYPE FORMAT

STATU	8-		V				PUTS	TS OF	R
5	PRODUCT MINIDISCS	(£)	COMMENTS		V	V		•	V
l	Denon DMD-1000	300	A good machine, but it still doesn't manage to shake off the MiniDisc plague of losing the listener's interest	MD	MB	BS	•	•	184
l	JVC XM-448	220	An hidden keyboard is a great idea, but musically it sounds rather cool and strident	MD	BS	BS	•	•	205
	Kenwood DMF-5020	250	it may be high-tech but nothing conceals the caricatured sound	MD	BS	BS	•	•	205
0	Kenwood DMF-9020	500	One of the best MD decks yet for sound quality, and the first to make titling a practical proposition	MD	BS	BS		•	191
	Marantz CM635	500	CD player and MD recorder in one box: a practical idea but sound and features don't really match the asking price	MD	BS	BS	•	•	191
ı	Onkyo MD-121	450	Midi-sized deck that sounds slightly coloured at times, though immediate and lively	MD	BS	BS	•		177
0	Pioneer MJ-D508	200	Well equipped but musically sleep inducing player that deserves its recommendation due to price	MD	BS	BS	•	•	205
0	Pioneer MJ-D707	250	A handy set of features for the price, though sound is not outstanding	MD	BS	BS	•	•	191
	Sharp MDR3H	300	Nifty machine combining a 3-disc CD changer with a MD recorder. Sound on both is rather below par, though	MD	BS	BS	•	•	184
0	Sony MDS-JB920	300	One of the better MD decks, its sound is neutral and dynamic. European Audio Recorder of the Year '98-'99	MD	BS	BS	•	•	184
0	Sony MDS-JA20ES	500	Sound quality about as good as it gets with MD to date, and a very comprehensive features set too	MD	BS	BS	•	•	191
0	Sony MDS-JA555ES	650	Powerful demonstration of Sony's proficiency, it delivers the best MD can offer	MD	BS	BS	•	•	205
-	Teac MD-8	600	Womanlike choice, but sound-wise it is middle ranking, despite the price	MD	BS	BS	•	•	205
l	Yamaha MDX-793	300	Nice machine to use and has some useful features, but sound quality a little wanting	MD	BS	BS	•	•	191
	CD RECORDERS				2772000				
ı	JVC XL-R5000	450	Flexible, rattly build, and attractive sound, but it's a little expensive compared to other rivals	CD-R(W	Access 1	BS	•		205
l	LG ADR-620	350	A powerfully equipped machine with useful multi-room capabilities, but sound quality is rough and ready	CD-R(W		BS	•	•	205
	Marantz DR700	600	Dearer than Philips and Traxdata equivalents, with apparently only a smarter front panel to show for it	CD-R	Section 1	BS	•	•	191
0	Marantz DR-17	1,500	Highly recommended, but with a jitter problem that, resolved, would improve sound quality	CD-R(W		BS	•	•	205
0	Philips CDR951	380	An improvement on previous models, it delivers the musical goods in some style	CD-R(W	A COLUMN	BS	•	•	205
0	Pioneer PDR-509	300	Straightforward design and excellent recording properties that are slightly dulled by the replay chain	CD-R(W	V)BS	BS	•	•	205
0	Pioneer PDR-W739	400	Flexible multi-disc that has everything including respectable sound and pricing	CD-R(W	V)BS	BS	•	•	205
0	Pioneer PDR-555RW	480	Competitor to Philips' CDR-880; can't make perfect copies but has the edge in replay and analogue record sound	CD-R(W	V)BS	BS	•	•	184
	TEAC RW-800	350	Capable recording tool, but a little rough and ready as a player	CD-R(W	)BS	BS	•	•	205
0	Traxdata Traxaudio 900	399	Identical to Philips and Marantz models: it makes bit-perfect copies of CDs and has perfectly acceptable replay	CD-R	BS	BS	•	•	191
				D	ecem	ber 200	HI-FI C	HOICE	127



#### Headphones

There are several different ways of making a headphone. The most expensive models employ electrostatically-driven diaphragms within an open-backed earcup. Most mid-price designs feature dynamic, moving-coildriven diaphragms in open, semi-open or dosed-back designs. An openbacked headphone can sound remarkably transparent, but also permits the ingress of external noise. Closed-back designs keep out unwanted sound, but may be less comfortable to wear and more coloured. The latest development is the cordless headphone using either infrared light or, more recently, radio waves. Quality is improving, but has yet to match the best corded designs.

• TYPE: Operating principle: D - dynamic: F - electrostatic

earcup encloses the ear. OPEN BACK: Offers an

open sound but lets in noise.

● MASS (g): Mass in grams ● SUPRA-AURAL: Where a flat ■ IMPEDANCE (Ω): Load pad presses on the outer ear. offered to the headphone • CIRCUMAURAL: Where the amplifier. Many headphones

external noise.

offer a significantly higher value than loudspeakers, for example, but this does not mean they will CLOSED BACK: Keeps out be incompatible with the

• 3.5MM JACK ADAPTOR: Compatible with mini-jacked components, eg personal stereos.

• ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

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**EDITOR'S** CHOICE

## Headphones

	Head	h	phones		OPEN E	Closen	MA	IMPEDA,	m JAC	ISSUE		Ramin
STATUS	1100	u	himing	AURAL	URAL	ACK	BACK	5(8)	VCE (Q)	ISSUE N ADAPT	OR OR	200
ST	PRODUCT	<b>(€</b> )	COMMENTS		•	•	V	V	V	•	•	V
0	AKG K100	36	Leather clad groover with bags of power and clarity, for a respectable asking price	D	•		•		190	100	•	205
	AKG 301	70	Big 'phones with even and detailed sound but lacks sufficient bass weight	D		•	•		230	100	•	194
	AKG K 240 DF	100	Inoffensive 'phones that are very laid back, if lacking in grunt	D		•	•		240	600	•	186
0	AKG K1000	700	One of the best dynamics on the market, hooks directly into speaker outputs	D		•	•	501	270	120		99
0	Audio Technica ATH910PRO	80	The closed back 910s are an improvement on the 909s, with a nice rhythmic quality rarely found	D	•			•	280	40		55
0	Audio Technica ATH-D40fs	100	Detailed and involving sound with a professional 'studio' quality appeal	D		•		•	250	66		194
0	Audio Technica ATH-M40	120	Incredible detail and honesty from these classically designed studio 'phone	D		•		•	250	60		186
	Beyer DT311	50	Uncharacteristically tight, unrefined sound quality from this otherwise well engineered 'phone	D	•		•		124	40	•	133
	Beyer DT411 Beyer DT331	63	A reasonable but not very thrilling headphone that doesn't really offer enough at the price	D					120	250 40	•	111
	Beyer DT431	65 81	Clear and extremely detailed sound with rather thin bass  Nice looking 'phones that may not be the best players on the field, but will always give 100 per cent	D					210	40	•	186
	Beyer DT531	105	Average performer from an established player. Lacks punch and bite	D					210	250	•	205
	Beyer DT511	106	Superb midband clarity and speed slightly at odds with soft bass. Even so, high tingle factor	D	DESCRIPTION OF THE PARTY OF THE		•		200	250		172
<b>(</b> )	Beyer DT831	140	These provide silky, smooth textures in abundance and we're not just talking about the velvet ear pads	D			1/2		295	250	•	186
•	Beyer DT100	160	Rugged, modular professional design, but bass is woolly and treble lacks detail	D		•	4 =	•	350	600		157
	Denon AH-D550	80	A competent 'phone with integrity, but little panache or charisma. Hard headband causes brain strain	D		•		•	200	35	•	157
	Denon AH-D750	130	Loud and gutsy, meaty bass, good with rock and dance. Can sound thick and clumsy	D	Call C	•		•	250	30	•	172
	Grado SR-40	45	Cheap and nasty appearance largely redeemed by cheerful, up-beat sound. Very comfortable	D	•		•		120	32	•	172
0	Grado SR-60	79	For sheer musical enjoyment these are hard to beat. Retro styling may not be to everyone's taste	D		in n			200	32	•	194
	Grado SR-80	100	Open and dynamic with pedantically open mid-band. Crude physical design, rough frequency extremes	D	•		•		60	8	•	157
0	Grado SR-125	150	What these 'phones lack in style they make up for ten-fold in musical quality	D	•		•		200	32		186
0		200	Warm, darkly-coloured tonally and ultimately lacking in clarity, but true to the spirit of the music	D	•		•		200	32		163
٦	Grado SR-325	300	Elegant sound across the frequency spectrum; let down by old fashioned ear-piece design	D	•	4	•		200	32	•	205
0	Jecklin Float Model 1	79	While very unusual in appearance, the Floats give remarkable sound quality and openness	D		•	•		400	200		55
	JVC HA-W60	49	Remarkable lack of interference and hiss ameliorates adequate sound of this cordless design	D	•	1		•	165	I/R	•	172
0	JVC HA-W200RF	75	Distinct lack of hiss from these FM cordless 'phones ensures that detail and depth are easily heard	D		•		•	280	20,000	•	186
0	JVC HA-DX3	200	Great headphone with a rich bass, careful mid-range and high comfort factor	D		•		•	340	90	•	205
	Koss TD/80	50	Oodles of bass but with a recessed midband; tiresome on the head with prolonged wearing	D		•		•	250	60	•	194
	Koss R/100	100	Rather cheap looking 'phones that supply good detail but are severely lacking in midrange excitement	D	最い	•		•	215	60	•	186
	Precide Ergo Model 2	140	Still has much of the spaciousness of the Float from which it is derived, but coarse mid/top	D			•		380	100		163
	Philips HP910	80	Ergonomically good but suffers from a muffled mid-range and over excited bass	D		•	•		247	32	•	205
	Sennheiser IS 380	55	As close as you'll get to real hi-fi with infra-red phones at this price. Inevitable hiss spoils the illusion	D	•			•	192	I/R	•	172
0	Sennheiser HD 570 Symph	90	Comfortable, light-weight 'phones with a detailed and open sound but lacks bass depth on weightier music	D		•	•		210	64	•	194
0	Sennheiser HD 545	125	Fine all-rounder that takes all styles of music in its stride. Ear-clamping headband	D	10	•	•		255	150	•	172
0	Sennheiser HD 565 Ovation	150	Wide bandwidth design which is refined, expressive and extremely comfortable	D		•	•		255	150	•	157
	Sennheiser HD590	160	Assured and confident player with very low colouration and great comfort	D		•	•		270	120	•	205
	Sennheiser HE 60/HEV70/UK	998	Very nearly a superb electrostatic, with a pure midband, but top end is sibilant and edgy	Е		•	•		260	N/A		163
	Sony MDR-605LP	50	Funky looking headphones that have a very bold, but tiring sound, with coloured bass	D		•	•		145	40	•	186
_	Sony MDR-V700DJ	100	Great looking fold-away 'phones with exceptional build quality. Kickin' bass	D	•			•	300	24	•	194
0	The second secon	200	Astonishingly detailed, uncoloured and free of the usual artefacts from a sealed back headphone	D		•		•	325	32	•	163
		2000	200 Large pads make for sweaty listening. Pure mid-tones, but weightless bass	D		•	•		300	32	•	205
	Sony MDR-F1	100	Natural, easy-going sound teamed with great looks and comfort. Shame about the lightweight bass	D		•	•		300	12	•	172
<b>B</b>	Technics RP-F800	50	Comfortable budget model that sounds sublime with great dynamics	D	•			•	160	40	•	205
اما	Technics RP-DJ1200	130	Functional design with head-pulping bass and muggy tonal balance. Good job they're sweat-proof	D				•	230	32	-	172
		400	Luxury option at its price, but the sound delivery is five star quality all the way	E			-		295	50	•	205
B		395	Refined, articulate, yet with real presence – and a notable bargain by electrostatic standards	E			-		347	N/A		163
	Vivanco SR322	30	Weak design and uncomfortable, but redeems itself with substantial sound quality  The only conflors (above to effor grouping walkabout freedom, but sounds like a choose EM types	D	•				248	32 EM		205
	Vivanco Cyberwave FMH3000		The only cordless 'phone to offer genuine walkabout freedom, but sounds like a cheap FM tuner	D	•	7-101	1/2	•	210	FM I/P		172
	Vivanco IR5800	50	Consistently musical infra-red design. Doesn't reach for sonic heights so hiss can be forgiven	D	•		1/2	-	226	I/R		172
0	Vivanco SR650	50	Unusually comfortable 'phone with excellent detail resolution but aggressive  Cossetting physical design, attractive sound, though suffers overhang and lacks ultimate dynamics	D	•		•		175		_	157
0	Vivanco SR750	60 80	Cuddly feel and sound make these an enjoyable pair of 'phones	D					188 252	32		194
0	Vivanco SR 950 Vivanco FM7980	80	A fair amount of whine and crackle detracts from 'phones which are otherwise very listenable	D	•			•	280		•	186
	Vivanco FM8180	99	Well thought-out features and a better than average sound are, at times, marred by intrusive hiss	D		•		•	100 M	9,000		186
	Trunco Fivio 100	,,	The most of restarce and a sector than average sound are, at times, marred by marasive hiss	Ü					210	3,300		.50



#### Loudspeakers

 $m{A}$  s the last link in the hi-fi chain, loudspeakers are at the mercy of incoming signals. Nevertheless, distortions introduced by loudspeakers tend to be the most obvious. Inside the average loudspeaker is a simple electrical circuit (the crossover) which splits the incoming, full-frequency-range signal for the specific drive units to handle: highs to the 'tweeter', lows to the 'woofer'. For any speaker, designers must balance the 'sensitivity' of the loudspeaker (how loud it goes for a given electrical input) against bass extension (how low it goes). Subwoofers augment bass and are either passive (unamplified) or, preferably, active (self-amplified). Our 'bass from' figures are based on measurements in a particular room therefore results will vary in different environments.

#### KEY TO SPECIFICATIONS

SIZE Width by height by depth in centimetres. • FLOORSTANDER: Requires no stand support.

• SENSITIVITY (dB/W): How amplifier. As impedance much sound results for a given decreases, demands on an electrical input – the higher the figure, the louder the speaker. An 'A' indicates active operation.

• IMPEDANCE (Ω): indicates how much resistance the speaker presents to an amplifier increase. BASS FROM (Hz): The

can reproduce effectively. Impedance, measured in Ohms, FREE SPACE: Speakers which should not sit dose to walls. CLOSE TO WALL: Speakers which should sit between 3 and 12cm from the rear wall. • ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

BEST BUY

RECOMMENDED

lowest frequency that a speaker

EDITOR'S CHOICE

## Loudspeakers

SIZE WXHXD (CM) 

STATU	Loui	12	poditors	(CM) ANDER	(db)	n'E	(S) M	(HZ)	CE W	ME	ER
Š	PRODUCT	(£)	COMMENTS	<b>V</b>		~		V	V	V	
3	Acoustic Energy Aegis Centre	140	Good value centre-front speaker but a tad shut in and with a slightly obvious top end (price per speaker)	46,17,20		8	9 5	50	•		1
9	Acoustic Energy Aegis One	150	At a new low price, this has a very natural and transparent midband, erring a little on the dull side	19,36.5,24		8	7 6	40	•		1
9	Acoustic Energy Aegis Two	250	Floorstanding variation on the Aegis One theme, with a neutral, even and detailed if slightly shiny sound	19,87,24	•	8	8	40	•		2
9	Acoustic Energy Aegis Three	350	High value floorstander has deep and even bass and a smooth neutrality thereafter	19,90,25		9	5	22	•		1
	Acoustic Energy AE120SE	500	Attractive styling and good sonic headroom, but a heavy, uneven overall balance, and a difficult amp load	18,97,28	•	89	5 10	25	•		1
•	Acoustic Energy AE520	1,000	Could be more neutral, but high-class build is reflected in a high-class sound. Very elegant too	21,98,30	•	9	3	25	•		
	ALR Entry 2	250	Metal cone stand-mount has a generous performance envelope, but sound quality was controversial	20,33,29		90	) 4	22	•		
	ALR Jordan Note 7	2,500	A beguiling Anglo-German collaboration delivers metal-cone precision with fine dynamic range	25,107,32	•	92	2 4	25	•		
	AR 15	275	Neat and chunky wall/stand-mount certainly knows how to rock and roll, less convincing on the delicate stuff	22,37,22		90	4	45	•		
	ATC SCM10	1,000	A compact speaker with good transparency but lightweight bass	18,38,25.5		80	8 (	65		•	
		10,500	Stylish aluminium casework disguises dynamic grip, tracking and precision that equals the very best	127,40,46	•	A		20	•		
)	Audio Gem Emerald	540	Pretty, compact floorstander with lively if lightweight sound	18,94,21	•	87		40	•		
)	Audio Note AN-E/D	1,520	This classic large stand-mount might have throwback aesthetics, but it delivers an exceptional allround sounce	36,79,28		92	<u> </u>	20	•		
	Audio Physic Tempo	1,999	Tall and unusually-styled floorstander has stunning stereo but suspect bass tuning	22,107,47	•	88	-	28	•	•	
1	Audiovector C2	799	Elegant two-and-a-half-way has a big, full bandwidth sound, but midband seemed a little underdeveloped	19,106,27	•	90		20	•		
	Audiovector M2	1,399	High-class, smooth and slightly laid-back performer has driving bass. It's upgradable, too	20,102,30	•	89	-	22	•		
	AVI NuNeutron	500	A smooth and subtle though pricey sub-miniature, albeit with the inevitable limitations of the breed	14,27,23		86	4	50		•	
	AVI Positron	899	This 'mini-floorstander' is capable of great precision and delicacy, but in a rather small-scale way	17.5,74,245	•	85	6	40	•		
	B&W 601 S2	200	A smooth and sophisticated stand-mount combines good drive with fine neutrality	20.5,36,23		89	4	30	•		
	B&W 602 S2	300	Large stand-mount has fine dynamic literacy and good communication skills at a very competitive price	23.5,49,29		90	5	28	•		2
	B&W LCR6	349	Large, gutsy standmount intended for all-round AV use delivers fine performance as a stereo pair too	20.5,55,32		90	5	20	•		
	B&W CDM2SE	400	Beautifully styled and finished, respectable midband. Lacks definition towards frequency extremes	22,32,25		87	6	40		•	
	B&W 603 S2	550	Capable of being driven seriously loud, but the cautious balance seems less happy playing at low levels	23.5,87,29	•	91	4	22	•		
	B&W Nautilus 805	1,400	A small-sounding loudspeaker dynamically, but very stylish, clean and 'unboxy', delivering loads of detail	24,42,31		89	12	28	•		
	B&W Nautilus 804	2,500	The prettiest Nautilus has tremendous clarity and imaging but lacks the welly of bigger models	24,101.5,24.5	•	89	8	38	•		
ı	B&W Nautilus 802	6,000	Outstanding example of the high-tech speaker builder's art, needs real power but gives real sound	39,111,55	•	91	8	34	•		
	B&W Nautilus 801	8,500	The 801 is a magnificent loudspeaker in nearly every respect, but it is one that likes to play loud	52,111,69	•	91	8	34	•		
1	Blueroom Minipod	249	The Minipod can show its competitors a thing or two about freedom from boxiness and looks fab	18,34+,17		91	4	50		•	
	BC Acoustique Araxe	1,300	Neat compact floorstander is a very lively communicator, if a little short of deep bass grunt	21,92,21-30	•	94	3	40	•		Т
	Cabasse Farella 400	950	Exciting but very upfront-and-in-yer-face sound. High sensitivity, fine build and good dynamic drive	26,92,32	•	92	5	28		•	Т
	Carlsson OA52.2	1,500	Ultra-discreet design integrates cleverly with the listening room. Impressively unboxy, but sounds a bit thin	41,54,37	•	90		20		•	
1	Castle Keep	250	Substantial centre-front speaker based on Harlech drivers but with rather brighter voicing	48,17,27-29	100	88	_	45	•		
	Castle Richmond	250	Tiny real-wood miniature has a lightweight but very coherent sound, a bit in-yer-face but plenty of fun	17,33,20		90	-	50	•		
1	Castle Inversion 15	425	This striking looking standmount is a good all-rounder, commendably free from boxiness	19-22,42,25		91	4	30		•	Н
	Castle Kendal	500	A beautifully finished compact floorstander with a decidedly forward but communicative sound	17,76,20	•	86		45	No.	•	E
1	Castle Severn 2SE	700	Pretty little floorstander is lively and communicative, if a little coloured in the voice band	21,84,24	•	88		28		•	
Ì	Castle Harlech	880	Handsome big-sounding floorstander, great value and dynamic midrange	20.96.33	•	88	8	28	•		H
		1,975	Large semi-omni design with gorgeous Art Deco styling, sounds open but bass alignment is ill-tuned	26.5,111,45	•	91	8	20		•	
ì	Celestion 12i	119	Not without virtue, but the relentless enthusiasm and mid-band colorations can become wearing	19,31,21		88		45		•	H
	Celestion 23i	300	Cosmetically flawed, but the bottom end has fine get-up-and-go, and works well with dance tracks	24,86,27	•	89		30	•		
į	Celestion A Compact	600	Provided the room isn't too large and your tastes not too heavy, this is a charming little number	17,24,21		90	-	45		•	
1	Celestion A1	899	Rich, warm and laid-back, but a true quality sound; lovely build	24 41 35	7	90	6	25	•		-
ł		1,500	Full-scale, big sound from ultra-elegant floorstander. Smooth and slightly laid back presentation	24,93,39	•	89	6	22		•	F
-	Chario Syntar 100	249	Pretty with a pleasantly easygoing balance, but not the most communicative or exciting sound around	-		87	6	45	•		1
ł	Chario Hiper 1000	300	7 7 7 70 0 1	18,32,27		87	-	45			
	Chario Constellation Lynx		Classy looking standmount has a sweet, easygoing sound with fine midband voicing  Beautiful near-miniature is let down by a midband too laid back for its own good	18,35,28	No.	0.000	4 z	-			
-	Chario Academy Millennium 2	550 2 100	Price includes stands. A showy speaker that lives up to its own hype	20,36,26	100	87	3	40	•		_
The second		400	A big bruiser at a tempting price. Sounds refined and polite, but also packs some punch	22,53,35	•	90	4	20			
-	Dali Royal Menuet Mkll			16,26,18		91		Z3			
		1,300	Classy sub-miniature with a beautiful box and fine ingredients, but a little lacking in subtlety and excitement  A real heavyweight, sonically and physically, and good for movies as well as music		•	93	3	50 20	•		
-	Definitive Technology CLR2002			24.5,106,36		-	-	-			_
-			Pricey, but undoubtedly one of the better centre-front speakers around, with fine timing and open voicing	55.5,17.5,31	-	90	4	40			
	0,	595	Pricey but effective bi-polar surround speaker, with unusually high sensitivity	23,37,15		94	-	120		•	
-	Definitive Technology BP2004		Pricey bi-polar floorstander has a fine midband, let down by its built-in powered subwoofer	19,104,31	•	91	5	28	•		
-	Dynaudio Audience 5	400	Follows the Dynaudio tradition for fine midband transparency, but the overall timbre is a bit thin	20,31,26		85		40		•	
		400	Classy engineering content creates a winning combination of neutrality, dynamic range and involvement	17,28,25	10.50	87	4	40	•		
		439	Slim centre and front standmount, has an evenhanded but rather laid back balance but lacks drive	16.5,57,31		89	5	25	•		
-		577	Understated in looks and finish, this compact stand-mount can mix it with floorstanders at more than twice the price	20,33.25		88	4	30	•		
		1,100	A highly competent and neutral speaker, but pricey for vinyl finish, and doesn't quite drag you into the music	20.5,93,25	•	88	6	20	•		
-		1,842	Wonderful voice-band delicacy and loads of deep bass from a very elegant and compact box	21,95,29	•	85	4	20	•		
-		599	Chunky floorstander with classy drivers has a neutral, slightly 'shiny' character, and could have more punch	20,95,28	•	88	9	23	•		
-		800	It's pricey, and you can buy better performance for the money. Small speaker, good sound	12.3,20.8,28.2		86	4	42	•		
-		150	Bright, bassy, laid back and attractively evenhanded, but dynamically challenged. Big box for your dosh	20.5,38,34	1	86	4	25	•		
-		249	A curiously dumpy shape, but smooth, laid-back performer is easy on the ears, with fine tonal accuracy	25,35,32	1	85	4	40	•		
1		300	Gorgeous shiny styling package at an ultra-competitive price, suffers from an excess of rather flabby bass	19,98,28	•	87	4	25	•		2
	Energy e:XL 25	400	Neat slimline design delivers a fine all round performance for the price, but could sound smoother	15,87,31	•	90	4	25	•	CONTRACTOR OF STREET	2

CONTINUED

## Loudspeakers

SIZE WATED (CM)

FLOORSTANDER (db/M)

FLOORSTANDER (db/M)

FROM (HZ)

FROM (H

							-	-	-		
STAT	PRODUCT	_	COMMENTS  Use a subtribution of the description of	20.70.25	V	0.5	0	45	V	V	160
	Epos ES12 Epos ES25	499 1,655	High quality luxury standmount has great midband and stereo imaging  Handsome floorstander with a rather uneven and bass heavy balance	20,38,25 24,90,35	•	85 88	8	45 22	•		160
	Gale 2i	140	Unspectacular sound and appearance fail to help this solid little miniature stand out from the crowd	22,40,27		88	7	40		•	170
•	Heybrook Prima 2	159	Great openness, speed and timing. Sounds fresh and vital, though sometimes lacks scale and weight	20,29,18		87	6	50		•	179
•	Heybrook HB1	180	Good value but an uneven performer, the HB1 provides plenty of fun with the volume turned well up	21,38,25		88	3	50	•		207
)	Heybrook Heylette	200	Attractive traditional-style near-miniature with classy main driver now has fine overall balance to match	19.5,30,22		88	4	45	•		187
•	Heybrook Optima	259	A dumpy ugly duckling with a heart of gold. Deserves a better tweeter, but communicates well	22,88,29	•	94	4	30	•		193
3	Heybrook Heylios	269	Classically styled stand-mount has a fine balance of smoothness and dynamics, plus real wood veneer	23.5,36,27		89	6	25	•		201
	Heybrook Ultima	649	Has the bass wallop to justify its dual hi-fi/home cinema roles, but doesn't excite	22,97,29	•	89	6	45	•		174
3	Heybrook Duet	750	Looks slightly old-fashioned, sounds a bit coloured but its fine timing and liveliness serve music well	23,43,30		88	11	27	•		199
	Heybrook Octet	1,800	Good-looking but pricey floorstander with novel drivers and a fine ceramic-enclosure midband	24,97,31	•	90	6	25		•	180
3	Indigo Three	500	Cute 'n' chunky standmount is an entertaining communicator. Great fun, despite some sonic weirdness	23,30.5,32		86	17	24		•	199
	Infinity Delta 60	700	Striking and massive floorstander, lots of speaker for the price, but seems a victim of its own complexity	16-29,115,41	•	90	4	25	•		183
	Infinity Kappa 70	795	Fine material value. Sonically big, smooth and even, but lacking in coherence and dynamics	16-26,96,27	•	87	4	25	•		204
	Jamo E800	200	Nicely voiced, open midband but bottom end is a bit strong and amorphous	17.5,33,29		87	3	30	•		201
	Jamo BX100A Jamo Classic 8	350	Offering a cracking output for their size, these rock boxes can be a bit bright but have decent bass  A lot of speaker for the money, good when playing quietly, but boom'n'tizz character sounded crude	31.5,54,28	•	91	8	40			153
	Jamo Cornet 195	400 350	Loads of bass, should have plenty of yoof-appeal — it looks the business, and is priced attractively	22,90,29 20.5,91,31	•	90	3	26			18.
	Jamo 477A	500	Very prettily styled, but build and sound quality are disappointing at the price	19,77,28	•	88	4	40	•		13
	Jamo 507A	700	Imaginative styling keeps the front view super slim yet still it packs a punch. Glass top is a nice touch	22,94,37	•	88	3	40	•	165	17
3	JBL LX2	250	Invigorating, if a touch crude, this good-hearted speaker reproduces music with enthusiasm	22,40,27		87	8	40			170
و	JBL Ti200	400	Very substantial standmount knows how to rock and roll, but can sound uncouth on more delicate material	21,41,30		92	5	40	•		19
3	JBL L20	700	Pricey, heavy and a bit laid-back, but this is a fine rock'n'roller which is dynamic and communicative	26,42,28		86	8	30	•		138
_	JBL SVA1500	700	A distinctive Pro-style bi-radial horn tweeter, with a fun sound, enlivened by a juicy bass thump	17.5,51,31	T.	86	8	40	•		174
3	JBL L40	1,000	Classic, large, three-way standmount is full of vim and vigour, with a superb sense of balance	30,65,31	William I	88	4	23	•	M. A.	167
Ð	JBL 4312 II	1,000	Crude but startlingly effective dynamics. The original party animal knows just how to rock'n'roll	36,60,30		94	4	25	7	•	190
3	JBL SVA 2100	1,250	Monstrously large and brutish styling, goes very loud as well as deep. Fine focus but some boxiness	37,114,52	•	91	8	<20	•		180
<b>3</b>	JBL L90	1,500	A classic monitor which communicates with gusto and enthusiasm, though it can sound a bit crude	24,94,35	•	91	6	23	•		14:
	JBL LX70	550	Bassmeister supreme, shame the rest doesn't match up. Fine sensitivity but an itchy, scratchy treble	26.5,94,30	•	91	4	33	•	TEN.	183
	JMLab Tantal 507	295	Competent all-rounder, this compact standmount has a good heart and sweet treble, but sounds a bit small	21,38,27		93	4	40		•	193
3	JMLab Tantal 515	495	Lively and open if bright. Sound is entertaining and informative, but presentation is nondescript	20,94,26	•	92	5	32	•		183
0	JMLab Cobalt 815	999	Hefty real-wood floorstander has a slight 'boom'n'tizz' character but delivers big speaker grip and dynamics	22,100,31	•	90.5		22	•		199
3	JMLab Electra 905	1,200	Compact but massively engineered, delivers a very classy sound with exceptional dynamic range	23.5,47,28		90	4	40	•		204
	JMLab Spectral 909.1	1,375	Multi-driver array in a large and very substantial enclosure. Good scale but lacks delicacy and sweetness	27,107,35	•	90	4	20	•		180
	JMLab Electra 915	1,795	Fine headroom and bass, and classy engineering too, but also a tricky amp load which lacks delicacy	26.5,106,36	•	92	4	20	•		195
Ð	JMLab Mezzo Utopia	7,250	Looks good and sounds even better. A genuinely big speaker with fantastic coherence	35,115,47	•	92	4	30	•		186
<b>B</b>	JPW Mini Monitor JPW Gold Monitor	60 80	Ultra-cheap miniature works well in a limited way  More informative than Mini Monitor — but fiercer, too	18,27,17.5		86	8	50		•	156
0	JPW ML510	130	Lots of good quality speaker for the price, but not an ideal match for cheap budget components	18,27,17.5 20,34,22		88	8	50	•		169
0	JPW ML910	330	Loads of speaker for the money, plenty of headroom and loudness capability, but sounds dull	23,104,30	•	91	4	43	•		183
D D	JPW ML1010	400	A seriously substantial speaker for the price, and an obvious choice for those who like their music loud	22.5,115,40	•	91	6	25	•		170
w	JPW Ruby 1	400	Very pretty but pricey luxury metal-cone miniature has good if slightly edgy balance	19,32,21		87	6	55	•		139
B	JPW Ruby 4	1,000	Twin metal-cone main drivers improve the dynamic performance and bass extension, with little sacrifice	22,94,26	•	88	8	25	•		174
_	KEF Cresta 2	149	A good looking/value package but sonically disappointing, and no match for the Q15	20.5,37,24		91	4	40		•	19!
B	KEF Q15.2	200	A vigorous and entertaining compact speaker that remains particularly well aligned for close-to-wall siting	20.5,31,27		89	3	30		•	207
_	KEF RDM Three	1,500	Definitely a speaker aimed at long-term satisfaction rather than immediate impressiveness. Nice	24,100,27	•	90	4	40	•		189
	KEF Reference Model 2	1,599	Classy, large floorstander that has massive headroom and clean mid-to-treble, but limited deep bass	23,103,34	•	89	4	30	•		167
B	Keswick Audio Aria II	379	Confident and dynamic sound, if a little crude and shut in	21,42,24		89	8	20			148
0	Keswick Audio Torino	999	Good value, lively contender with distinctive styling. Goes loud and deep but could be smoother	18-26, 93,28	•	90	4	20	•		167
0	Linn Kan	295	Great bass discrimination from size, ensuring a very informative, if slightly shut-in experience	19,31,19		86	4	45		•	187
B	Linn Keilidh Passive	750	Stunning timing and coherence, awesome bass drive	20,83,28	•	87	4	22		•	138
0	Living Voice Auditorium	1,500	Pretty, compact floorstander has wonderful coherence, high sensitivity and fine dynamic integrity	21.5,98,29	•	91	4	25	•		180
E	Living Voice Avatar OBX-R	4,000	Discreet but extremely fine design with external crossover and an affinity with valves	21.5,104,27	•	89	8	45	•		196
	Magnat Vintage 320	350	Loads of speaker for your money, but the sound is thick, heavy and lacking in presence and authority	25,102,30	•	90	4	20	•	1004	20
	Magnat Vector 77	450	Tall, dark and a lot of speaker for the money. Beautiful balance, but lacking in subtlety and transparency	22,115,29	•	89	5	30	•		183
D	Magnat Vintage 720	1,200	Slightly crude in some respects but lots of heart, fine scale, decent dynamic coherence and integrity	29,113,32	•	88	4	20	•		180
	Martin-Logan Prodigy	8,967	Combines the finesse of an electrostatic with the grunt of cleverly engineered cone bass to good effect	42,179,71	•	91	4	28	•		204
	Mirage FRX7 Mirage OM-5	550 3,000	Neat slim floorstander has a heavy, laid back balance, probably better suited to movie than music reproduction  A meaty model that goes loud without distortion, digs deep with aplomb and creates plenty of depth of image	17.5,95,32 133,30,42	•	90	6	22	•		20
	Mission 700	130	A lot of speaker for the money. Good bass weight and extension and goes loud with ease	18,34,26		87	8	40		•	179
D D	Mission 77C	199	A good centre-front match for 77-series, the triple tweeter might be a curiosity, but voicing is very good	42,17,21		91	4	100		•	198
D	Mission 77DS	199	Neat flush-mount surround speaker has no bass but a smooth midband and nicely restrained treble	34,26,12	3	92	4	120		•	198
D	Mission 771e	200	Beautifully styled miniature has a delightfully voiced midband, and real wood finish too	17,31,22		86	6	45		•	20
•	Mission 780	299	Gorgeous miniature has a fine midband and clean, bright treble, slightly odd bottom end	16.5,28,27	170	86	6	40	•		20
B	Mission 773e	400	Beautifully designed slim floorstander could be more neutral but still delivers an all-round entertaining sound	17.5,88,26	•	92	4	30		•	193
B	Mission 774	500	Gorgeous floorstander is an entertaining communicator, despite some balance oddities (bright treble)	18,95,31	•	90	4	40	•		18
3	Mission 782	699	Ultra-compact floorstander has a glorious midband and slightly odd bass. Good communication skills	16.5,82,28	•	86	9.5	25		•	19
3	Mission 775e	800	Lots of speaker for the money, and musically involving too, if a little short of serious weight and authority	23,115,30	•	93	3	25	V. 1	•	20
Ð	Monitor Audio Bronze 2	180	A real corker, which combines solid material value for money with a fine all round sonic performance	18.5,35,27		89	3	30			20
B	Monitor Audio 702PMC	700	A good all-round standmount with intimate midband focus	20,40,25		87	8	30	•		17
B	Monitor Audio MA703PMC	800	Lovely but pricey floorstander has upfront, coherent, 'shiny' sound	20,89,27	•	88	8	50	•		16
	Mordaunt-Short MS902	150	Gorgeous metal-finished budget stand-mount has a shiny sound to match its looks	18,31,25		87	4	45	•		20
0	Musical Tech Kestrel Evolution		Cutely styled, cleverly compact and a smooth, subtle and coherent performer, best suited to smaller rooms	20,85,19	•	86	4	40	•		20
3	Musical Technology Harrier	400	Very pretty package, good measured performance and even sound. Sensitivity is low, and dynamics limp	25,80,23	•	86	8	25	•		15
0	Musical Technology PM15	450	A subtle, understated but very involving example of the 'classic' luxury-finish compact standmount	20,41,27	OL I	88	5	38			18
0	Musical Technology Falcon	680	Big speaker has a big but also surprisingly smooth and civilised sound. Fine material value too	33,117,30		89	4	22	•		19
	Musical Technology Condor	1,000	Lots of clever ideas in a floorstander, which places transparency and smoothness ahead of dynamic drama	25,91,23	•	85	4	28	•		174
0		CCC	Crost dynamic range and into retrieval, but this Jacks warmth	2/0027	-	0.0	0				
	Naim Intro Naim Credo	660 1,060	Great dynamic range and info retrieval, but thin, lacks warmth  Involving sound, but rather forward and cold. Good clarity, but some coloration and a lack of richness	24,89,27 24,89,30	•	89	· 8	30 28	•		164

CONTINUED

Ruark Prologue One R 949 Strikingly contemporary compact floorstander is well voiced but a little lean in overall balance 175,93,28 8 8 5 25	CONTINUED	_		SPECI	FIC	AT		N 5	
Name   Name   1970   1971   1972		ds		FLOORSTANDER	IMPEDA Y (db/V	SASS FINCE (S.	FREE ROM (H.	CLOSE	SSUE NUME WALL
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Next Cition 2  450  Conference on a part of the control of the con					•	100000		PER INCHES	100000
Note Marche Mod Tibe   1976   A larger weetering advanced, to particularly procedy about 1976   19	Naim NBL	6,648		The state of the s	•	1000000	08/	ENGINEER .	
Note   Disc   1,000   Apply contraining all conder, has a plant steeches that sounds used. It is a particularly wrong to the Part   Vision   20   20   20   20   20   20   20   2	Neat Critique 2	445	Contemporary standmount has a clean, crisp sound with lovely natural midband voicing	22,32,24		86	6	50	•
New Peters   1,000-222   20.2   A large companies between size and performance, sensible, of the first   20.2   1.0	Neat Mystique Mk2	575	This elegant package delivers a fine overall sound quality; some might find the top end too insister	nt 20,86,18	•	85	6	23	•
Sear Public Carebox   2002   Sear Bully presented minimary public order on the character gives sound, sofehold varied   2005, 40   6   6   0   0	Neat Elite	1,195	A highly entertaining all-rounder, has a planar tweeter that sounds sweet, if not particularly smooth	20,88,18	•	88.5	6	25	•
Note Support   190	Neat Petite II/Gravitas			23.105.40	•	85	6	25	•
No.   1.5				-		1			•
MIST Supper 1900   500   Conceived primated entrol count of the local southern years   500						85			20.000
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Proceedings		1,650		A RESIDENCE OF THE PARTY OF THE	-			-	
Marc   151	Orelle Swing	1,200	A superb example of what an essentially small loudspeaker can do, with bags of brio and enthusiasm	18,101,28	•	87	8	45	•
MRC 181   999   251   140	PMC TB1S	430	Pro-audio version of TB1, cheaper because of black paint finish	20,41,30		87	6	40	•
Park   15	PMC TB1	482	A classy, laid-back performer that likes going loud and loves the bass guitar	20,40,31		87	8	45	•
Park   15	PMC LB1	999	Still fully competitive eight years after our original review, this genuine compact monitor is now a modern class	ic 17.5,53,26	100	87	6.5	40	•
Pink 1550				and the last of married and the second section and the second		88	6	20	•
PAIR 6116				AND DESCRIPTION OF THE PARTY OF		-			
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Prof. Stable 125   1,000   Pentachtly were compact stand mount in classically balanced, if a little on the bright side of neutral   93,62,65   \$ 6				THE RESERVE OF THE PARTY OF THE	-	Telephone .			
Treels Station 125		and the same of th			•	-		THE PERSON NAMED IN	100000000000000000000000000000000000000
CQUIS Signature   CQUIS   Regs ILIA Mil.   408   Prity and smooth, the latest incuration has a superin midband and excellent communicates kills   Regs IELA Mil.   408   Prity and smooth, the latest incuration has a superin midband and excellent communicates kills   Regs IELA Mil.   408   Prity and smooth, the latest incuration has a superin midband and excellent communicates kills   Reglo KEL   1.001   Colorabe and sounds great behier behight the celebrate and timing   Redided Ref. 1136   1.002   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic observed   Redided Ref. 1136   1.003   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic observed   Redided Ref. 1136   1.003   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic observed   Redided Ref. 1136   1.003   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic observed   Redided Ref. 1136   1.003   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic observed   Redided Ref. 1136   1.003   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic observed   Redided Ref. 1136   1.003   Single-diner system has limited bandwith and obsours coloration, but wondours dynamic and the system has limited bandwith and dynamic		-				1000000	-	DE RECEIVE OF	
Regs   LAM   498		1,000			•	10000		-	The second second
Regs   LEA Mile   498   Refly soundings, chunky floorstander sounds very direct coupled to the music, it all anoth homorifulary   22,592,526   9   9   5   25   9	QLN Signature	1,000	Attractive pyramidal standmount with heavy, laid-back balance but remarkably unboxy sound	27,37,36	•	83	4	25	•
Rigor JRA   1.040   1.050		450	Beefy sounding, chunky floorstander sounds very 'direct coupled' to the music, if a touch 'boom'n'tiz	22.5,92.5,26	•	90	5	25	•
Regio MEL   1040   Looks and sounds great belience bight but neers, with designating coherence and timing   20,82,30					•	The second		-	•
Refinders No.   1.50   1.00   Single-diver system has limited bandwidth and dovinus coloration. Lut wondrous dynamic colerence   54,8227   1.00   1.00					-	200000	_	-	
MRS Sevelation Seets   1   299   Innovative metab-box compact with integral port/stand - clear with pood timing but very laid-back belance   20,992.4						1000000		1000	-
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Roof the Sorcere  Signath Sprogue  299 Euterneby musical and communicative speaker that \$ into listen to Aesthetics could be better, though  2018 and Exprire  997 Elast Scripte  998 Toddooral Cabretwork with clave yener and shiny gift frongs, hampered by rather wayward sound balance  1999 Elast Scripte  999 Toddooral Cabretwork with clave yenere and shiny gift frongs, hampered by rather wayward sound balance  1999 Elegant Lusury three-very with wonderfully even-handed at rather last-back balance  1999 Elegant Lusury three-very with wonderfully even-handed at rather last-back balance  1999 Elegant Lusury three-very with wonderfully even-handed at rather last-back balance  29,931				AND ADDRESS OF THE PARTY OF THE		86		100200	
Rusk Epilogue 269 Rourk Grouper 599 Tradicional Carbinotow with observed and plerity of charms best suited to smaller rooms 17,29,23 87 87 47 Rourk Engloque One R 949 Stinkingly contemporary compact floorstander is well voiced but a little lean in overall balance 15,59,528 8,88 5 25 Rourk Crusoder 1,599 Rourk Crusoder 2,500 Rourk Crusoder 1,599 Rourk Crusoder 2,590 Rourk Scapetine 4,590 Ro					•	285,67		DIAMESON.	-
Ruark Ecropter  Signate Prologue One 8 949 Strikingly contengancy compact floators due is alter lase in overall balance 12,38,31 8 8 40 Ruark Erologue One 9 949 Strikingly contengancy compact floatorated is sell visioned but a little lean in overall balance 12,38,31 8 8 5 5 Ruark Erologue One 9 8 Strikingly contengancy compact floatorated is sell visioned but a little lean in overall balance 24,94,31 8 6 6 2 2	Royd The Sorcerer	595	Extremely musical and communicative speaker that's fun to listen to. Aesthetics could be better, though	20,31,18	Sam	86		NOTITION -	
Ruark Sceptre 999 Toddinant cabinetwork with cksys veneer and shirty gill favings, hampered by rather wayword sound balance 12,88,31	Ruark Epilogue	269	Beautifully finished miniature with a lively balance and plenty of charm; best suited to smaller rooms	17,29,23	100	87	8	47	124
Ruark Prolaque One R  1599  Ruark Causader  1599  Ruark Causader  1599  Ruark Equinox  1,849  The primary strength of this speaker is its ability to vanish behind the music  2,88,34  3,25  Ruark Equinox  1,849  The primary strength of this speaker is its ability to vanish behind the music  2,88,34  3,26  3,27  3,28  Ruark Equinox  1,849  The primary strength of this speaker is its ability to vanish behind the music  2,88,34  3,25  3,25  4,26  Ruark Equinox  1,849  The primary strength of this speaker is its ability to vanish behind the music  2,88,34  3,26  3,27  3,20  3,20  4,20  5,20  8,20	Ruark Sceptre	599		21,38,31	Sept.	87	8	40	•
Ruark Cruansler  1.999  Regark Excalabor  7.000  A big, Inandsome speaker with a big, Jaid-back behanded, if rather laid-back balance  8.288,344  8.86  8.65  8.95  Ruark Excalabor  7.000  A big, Inandsome speaker with a big, Jaid-back but open sound, rocking bass and loads of headroom  7.001  A big, Inandsome speaker with a big, Jaid-back but open sound, rocking bass and loads of headroom  7.002  A big, Inandsome speaker with a big, Jaid-back but open sound, rocking bass and loads of headroom  7.003  8.002  Clever hang-or-wall panels well voiced, though bass fart too great  8.004  8.002  Sequence 400  7.003  7.004  7.005  7.006  7.007  7.				Commission in the language of	•		_	The state of the s	•
Ruirk Equilox	Ruark Crusader		· · · · · · · · · · · · · · · · · · ·		-	- Control	-	DAY COLUMN	
Roart Exclaibrs 7,000 A big, handscome speaker with a big, laid-hack but open sound, rocking bass and loads of headroom \$9,125,555 9 90 4 50 9						-		-	1000000
Sequence 400 329 Clever hang-on-well panel is well voiced, though bass fair too great						1000000	-	100000	
Silverado Raider 695 Beautifully built audiophile compact: neutral of bright, tough work for amps   Snell KS 795 Classy AV-ready stand mount is very solidly engineered. Sound is neutral but lacks excitement   22,46,30 87 6 25   Snell WX5ps 4,500 Active bass floorstander with manvellous mid coherence, slightly suspect bass integration.   28,111,50 9 16 25   Soliloupy SM 2A   Souns Faber Concertino   59						-	-		
Snell K/S 795 Classy M/-ready stand mount is very solidly engineered. Sound is neutral but lacks excitement 22,46,50 87 6 25   Soliloquy SM 2A 1,095 Fine match in balance, coherence, target pass integration. 28,117,50 91 8 45 5   Sonus Faber Concentino 599 A beautifully neutral loudspeaker in a beautiful Italian suit of cohes. Classy, if quite pricey 21,32,29 87 5 30   Sonus Faber Concentino 599 A beautifully neutral loudspeaker in a beautiful Italian suit of cohes. Classy, if quite pricey 21,32,29 87 5 30   Pretty compact standmount has nice ribbon tweeter but sounds a bit soft and lacks dynamic viegour 19,85,26 84 8 85   Spendor 2030 599 Discreet similine floorstander with delicately coherent, laid-back sound 18,89,27    System Audio 1130 499 Super-slim, super-smooth, involving experience, but not ideal if you like your bass deep and loud 3,100,21 8 9 4 43   System Audio 1130 799 Pricey but persuasive, sonic subtleties sneak up to confound a dodgy first impression. Super-slim 15,000 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 40,127,48 9 7 8 2 5   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 40,127,48 9 7 8 6 2 5   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 50   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 50   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 50   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 50   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 50   Tannoy RY 150 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 50   Tannoy RY 150 Oddball aesthetics with accurate in the solit solit sonic solit so	The state of the s	-				100000		27.00.000	-
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Sorrus Faber Concertino	AND DESCRIPTION OF THE PARTY OF			CONTRACTOR OF STREET	•	-	-	-	•
South Coast Speakers Lancelot 895 Pretty compact standmount has nice ribbon tweeter but sounds a bit soft and lacks dynamic vigour 19,36,26 84 8 45 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Soliloquy SM 2A	1,095	Fine match in balance, coherence, transparency and speed. Intended for use with Cary CAD 2A3SE	35.5,19,30	Idux	91	8	45	•
Spendor 2030 599 Discreet slimline floorstander with delicately coherent, laid-back sound 3,10021 499 50perslim, super-smooth, involving experience, but not ideal if you like your bass deep and loud 3,10021 688 4 33	Sonus Faber Concertino	599	A beautifully neutral loudspeaker in a beautiful Italian suit of clothes. Classy, if quite pricey	21,32,29	GHOV.	87	5	30	•
Spendor 2030 599 Discreet slimline floorstander with delicately coherent, laid-back sound 3,002 499 43 43 43 45 45 45 45 45 45 45 45 45 45 45 45 45	South Coast Speakers Lancel	ot 895	Pretty compact standmount has nice ribbon tweeter but sounds a bit soft and lacks dynamic vigour	19.36.26		84	8	45	•
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TAG McLaren F1 15,000 Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality 40,127,48		-			-				Contract of the Contract of th
Tannoy M2 150 Surprisingly refined considering its very modest price: very communicative with outstanding midband delicacy18.5,33,25 8 9 4 45 9 12 12 12 12 12 12 12 12 12 12 12 12 12						90		-	0.0000000000000000000000000000000000000
Tannoy R1 200 Pretty little mini-monitor is smooth, well mannered and polite to a fault, lacks dynamic expression 17,30,22 86 4 30 1 Tannoy Saturn S6C 200 A punchy compact standmount based on a serious cast-frame, pro-style dual-concentric driver 38,31,29 87 7 20 Cood-looking floorstander, very neutral and even-handed, with fine midband but weak dynamics and drive 20,587,28 8 8 7 2 0 Tannoy MS 300 A great all-round compromise at a very modest price, combining good looks with fine midband voicing 818,587,26 9 9 5 40 Tannoy Saturn S6LCR 400 A punchy compact standmount based on a serious cast-frame, pro-style dual-concentric driver 21,38,29 89 6 25 Tannoy Saturn S6 500 Fine value vinyl floorstander offers plenty of genuine grunt and real dynamic tension 21,88,29 89 6 25 Tannoy Saturn S6 500 Handsome real-wood floorstander does a decent job, but lacks the evenness of its smaller R2 brother 818,5103,28 8 89 8.5 28 1 Tannoy S1000 999 Corgeous-looking compact floorstander. And a fine all-round performer, too 16-24,85,23 87 6 26 Tannoy S1000 1,290 Phenty of muscle and subtle and delicate effect while also broadening the soundstage at a price 15,105,6 9 5 8 N/A 1 Tannoy S8-M500 450 This supertweeter adds a subtle and delicate effect while also broadening the soundstage at a price 15,05,6 9 5 8 N/A 1 Technics S8-M500 450 This model offers a clean, open sound, offset by midbash coherence, but basis is a bit boxy and uneven 20,32,23 70 8 50 Ticknics S8-M500 450 This model offers a clean, open sound, offset by midbash, heavy balance and low sensitivity 27,87,877 8 50 Ticknics S8-M500 450 This model offers a clean, open sound, offset by midbash coherence, but basis is a bit boxy and uneven 22,94,29 91 4 42 Ticknics S8-M500 450 This model offers a clean, open sound, offset by midbash coherence, but basis is a bit boxy and uneven 22,94,29 91 4 42 Ticknics S8-M500 450 This model offers a clean, open sound, offset by midbash coherence, but basis is a bit boxy and uneven 22,94,29 91 4 42 Ticknics S8-M500 450 Ticknics and stereo,				COLUMN TO SERVICE DE LA COLUMN	-	0/		-	**********
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222 EOG OFFICIAL TOTAL T	OBMOOFERS				-				

#### SPECIFICATIONS Loudspeakers FLOORSTANDER SIZE WXHXO (CM) SENSITUTO (ABONO (CO) (AZ) B&W ASW1000 54,47,48 179 499 (Active) Very competently engineered all round, and goes (unnecessarily) very loud 20 JB&W SW1000 499 Bulky heavyweight is a high quality item, able to generate more bass output than music is likely to need 54,47,50 A20 198 JPW SW60 349 A real heavyweight, sounds clean and transparent, if perhaps a little understated. Usefully flexible 179 KEF Model 30B (Active) Commendably discreet with good sense of timing but limited extension 499 38.5.37.43 45 154 900 M&K MX70 (Active) Justifies cost and belies its diminutive size, with an agility that makes sense of the toughest material 25 179 25 5 46 35 Mission 7AS2 399 Ugly if very effective at supplying very low bass, but filter could do with more flexibility higher up 56,30,31 198 REL Q50 375 (Active) Genuinely deep, clean bass from an attractively compact and cost-effective package 40,41,42 179 0 1,050 (Active) Pretty subwoofer, cosmetically matching SM 2A3 speakers, pricey and mid-bass a bit strong A 25 196 Soliloguy S10 51,30,5,46



#### **Stands & Supports**

Hi-fi supports are more important than you might imagine — they can have very unsubtle effects on the sound of your system! There are two kinds of support those for equipment and those (stands) for loudspeakers. Equipment supports keep vibrations and resonances from affecting electronic components, while speaker stands hold enclosures stock-still and ensure they are at the correct height for your ears. Equipment supports may be rigid affairs fabricated from steel or more exotic materials; or they may have a form of suspension. Speaker stands come in a variety of sizes and styles to suit different models, and vary between open-frame and solid-pillar types. Always check with speaker and electronics manufacturers to see which supports they recommend.

#### KEY TO SPECIFICATIONS

 HEIGHT (cm): How tall is your support?
 TOP PLATE SIZE (cm): Dimensions of top surface on stand or equipment support.

● FILLABLE: Some speaker stands can be massloaded with sand or lead-shot to improve sound.

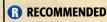
WELDED: The better stands and supports are welded together rather than just bolted.

NUMBER OF SHELVES: The number of tiers on an equipment rack or support.

 SHELF TYPE: The material from which shelves are made. Wood generally means Medium Density Fibreboard (MDF).

ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

**BEST BUY** 





## Stands & Supports

TOP PLATE SIZE (CM)

MEIGHT

M

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S	PRODUCT	(£)	COMMENTS	V	•		<u>v</u>	•	V	V
	<b>EQUIPMENT SUPPORTS</b>			-	477				MDE	200
	Aavik C4	200	Attractive wood finish stand with a very large footprint but sound is a little coloured	77	47			4	MDF	
0	Aavik Furniture A4	350	Good sound and stylish Scandinavian looks at an affordable price	80.5	47			4	Wood	
1	Alphason GR 17/17-AS	275	Great looks but sound can be bettered for the money	36	60,39			4	Glass	
	Apollo Symphony	245	Simple steel and glass stand which majors in excitement factor but lacks precision	73	46.5		•	4	Glass	
	Apollo Soprano	275	Uninspiring looks and sonic performance that can be beaten at this price	68.5	45.5			4	Glass	
0	Atacama Europa	240	Stylish, expandable modular design with agreeable full-bodied sound – great value	67	48.6			4	Wood	
0	Audiophile Furniture Base	615	Price is justified by its earth-shattering sonic abilities – a worthy upgrade	82	43			4	MDF	193
0	Avid Isoschelf	1,100		87.5	48			5	MDF	
0	Custom Design Aspect650	270	Smart looks and practical thanks to adjustable shelves. Sound is fair with some loss of detail	66	46		•	4	Glass	
0	Elemental Isotube x 4/Ref	1,199		92	45,49		•	4	Marb	
0	Elemental Audio Isotube X4	849	A hefty stand that demonstrates just how much difference a good support can make	90	49		•	4	Glass	
0	Frameworks H500/H175	404	Two-shelf stand and isolation platform combo in tubular steel – made a spectacular impression on audition	70	52,34		•	3	Glass	166
1	Ixos Deadrock 704	250	Looks unassuming but sound is full and inviting	100000	46,39			4	Resin	181
0	Mana Acoustics Ref. Table	350	King of its type: angle iron, chipboard and glass combine to make a significant difference to sound quality	56	49,39		•	1	Glass	147
1	Mana 4-tier	500	The ultimate statement in steel and glass; adds resonance in a way you'll love or hate	87	45		•	4	Glass	
0	Optimum Int 2000 OPT490	299	25kg stand with shelves between variable-height tubular uprights. Sounds smooth and relaxed with sturdy bass	50	60,40			4	Glass	
0	Optimum Int 2000 OPT660	349	Glitzy style isn't reflected in sound, which is wholesome	82	60,52			5	Glass	181
	Projekt Furniture A4	215	An elegant support stand that blends in to any home environment with a laid-back sound	56	48			4	Wood	193
0	Quadraspire Q4	280	Simple but modestly effective and very attractive	52	49			4	MDF	206
_	Sonus System Elite	330	Rather ugly and seems to offer little over and above cheaper steel and glass stands	68	50		•	4	Glass	206
0	Sound Organisation Z560	160	Welded and bolted members give structural integrity. While performance is not up with the best, it's great value	90	46,36		0	5	Wood	166
-	Sound Organisation Z545	160	Budget price and great looks make this a great value stand	73	46		•	4	Glass	193
0	Soundstyle X100	230	Looks lovely, sounds lively but slightly bright	64	49,28		•	4	Glass	
	Soundstyle XS100	270	Less character than other similar strands, but sound is somewhat short on transparency	72.5	49.5		•	4	Glass	
	Soundstyle Radius SR100	280	Stylish looks and a smooth sound	63.5	49.5		•	4	Glass	
1	Soundstyle Finewoods W105		Veneered shelves clamped between tubular uprights. Delivers with classical material	82	48,27			4	Wood	
0	Standesign Design 4	190	An all-in-one support at a budget price with good sonic performance	88.5	50.8		•	4	Glass	193
0	Townshend Seismic Sink AV1-4	600	Gives significant isolation for turntables and seems to add little character otherwise	74.5	45			4	MDF	
0	Townshend Seismic Stand	1,245		72	58,45			3	Wood	181
ŏ	Wilson benesch Asside	590	Sounds even better than it looks. And it looks wonderful	72	37.50			4	Wood	181
U	SPEAKER STANDS	330	Sounds even better than it looks. And it looks worldend	14	31/30	Marie S	2300	1	11000	101
ı	Alphason Akros II	65	A well-specified budget stand but the sound is as subtle as a house party	60,45	16.5	•	A Place		100000	202
	Alphason HDS	85	A reasonable stand with a smooth but rather bland sound balance. Good finish options	45-60	15.5,15.5	100 mm mm (6) 100				189
	Apollo Olympus	75	A popular stand and a decent performer, but unremarkable by today's standards	40-60	15,12.5	•		20000		189
		82	A pretty and robust design that sonically fails to stand out from the crowd	51,40.51	18	ě				202
_	Apollo A4/6	50	An excellent all round performer and a genuine hi-fi bargain	60,50	14.5.18	•				202
0	Atacama Nexus 6 Atacama BD21	55	Good looking and good value, but doesn't match the SE24's sound quality	56	15,17	•				159
0	Atacama R724	150	Atacama uses its market strength to deliver a superbly appointed product at a very reasonable price	60	15,17	•				189
0		100	A solid stand improving on the original with better focus and detail	61,56,51	16.5,18	•				202
0	Custom Design R/S300 MkII		Stands of distinction, able to free the speaker's sound from its box in a way budget stands simply can't	61	23.27	•	•	1000		189
0	Elemental Isotube SZse	599			19,21					189
0	JPW HS1	120	A purposeful stand, a touch dry-sounding but particularly strong with bass. Great for rock and dance music	61	29,32	•		-		202
0	Mana Sound Base	175	The Sound Base plinth simply improves the sound of every speaker placed on it	the second second						202
	Mission Stance	100	Detailed and open but needs a firm foundation to give its best	60	19,15	•				
0	Partington A-4	119	An oddball stand with a sound that's sheer class. More open and focused than almost anything below £150	50-100	19,22 20.5,23.5	•		10000		189
0	Partington Dreadnought Ult.	299	Super heavyweight stand that is an open window to the speaker placed on it	63		•				159
0	RMS/Stands Unique Vivus	349	Pricey carbon fibres give ultra-clean sound with exceptional voices	50	N/A					
ı	Russ Andrews Torlyte	599	Subtle and musical-sounding stands, though a touch more 'pizzazz' is need for Recommendation at this price	61	33.5,24					189
ı	Sonus Systems Excel	110	Strong performance when filled with sand but design flaws let it down	65,45	20,22.5	•		1000		202
	Sound Organisation Z524	69	A coherent-sounding stand with particular strengths in the midband, though quality drops at the frequency extreme		16,17					189
0	Sound Organisation Z522	89	Easy going and likeable performer straight out of the box	59	16,17	•				202
	Company of the Compan			The same of	ACCOUNT OF THE	PERSONAL PROPERTY.	10000	ALC: U.S.	10 N 10 N 10 N	P. Daniel

#### Stands & Supports TOP PLATE SIZE (CM) NUMBER OF SHELVES ISSUE NUMBER SHELF TYPE FILLABLE WELDED Sound Style Select OK but not as good as its cheaper brother the Z522 59 202 0 Stands Unique HP 220 Real wood disguises high-performance tuned technology 59 22.23 159 Target HM60 106 A solid and well-built stand laid-back to the point of com-40-70 202 0 Target R1 280 Truly high-mass four-pillar design with superb weight and speed, giving music delicious attack 53 15,21 146 Target TR60 Lively, dynamic midrange and detailed treble from a less-than-audiophile-oriented, twin-column design 60 15.15 146 Townshend Seismic Sink 499 O Unique inflatable plinth that works well with decent floorstanders as well as standmounted speakers 4 38,48 202



#### **Tonearms**

ess expensive turntables are usually supplied with a matching tonearm (and often a 'starter' cartridge, too). However, hard-core vinyl fans should invest in a more expensive separate motor unit with specialist tone-arm — the only way to make the most of vinyl LPs. It is essential to achieve operational synergy between such components, so this is one area of hi-fi where the skills of a knowledgeable dealer are invaluable. The quality of a tonearm's construction and design affect sound quality significantly. There are three basic arm designs listed in the key, and each has strengths, but pivoted designs are the most popular, being usually the most practical and affordable

#### KEY TO SPECIFICATIONS

 FFFECTIVE MASS: This relates to cartridge compliance. Generally high mass arms are suitable for low compliance cartridges and vice versa.

PARALLEL TRACKING: An arm which allows the cartridge to track the disc in a linear fashion.

 PIVOTED: Arms which allow the cartridge to describe an arc as they traverse the record.

UNI-PIVOT: Pivoted arms with a bearing that

allows movement in two planes.

• EFFECTIVE LENGTH (CM): Length of the arm from bearing to cartridge mounting.

 ADJUSTABLE HEIGHT: Important for accurate cartridge set-up

• ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

**BEST BUY** 

RECOMMENDED

EFFECTIVE MASS

PECIFICATIONS

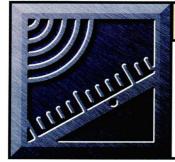
UNI-PIVOT PIVOTED

**EDITOR'S** CHOICE

ISSUE NUMBER

## Conearms

EFECTIVE LENGTH(CO) PARALLEL TRACKING ADJUSTABLE LENGTH Kuzma Stogi Ret Large, solid and well made arm, gives exceptionally clear sound with just a hint of brightness 1.250 Linn Ekos 1.500 Superb, state-of-the-art design which builds significantly on predecessor's strengths 229 67 Medium 0 Refined, sweet, detailed and natura The ultimate budget arm? est price it sets exceptional standards and could be used on many high-Roksan Tabriz Basic 0 350 Targeted at the Xerxes, this is a good alternative to the Rega arm in many cases - a touch bright though 240 91 0 SME Series IV 983 Superb engineering and finish with a finely balanced sound, impressive stereo focus and low coloration 233 60 Low SME Series V Low Excellent in all respects, this arm arguably sets the standards for pivoted arms, regardless of price 233 60



#### **Tuners**

TV has stolen adio's status as the foremost broadcast entertainment medium but with its Radio Four plays and Radio Three music, the BBC still makes a potent case for audiophile reception equipment. For how much longer, under the cost-conscious Birtist régime, remains to be seen. Another new imponderable is the a rival of digital adio broadcasting, though reception appa atus is currently non-existent outside of the in-car market. These days tuners play second fiddle to hi-fi sources like CD, but in many ways they are a greater engineering challenge than digital equipment, and thus higher p icetags clearly equate to superior performance. High-quality, roof-mounted antennae are essential for audiophile listening, so factor them into your budget

#### **SPECIFICATIONS**

M - MW. I - IW.

 PRESETS: Number of station frequencies that can be stored. ● RDS: (Radio Data System) was originally designed for in-car METER: Indicates strength of applications RDS tuners can identify and display the name of

the radio station being received.

information about broadcasts. ● REMOTE CONTROL: Infra

red control handset supplied. SIGNAL STRENGTH signal from aerial - useful for aligning your 'twig' during

Experience has shown that this analogue throwback is ergonomically far superior to the button-based approach.

• ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

BEST BUY

installation.

RECOMMENDED

**EDITOR'S** CHOICE

SIC STRENGTH METER ROT TUNING KNOB REMOTE CONTROL iners ISSUE NUMBER WAVEBANDS PRESETS RDS

Contract of	PRODUCI	(E)	COMMENTS	20000000	100		100 Var	STATE OF THE PARTY.	V	1000
0	AMC T7	130	Performance adequate but price is sharp, especially with remote control. Some hum	FM, M	30		•			166
0	Arcam Alpha 7	230	Indifferent RF performance but a touch of audiophile sound quality with clean, strong signals	FM,M,L	24					166
O	Arcam Alpha 10 DRT	800	The first DAB tuner and arguably still the best, but the system's still not perfect	DAB	7	•	•	•	•	199
0	Cambridge T500	180	Very capable tuner suited to good and less good reception conditions	FM,M,L	64	300		•	•	193
Õ	Creek T43	399	Quality UK-made tuner offering classy sound in all areas at a very fair price	FM,M,L	64	1000	•	•	•	193
	Cymbol C-DAB 1	1,000	The first 'high-end' DAB tuner, although format is the ultimate limitation. Gorgeous finish	DAB	8	•	•	•		199
0	Denon TU-260L II	130	The return of the all-time favourite, now enhanced with RDS and sounding as fine as ever	FM,M,L	40					193
0	Denon TU-425RD	200	A fine all-rounder with advanced RDS, good RF performance and decent sound. Remote extra	FM, M	40	•		100		166
0	Denon TU-1500RD	250	A well balanced and clean sound with good bass and treble extension	FM,M	40	•			•	184
	Magnum Dynalab FT11	499	All-analogue tuner: receives weak or tightly packed stations but loses out on noise and sonic neutrality	FM	3	Man .		•	•	184
0	Harman/Kardon TU950	200	Bulky but effective, delivering fine RF performance an'd good sound for the price	FM,M,L	30	•		100/1945	•	166
	Leak Trough Line	300	A renovated classic with a style all of its own coupled with an emotive and gutsy performance	FM	0	100		•	•	206
0	Linn Kremlin	2,600	Controversially good sound at a very high price	FM	80		•	•		142
0	Marantz ST-48	120	A classic budget model which manages a performance only just behind much more expensive models	FM,M	60					184
0	Myryad T-30	400	Attractive product that produces attractive sounds too: capable of very musical performance with a good aerial	FM	29		•	•		193
	Myryad T-10	530	A very smart unit which works well and offers good rhythmic drive and vitality, albeit at a price	FM	20			•	•	184
1	NAD C440	200	Rather polite sound, a little vague at times, that seldom offends but never excites	FM,M	30	•				193
0	Naim NAT01	1,730	There may be better sounding tuners in the world, but we have yet to hear one	FM						142
	Pioneer F-504RDS	250	Cable-friendly with advanced RDS and excellent RF performance; slightly disappointing sound	FM,M	40	•		•	•	166
0	Pioneer F-504RDS Precision	300	Lots of features, plus a sound that's low on noise and high on communication, adds up to a good value package	FM,M	40	•		•	•	184
	Roksan Caspian	595	Neat facia with great ergonomics, but sound is not really any better than models at half the price	FM	50	1000	•	•	•	184
1	Sony ST-SE500	140	A lot of features for the money, but sound lacks detail and has some coloration	FM,M,L	30	•	150	•	•	193
1	Rotel RT-935AX	160	Good ergonomics and sound quality at a realistic price, but limited features and RF selectivity	FM,M	20			1550		166
	Sony ST-SA3ES	250	Clean, lean presentation but needs a quality aerial to perform at its best	FM,M,L	30	•		•	•	157
_				T <sub>C</sub>	1000	1 00	-	II El CI	-	-

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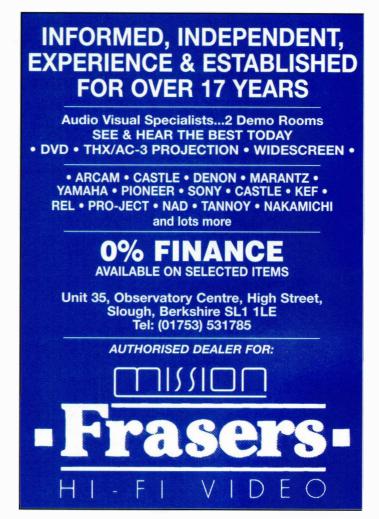
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#### SIC STRENGTH METER WAVEBANDS FM,M,L DAB,FM,M Sony STS-B920S A little hiss and image compression don't detract from the clean performance of this feature-packed tuner Technics ST-GT1000 500 Handy tuner that combines DAB, FM and AM in one unit and substantially lowers the price bar for DAB entry Thorens TRT2000 FM.M Not exactly neutral sounding, but nonetheless makes listening fun



**5** pecialist tumtables are at the heart of high-fidelity und. CD players may offer ultra-low noise and a flat frequency response, but they can't match the dynamics and superlative rhythmical timing taken for granted by serious turntable users. Less expensive turntables are usually supplied with a matching tonearm (and often a 'starter' cartridge, too). Still better quality is found at higher prices among the separate motor units and tonearms. Because turntables are mechanical devices, designed to retrieve micron-small modulations engraved into vinyl, engineering quality is of paramount importance. This is al the rea n why turntables cost as much as they do, and require the finest equipment support systems.

#### KEY SPECIFICATIONS

 MANUAL: You do all the work ● AUTO: The record player does all the work

• SEMI-AUTO: You put the needle on, the tumtable lifts it off at the end of the record.

 SPEEDS: In RPM to correspond with longplaying records or severy12-inch singles.

 SUSPENDED SUBCHASSIS: Sprung suspension to minimise structural interference. EXTERNAL PSU: Outboard power supply;

● SUPPLIED WITH ARM: Many turntables do not come with a tonearm fitted, but if this category is checked, the deck is already thus equipped. SUPPLIED WITH CARTRIDGE: If a tumtable

comes complete with arm and cartridge.

• ISSUE NUMBER: The issue of Hi-Fi Choice in which an original review appeared.

BEST BUY

RECOMMENDED

**EDITOR'S** CHOICE

## **Turntables**

SUPPLIED WITH ARM SUPPLIED WITH CART SUSP. SUBCHASSIS EXTERNAL PSU SEMI-AUTO SPEEDS ISSUE NO.

≦					9		-	-		0
5	PRODUCT	(£)	COMMENTS	V	V	V V	VV		V	V
0	Audio Note TT1/ARM1	594	Simple and unpretentious, it delivers a real taste of true high end performance at an affordable price	•		33/45				203
E	Avid Acutus	4,995	Extremely capable design with no apparent shortcomings, don't sell your vinyl 'til you've heard it on this!			33/45				194
_	Clearaudio Reference	3,990	Opulent beast tested with Souther TQ-1 arm. Tends to gloss over detail, but can sound bold	•		33/45				144
0	DNM Rota 2	5,600	Tonally slightly bleached, but extracts detail like few others. Works well on its own table			33/45	•	•	•	144
	Dual CS 455.1	220	Neat record player with automatic convenience (and 78rpm), but doesn't match simpler manual rivals sonically	10.5	•	33/45/78	• •	•	•	203
0	Dual 505-4 UK	250	Consistent sounding and well isolated turntable. It is slightly lacking in oomph			33/45	•	•	•	103
0	Kuzma Stabi/PS	1,950	(Tested with Stogi Reference) Solid oak plinth; sound is very clear, detailed and extended			33/45	• •	•		91
0	Linn LP12 Basik	1,100	Trails the full LP12 significantly, but pace, rhythm, timing etc. still top rank			33	•	•		103
0	Linn LP12 Lingo	1,750	The classic reference is improved by the Lingo, but charming character remains	•		33/45	• •			91
0	Michell Gyrodec	875	Sweet and natural-sounding player, well matched to Rega RB300 arm	•		33/45	• •	3 - 2	100	55
<b>E</b>	Michell Gyro SE	775	A stunningly desirable combination of looks, solidity and sound make this a tempting turntable	•		33/45	•			190
0	Michell Orbe 'SE'	1,725	A Superb turntable, able to mix it with the best at virtually any price	•	E	33/45	•			192
	Moth Kanoot	329	Rather coarse-sounding deck that requires decent isolation and comes with a Rega RB300 arm	•		33/45		•		164
0	NAD 533	220	Sonically a little crude, but musically satisfying results at a very modest price	•		33/45		•	•	203
0	Notts Analogue Spacedeck/Arm		No frills, just a first-rate, outstandingly natural-sounding deck that will last forever	•		33/45	•	•		159
0	Pink Triangle Tarantella II	850	A turntable that looks unlike any other, with rare ability too. Quirky, but sound is immensely likeable	•		33/45	• •			192
0	Pro-ject 2	300	Remarkably effective at the price, with decent timing and a generally well defined sound	•		33/45		•	•	164
	Pro-ject Classic Cherry	450	A great looking turntable with a generous and dynamic sound, but lacks something in overall coherence	•		33/45	•	•		203
	Pro-ject Perspective	750	Flexible facilities and competitive package, but performance of turntable alone is behind the best	•		33/45	•	•		192
0	Pro-ject 6/Sumiko	850	Don't think of this as a deck with a good arm, but as a scaled-down Oracle Delphi — it's that good			33/45	•	•		138
0	Rega Planar 2	214	A remarkable product at the price, surprisingly articulate and confident	•		33/45		•		48
0	Rega Planar 3	274	Sounds musical in a balanced manner, needs decent isolation and suffers a little pitch instability			33/45		•		164
0	Rega Planar 25	619	Great looking turntable has a silky smooth sound with exceptional midband coherence	•		33/45				203
0	Reson RS1	600	Supplied set-up and ready-tuned, this unconventional deck is packed with mid-band detail			33/45	•			159
0	Roksan Radius 3/Tabriz zi	890	Elegant-looking turntable with a tidy, ordered sound. Bright and breezy if a shade light eight	•		33/45	• •			159
E	SME Model 10A	3,333	Elegant and extremely capable design with Series V/309 hybrid arm, superbly built	•		33/45		•		195
E	SME Model 20.2A	4,863	Beautifully built, extremely neutral damped and suspended deck with superb sound. Inc V arm	•		33/45/78		•		186
0	Thorens TD166 VI/UK/RB	400	Refined, solid sound with well-focused imagery; suitable for use with good MM/MC budget cartridges	•		33/45	•	•	•	103
	Thorens TD 146 VI	550	Tonearm not quite up to turntable's potential; this semi-auto is much pricier than manual TD166	•		33/45	• •	•		203
	Thorens TD2001	700	Balances convenience and sound well, but deck lacks detail and bass could be better controlled			33/45	•	•		159
0	VPI HW19 Junior	650	A notably large and handsome turntable with good sound quality and considerable upgrade potential	•	AL.	33/45	• •	•		203
0	Well Tempered Record Player	850	Intriguing and challenging. Musically not ideal, but its limpid quality and lack of artificiality set standards	•		33/45	•			136
E	Well Tempered Reference	5,500	Superb mechanical stability and unflappability result in a clean reproduction	1000	•		33/45	•	•	205
0	Wilson benesch The Circle	795	A beautiful turntable with a sumptuous sound, all at a very reasonable price – a clear Best Buy	•		33/45	•			192

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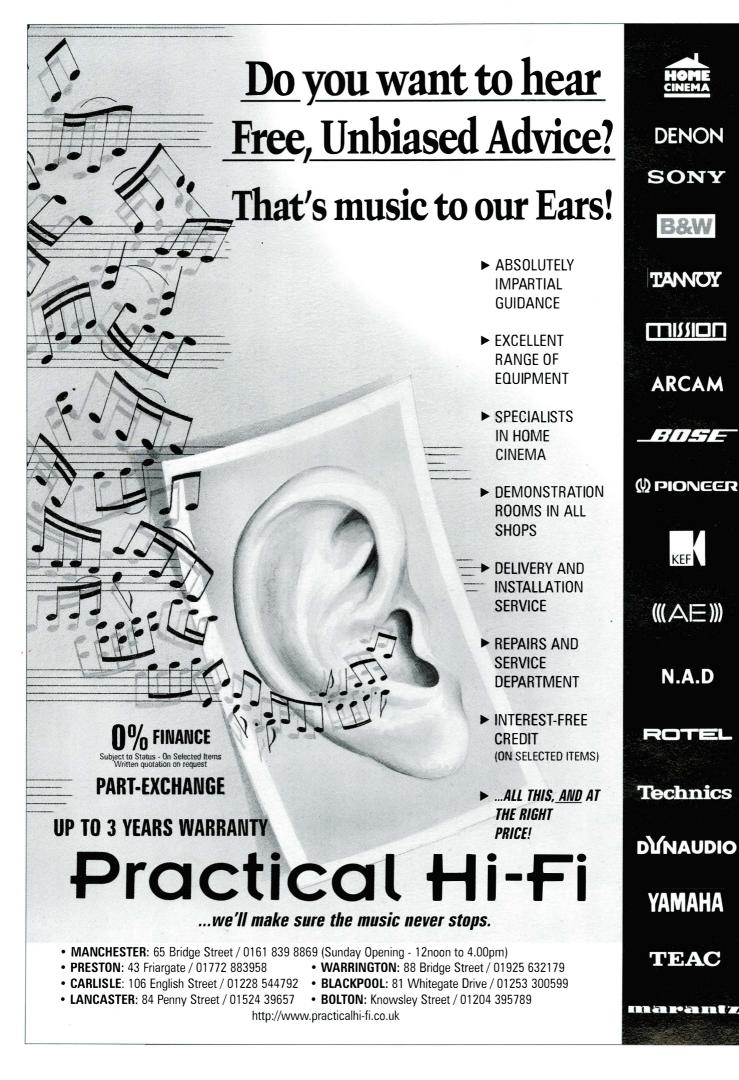
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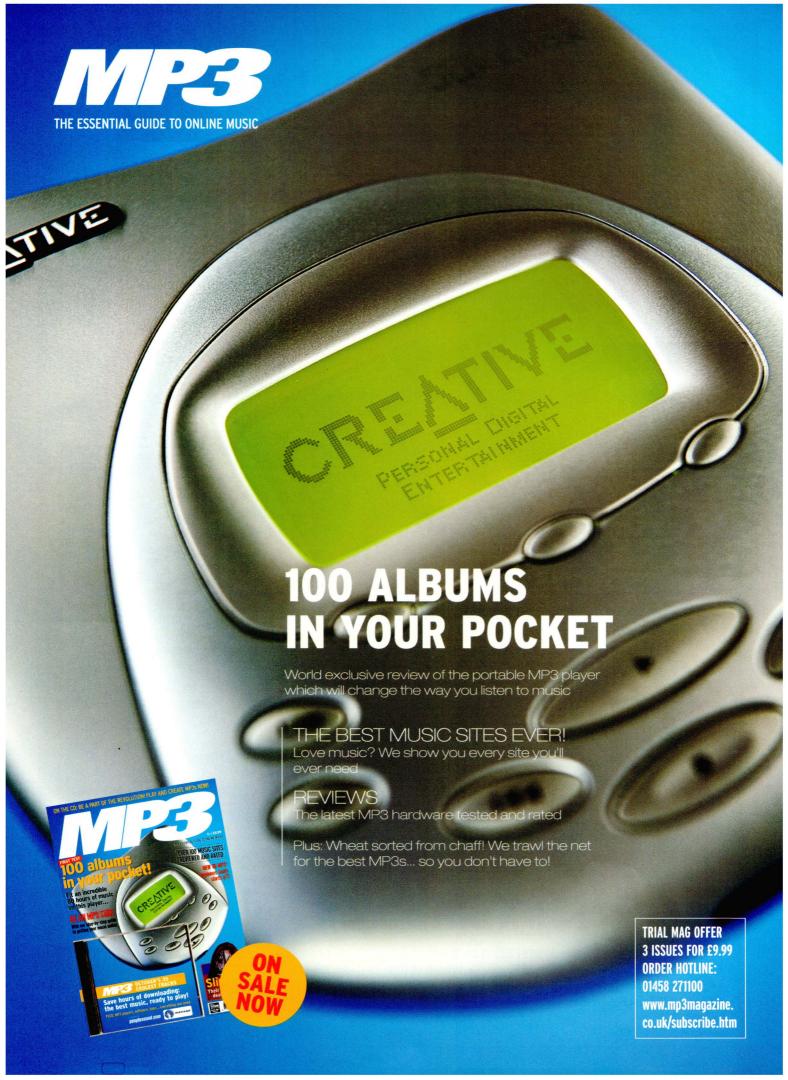
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December 2000 HI-FI CHOICE 145

## JIMMY

film High Fidelity struck a

## Odds on, the recent feature H U G H E S

chord with you. But for Jimmy, it was just the start of a quest that would take him back to the 70s.

f you've seen the film High Fidelity, based on Nick Hornby's novel, you'll know it ends tragically with declarations of True Love played over Stevie Wonder's I Believe (When I Fall in Love It will Be Forever) from the album Talking Book. My wife found the whole flick a valuable insight into the crazed world of obsessive record collectors. There were, she said, remarkable parallels between Rob, the hero of the film, and the man she married. Naturally, I totally disagreed.

I mean, I once had more LPs in my bedroom than Rob had in his entire flat. Nor did I spot a single album in his bathroom. How could anyone seriously call the man a collector? If you include all the records in his shop Championship Vinyl, the collection's pretty big. But the fact that he actually had a shop makes me deeply suspicious.

No rabid anally-retentive LP collector could own a record shop. That's like Oliver Reed buying a pub and trying to stay sober. Oscar Wilde was right when he said people can resist every-

thing except temptation. You'd be constantly filching stuff to make your little pile at home ever more complete.

Seriously though, it's a good film with some great music. And hearing a favourite Stevie Wonder track I hadn't

played in yonks had me digging through my record collection. Talking Book was that rarity in the early 1970s; a well-recorded, well-produced pop album. Except the sound wasn't totally immaculate, and it wasn't just that certain tracks sounded better than others - the recording quality wasn't even consistent within a track.

For example, Superstition has a great-sounding main riff, but lousy drums - boxy, swishy, coarse, like the tape's wandering on and off azimuth. I had always wondered why. Was it due to tracks being recorded at different times and different studios? Suppose the multitrack master was recorded on more than one machine; if head azimuths were different, you'd get phase problems during the final mix down.

Then there's the loss each time the tape is played. Since Wonder plays zillions of instruments on most tracks, there's clearly many overdubs, which erode sound quality; every time the tape is played, selferasure takes place, eventually wiping out the top-end. It wasn't until the late 70s that recording engineers found ways to get around this.

Of course there might be a simpler explanation; perhaps Stevie Wonder wanted such disparities - the drums on Superstition anticipate

HIGHLIGHTS

by a decade or more the dirty, grungy effect later producers would aim for, perhaps as an antidote to CD's clinical cleanness. However, I don't think so. Judging by his (subsequent) adoration of things digital, Mr Wonder loves bright, sharp, clinical sound.

Wonder's follow-up LP Innervisions was also something of a technical mish-mash. At least I used to think so. But just having listened again to both records after a gap of perhaps a decade or more, I was intrigued

> to find technical disparities far less noticeable than they once had been. If my earlier hi-fi systems had shone an unforgiving searchlight on these recordings, ruthlessly revealing technical shortcomings, my current set-up seemed much less cruel. Yet paradoxically the music itself sounded more vivid and threedimensional than I ever remember before.

I tried the following Stevie Wonder album Fulfillingness' First Finale. Now, this LP sounds dull and devoid of sparkle. I went to the trouble and expense of getting a Japanese pressing, but the sound still

> lacks brightness. I've known this record for 25 years, and heard it on a wide range of hi-

> > fi systems. It's always sounded

a pub and trying to stay sober. noticeable, while voices and instruments sounded impressively clear.

> Why? There's been no miracle upgrade that transformed things. It's more a question of winning a series of small but significant victories that have accumulated over time. It's all to do with improving middle frequencies. Faults in recordings mostly occur at frequency extremes lack of treble, too much treble, boomy bass, lack of bass, etc. A system that depends on what's happening at frequency extremes for clarity is bound to vary wildly with variations in source material quality.

> A system with definition and articulation at middle frequencies is less fazed by limitations at frequency extremes. The mid-band is where most of the musical information is. So reproducing it properly is vital. With the mid-band sorted you're suddenly able to play recordings with all kinds of tonal balance extremes, and still get enjoyable music.

You hear what's right with a record rather than what's wrong with it. Which isn't to say differences are ironed out - your system successfully encompasses a much greater range of sounds. It means you can play a dull-sounding album like Fulfillingness' First Finale, or one that's tonally thin and bright (like Hotter than July) and not have recording

## No LP collector could own a record **shop. That's like Oliver Reed buying** awful. Yet played on my current system, its 'faults' seemed hardly

quality limit your enjoyment of the music. I call it High Fidelity.

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Next issue features our annual hi-fi-palooza of all the best kit reviewed over the last 12 months. We've got everything from CD players and loudspeakers, to amps, DVD players, SACD players, turntables... You name it, we've picked the best of it. And there's a round-up of the years' most interesting developments in hi-fi. Altogether, your complete guide to the last year!

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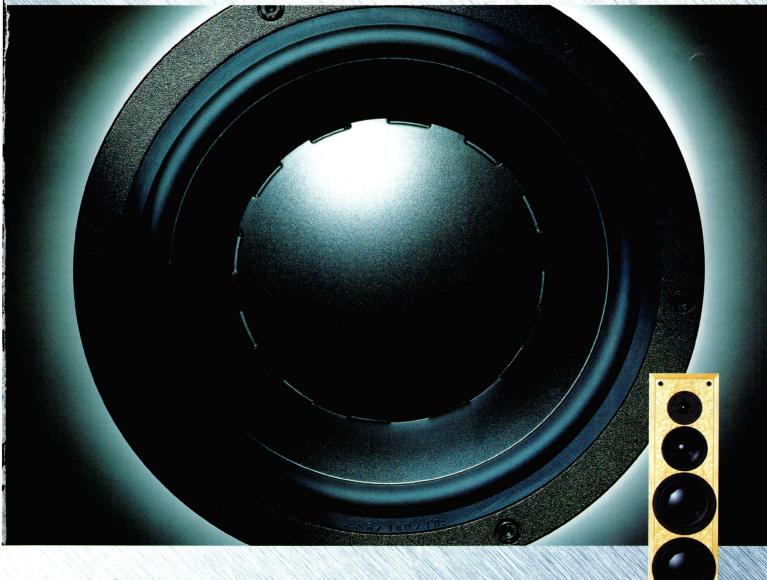
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