HIGH FIDELITY VIDEO»SPECIAL REPORT INSIDE»

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## Intro



### MARCH 2003 ISSUE 239

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Farewell Del – HFC's art ed for the last seven years. Thanks for coming

### CONTRIBUTORS

To make sure you get the best advice, *Hi-Fi Choice* employs the most talented and experienced writers in the business.



Jason previously edited Hi-Fi Choice, but can now be found nning about the wilds of Sussex indulging himself with the very best hi-fi money can ouy. His own system is s sational (trust us) and his ve of music knows no bound



er editor of Hi-Fi Choic A for Paul has been writing about his ed hi-fi hobby for some 26 years. In that time he has ome one of the world's mos cted sonic scribes and bably the UK's fore idspeaker reviewer. He also ites for respected US hi-fi rnal Stereophile



Science officer Miller is hi-fi's puted king of lab testing nploys his own specially Heer ned equipment to pull apart every measurab meter and explain its effect on a product's performance



ALVIN GOLD Alvin cut his hi-fi teeth in the retail trade, and has now beer writing about his obses more than 20 years. In that time he has contributed to almost every hi-fi periodical you can think of (and several m besides). Few can match his encyclopedic knowledge of all things audio



Richard is one talented guy: a professional musician enced recording engin nd a highly knowle hi-fi enthusiast to boot. He's ularly nerdy ab It's probably Freudian

've got a stinking cold today, but that's okay. It gives me a reason to work at home and warm my spirit on the Big Vibe Radiator. The BVR (aka the hi-fi) is hot and rolling, the sound spewing from the speakers like liquid mercury there's nothing like a searing guitar through a juicy system to set the pulse racing and kick the mind into action. When it's time to wind down I'll slow the pace, soften the ambience, wrap my ears in a feathery musical down...

Music is always the best medicine. But without hi-fi its magic is diminished. You need a good system to capture its essence, inject its energy into mind, body and soul. HFC exists to aid you in that quest - we leave no stone unturned in the search for the ideal system or the ultimate upgrade, chronicling our adventures so that you may use our labours as a guide.

In this issue you'll find reviews that straddle the full gamut of high performance home replay, from beautiful vinyl turntables - kinetic sculptures hewn for musical idolatry - to the latest high-tech stereo and multichannel gear. The common theme, of course, is the pursuit of pure, crystalline sound. And if a video element should appeal, to get the best

from films and the latest AV music software, make sure you scour our special report starting on p50. HFC is all about the pursuit of excellence, so why not treat your eyes like you treat your ears?



Tim Bowern editor

## Star products in this issue



31 **MICHELL GYRO SE** Newly revised classic deck



58 TEAC P-70/ D-70 Radical CD transport/DAC

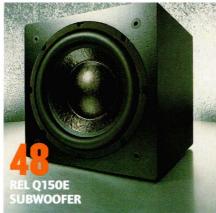


4] **PRIMARE 120** Stereo amp star



62 LV AUDITORIUM Speakers of rare ability











# MARCH 2003 ISSUE 239 NTENTS HI-FICHOICE

## **PRODUCT REVIEWS**

- **INCOMING** NEW GEAR 14
- 14 Rega Cursa 3 preamp and Maia 3 power amp
- Perstel DR201 portable DAB radio Denon AVR-3803 AV amplifier 15
- 16 17 KEF XQ1 loudspeaker
- 18
- Meadowlark Swift loudspeaker Philips DVD/SACD player 19

### **SYSTEM ADDICT** SYSTEM TEST LG MZ-42PZ17 Plasma screen 20

- 20
- Sony DVP-NS705 DVD/SACD player 20
- Sony STR-VA555ES AV receiver 20
- Mordaunt-Short Declaration 500 THX speakers 20

### **IN-DEPTH** SOLO TEST 24

PS Audio HCA-2 power amplifier 24

### 28 GROUP TEST

- TURNTABLES £600-£1,600
- Bluenote Bellavista/Borghese 30
- 31 Michell Gyro SE
- 32 Pro-Ject RPM 9 33 Rega P25

### **36 GROUP TEST**

### STEREO AMPLIFIERS £750-£1,350

- Arcam DiVA A85 38
- 39 Cyrus 8
- 41 Primare 120
- 42 Roksan Caspian MkII 43 Van Medevoort MA340

### **TEST FEATURE** 46

- SUBWOOFERS £400-£925
- 48 REL Q150E
- Ruark Vita 50 48 49
- Titan Saturn Velodyne SPL 800 49

### **STATEMENTS** HIGH-END TESTS 56

- 56 T+A PA1530R stereo amplifier
- TEAC P-70 CD transport and D-70 DAC 58
- 62 Living Voice Auditorium loudspeaker
- 65
- Nordost Valhalla cable system Musical Fidelity Tri-Vista 300 stereo amplifier 66

0







## **NEWS & FEATURES**

**6 AUDIO FILE NEWS AND VIEWS** Insight from hi-fi's cutting edge.

23 CHOICE CUTS SOFTWARE New and recent releases, rated for sound and content.

46 THE SCIENCE OF BASS The facts and theories behind serious bottom end.

**50 FEATURE HIGH-FIDELITY VIDEO** New technology for your eyes, as well as your ears.

54 INDUSTRY PROFILE T+A Forward thinking from the German high-enders.

69 RETRO HI-FI REVISITED Why Roksan's Xerxes revolutionised vinyl replay.

71 MUSO CLASSIC ALBUMS Bob Dylan's Live 1975: The Rolling Thunder Revue.

73 DIGITALIA DIGITAL TECHNOLOGY Video enhancement under the spotlight.

**130 OUTRO** HI-FI EXTREME David Vivian on the sound of nanotechnology.

### READER SERVICES

Our regular information service, including where to buy, how to get a back issue and second-hand kit for sale.

- How to Subscribe 74
- 75 Reader Classified
- 117 Glossary
- 118 Dealer Guide
- Dealer Directory 126 129
- Back Issues/Next Month

### **STAR RATINGS**

**XXXX** EXCEPTIONAL VERY GOOD AVERAGE SOMETHING LACKING RUBBISH

### **AWARD BADGES**



For 28 years, our unique tests have brought you the most accurate guide to buying hi-fi. Our mix of thorough Group Tests and in-depth solo reviews ensures HFC is the magazine to trust.

# **COVER HIGHLIGHTS**

### **28 GROUP TEST: TURNTABLES**



46 TEST FEATURE: BASS





# 77 BUYER'S BIBLE The ultimate guide to high performance

hi-fi and AV - our favourite products for your perusal. Your shortlist starts here ...

### SOURCE COMPONENTS

- CD players 78 **DVD** players
- 84
  - Radio tuners
  - 90 Digital recorders

AMPLIFIERS

98 Stereo amps 100 AV amps

### LOUDSPEAKERS

104 Stereo speakers 108 AV speaker packages

### ANCILLARIES

111 Headphones 112 Cables 115 Stands and supports

### **36 GROUP TEST: STEREO AMPS**



### 50 SPECIAL REPORT: HI-FI VIDEO







# ESSEX TOYS FOR HI-FI BOYS REGA REVAMPS AMPS, CD PLAYER AND TUNER

Essex-based Rega has been busy of late, introducing no less than five new, improved versions of existing products. Tweaks have been made across a range of kit including the Cursa preamp and Maia power amp (reviewed p14), Mira integrated amp, Radio tuner and Planet CD player. Highlights include the 60-watt Mira 3, billed as the highest performance integrated ever produced by Rega, and the new improved Planet, still priced at £498 and featuring a custom-made 24-bit DAC chip.

Rega's commitment to FM has also spawned the Radio 3 tuner, a 40-preset, £374 AM/FM design based around Sanyo's chipset. It sports a new look, including a large vacuum fluorescent display originally pioneered for in-car head units. The full range of revamped products is in the shops now – expect further definitive reviews in future issues of *HFC*.

Rega 01702 333071
 www.rega.co.uk



## HUGE HORN BASS HORN SPEAKER FROM AVANTGARDE

Following demand from its customer base for the ultimate bass horn, specialist Avantgarde has produced a monster – the Avantgarde Acoustic Bass Horn, a speaker that it claims is the best bass system in the world. This colossal horn system is available with two, four or six modules, the largest configuration featuring twelve separate 12-inch drivers, a total magnet weight of 108kg and a massive 5.7m<sup>2</sup> horn mouth area!

# STATIC'S CHARGE

Martin Logan's new Clarity speaker aims to make the wonderfully free and open sound of electrostatic designs a more real-world proposition. It features a host of innovations, including a 'Generation 2' electrostatic panel that increases 'visual transparency', and a new 'Microperf' design that reduces the size of the individual holes in the panel to increase efficiency. A newly-devised 20cm aluminium woofer is said to offer extended bass response, while a moving coil tweeter behind the panel is claimed to widen vertical dispersion.

Clarity is an unusually compact speaker for its ilk, measuring just 26cm across with a 300mm<sup>2</sup> footprint, and is geared towards upmarket AV systems as well as two-channel applications. The new model comes complete with Martin Logan's first ever DC power supply and a set of serious looking spikes. Priced at £2,498 per pair, Clarity is available now in three wood finishes. @ Absolute Sounds 020 8971 3909 # www.absolutesounds.com





# **MARQUE OF DISTINCTION**

### TEAC'S LATEST SILVER MACHINES

Distinction, a new modular range of hi-fi separates from TEAC, comprises the C-1D, a £240 CD player, the A-1D integrated amplifier priced at £280 and the £200 T-1D FM tuner. A PC-compatible touch-screen universal remote control is also available for £120 when bought with the system. The CD player's features include a 16-bit oversampling digital filter and a 10mm aluminium front panel, with a cosmetic look shared across the range. Further products are promised for the range in future, including AV kit. The first three components are available now. ☎ 01923 819630 ⊕ www.teac.co.uk

## **ROXY BOX NEW ACTIVE BOX FROM ATC**

ATC's latest active loudspeaker, the 20-litre Active 20 is launched this month with a price tag of £2,895 per pair. It uses a wide-bandwidth 25mm soft-dome tweeter capable of extending beyond 25kHz and the latest version of the manufacturer's hand-built 150mm (six inch) bass/mid driver - consisting of a 75mm soft dome mechanically coupled to a 150mm bass cone. ATC's proprietary onboard monoblock amplifiers deliver 200 watts to the bass/mid drivers and 50 watts to the treble unit and operate in Class A mode up to two thirds maximum output. Tune in next month for an exclusive review. 2 ATC 01285 760561 www.atc.ab.net





## **ARCAM DVD-A NEW BRITISH PLAYER**

After much speculation, Arcam has finally released details of its first DVD-Audio compatible DVD player. Based on the PAL progressive scan-enabled DV88 Plus (reviewed last month), the new £1,200 DV89 is claimed to offer 'audiophile-grade' DVD-Audio along with CD replay the equal of dedicated CD players of similar cost. It's due in the shops in March, following its official launch at the Bristol Sound and Vision hi-fi show, and an upgrade path.will be available for owners of existing Arcam DVD players. Arcam 01223 203 203 @ www.arcam.co.uk

VIDFO

 Zoran Vaddis 5 processor with progressive scan

**KEY FEATURES** 

● 6x10-bit/54MHz video DACs O CD-R/RW, DVD-R/RW and DVD+R/RW compatible

### AUDIO 32-bit Zoran audio DSP

- 24-bit/192kHz Wolfson DACs
- Low jitter audio master clocks
- Dolby Pro Logic, Dolby Digital
- 5.1 and DTS 5.1 decoding
- HDCD and MP3 decoding

## **CLEAN LIVING** PRIMARE'S PURIST AV AMP

Primare's svelte new SPA20 multichannel AV amp (shown here

in Digital Signal Processor in favour of a

with the V25 DVD player) eschews a bought-

multiroom installations. It's available this Spring.

current formats and has 5x100-watt amplification on board.

The £2,000, eight channel-ready amp also has a 7.1 analogue input with a 'straight through' option to maximise sound from DVD-Audio and SACD,

while rear-mounted RS232 port allows easy integration with automated

CSE Distribution 01423 359054 # www.primaresystems.com



### MARCH 13-16 Ideal Home Show, Earls Court, London 020 8515 2177

Hi-Fi diary

- APRIL The Smart Show, NEC, 6-8 Birmingham 01737 855381,
- www.thesmartshow.co.uk MAY
- National Vintage Communications Fair Birmingham NEC 01392 411565 29-1
  - High End Society, Frankfurt, +49 202 702022 or email paxa@highendsociety.de

# audiofile PRODUCT NEWS

## Soundbites

NAD has unveiled a new range of budget speakers for music and movie lovers. The 810 and 820 families each comprise of a pair of compact standmounts and a centre speaker, the 820s being the larger of the two. These may be bought in any combination, for stereo or multichannel use, and combined with the 800SW active subwoofer. The 810 and 820 stereo speakers are priced at £150 000 and £200 per pair respectively, with the two centre speakers at £130 and £150, and the sub at £250. <u>ක</u> 01908 319360

0 0

ECOSSE's new Baton interconnect is a sub-£100 cable available in both RCA and balanced versions. Baton uses silver-plated OFC conductors held in place by the brand's Isohelix jacket clamp enabling send and return signals to be optimised against the effects of microphony. Further Aluminium-Mylar screening is added and the cable is then sealed in PVC. Prices start at £75 for a 0.5 metre cable. • 0141 353 0509

MINISTRY OF SOUND, the brand derived from the London-

based super-club, has launched a mobile phone-sized personal DAB radio. The £150 MOSDR011 uses in-ear headphones as an aerial rather than relying on a bulkier device, and sports a blue LCD display, a joystick 'nav' control to seek out radio stations and a 10-preset memory. It's available from high street stores including **Dixons and Argos.** www.ministryofsound.com/ audio

# S INDUSTRY & TECHNOLOGY NEWS

# **ROPEY SIGNALS**

Who says pro audio is boring? Cable specialist Canford Audio has demonstrated the robustness of digital signals by using nothing more than wet strings as a digital link. At a recent professional audio exhibition in Amsterdam, the company set up a basic digital audio system with a CD transport at one end and a Canford digital audio analyser feeding an active loudspeaker at the other, using two lengths of string to transmit the bitstream signal.

A watering can was used to judiciously lubricate the string and enable the signal to flow and produce an error free signal. They don't suggest that you try this in the studio or at home, it could ruin the carpet, and they may have shot themselves in the foot by proving that you don't need special wires for digital signals. But who knows, perhaps they have a pure water cable in the pipeline (so to speak)!

Pulling strings: Canford Audio's low tech experiment.

# THE GODFATHER OF VHS

Kurt Lowry, the so-called godfather of JVC, has died at 83.



led godfather of JVC, has died at 83. Founder of JVC UK, Lowry brought the first VHS video recorder to Europe in 1976 – the JVC HR-3300, following it up with the first single unit camcorder, the GR-C1 in 1984. Lowry ran JVC UK from 1973 to 1992 and was a major player in the VHS v Betamax video format wars of the early 80s. It's fair

to say that JVC UK wouldn't be where it is now without him.

# **DIGITAL RADIO IN BRAILLE**

The Digital Radio Development Bureau has produced consumer information packs for DAB translated into Braille for the visually impaired. These are available to anyone and can be requested by calling the helpline on 08707 747474.

The information pack includes the benefits of DAB, the services provided on it and the extent of coverage, plus the products that are currently available to buy – if you can find any stock. It seems that supplies of the Pure Evoke and Goodmans GPS280 portable sets have been hard to track down due to supply problems. Sky digital satellite subscribers, however, will find that they can receive digital radio broadcasts via their set top boxes.

# **KEEP IT IN THE BBC**

Derek Hughes, son of Spendor founder Spencer Hughes and until now principal designer at that company, has moved to Harbeth. In a move that borders on the incestuous, Derek has gone from one speaker company founded by an ex-BBC engineer to another, many would say *the* other. Spencer Hughes and Harbeth founder Dudley Harwood worked together at the BBC on speakers such as the now legendary LS3/5a.



# IDEAL SOUND

Leading custom installer Audio T will be bringing the panoply of home entertainment technologies to the 'real world' at the Ideal Home Show this year. This forward thinking retailer is taking the latest plasma and LCD TVs, in-wall loudspeakers, multi-room audio systems and touch-screen controllers to an audience that may not yet have unpacked the surround channels for its 5.1 telly.

Audio T plans to stun visitors with five separate systems in specially built rooms or 'themed environments' – namely, a kitchen, living room and home cinema. The latter will feature systems ranging from the affordable to the aspirational with speakers from Acoustic Energy, REL and Boston, AV electronics from NAD and Primare, and alternative plasma screens (Panasonic and Samsung) taking turns with an In-Focus projector.

Audio T will be at stand 224a, and the Ideal Home Show runs from 12th March to 16th April 2003 at Earls Court in London.

# IN SEARCH OF The Perfect Disc



Further fuel has been added to the rumours that CD compatibility will be coming to DVD-Audio by software labels at the CES show, Las Vegas. While the official word from the DVD-Audio Consortium is still awaited, the word on the Strip is that even big players such as Warner Bros are supporting

the move which would enhance the format's appeal by making discs playable in just about any disc drive you can think of.

While it's possible to make a dual layer disc with DVD-A and CD layers, first examples are expected to be double-sided. This makes them easier to play, albeit susceptible to marking.

On the software front, SACD is pulling favours around the industry and spring should see the release of Pink Floyd's *Dark Side Of The Moon, Outlandos D'Amour* and *Ghost In The Machine* by the Police, Beck's *Sea Change* and Ryan Adams' *Gold*. Later in the year Sony Music has no less than 15 classic Bob Dylan albums lined up for re-release on the format, while DVD-Audio has claimed an all-time great in the form of the Beach Boys' *Pet Sounds* alongside REM's modern classic *Document*. So far rumours of the Beatles back catalogue appearing on DVD-A have yet to be substantiated.

# Award winning movie stars...







Best Buy







6000

......

100



# The perfect balance between music and movies

Rarely, has a home cinema speaker package garnered such rave reviews as Mordaunt-Short's stunning Declaration 500 Series THX Select system. For once, the audio press has been united in its praise for a product.

What Hi-Fi? Sound and Vision could find, "nothing" against it, Home Entertainment "rarely recommended with such confidence", and Hi-Fi Choice was "impressed from the outset".



The 500 Series THX Select system underlines our commitment to engineering excellence. It also proves brilliance needn't be boring.

For more information visit our website www.mordaunt-short.co.uk/thx





AUNT

www.mordaunt-short.co.uk



# **FUTURE SOUNDS FROM VEGAS**

No stone is left unturned as we scour the planet to bring you the very finest of hi-fi components. So, when the world's largest consumer electronics show touched down in Las Vegas in January, we were there to bring you the highlights. Here's our pick of treats to come...

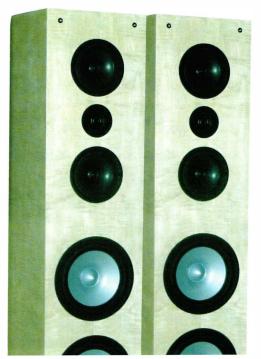
## AUSSIES OUST DISTORTION

Last year antipodean Halcro made a huge splash with the dm58 and 68 power amplifiers, and not just because of their tower construction and the fact that they appear to have been assembled from aerofoil sections. This year two matching preamplifiers were unveiled, the dM8 (line level) and dm10 (with phono input), which continue the same painstaking ultra-low-distortion theme.



## **BIG KRELL SPEAKERS**

Following its all-aluminium speakers introduced last year, Krell launched some more real world wood veneered designs under the Resolution banner. Pictured is the three-way, five driver flagship Resolution 1 which will cost £9,500. Others include a smaller floorstander, the £7,500 Resolution 2, a £2,750 standmount called the Resolution 3, a centre speaker and subwoofer. Krell also demonstrated its first SACD disc spinner, the Standard at £4,250. Prices to be confirmed.



## NEW OMNIPOLAR SATELLITES

Mirage's Omnisat first made a splash back in 2002, and the novel technology involved has now been woven into a wide variety of new loudspeakers which were premiered in Las Vegas, including the **Omnisat Micro pictured** (below). We were lucky enough to hear the Micro under blind listening conditions, beating the pants off **KEP's rival egg-shaped** sub/ sats in the process.



TOP CLASSÉ

Distributed in the UK by B&W (and if our sources are correct, soon to be a part of the B&W empire), Classé is spreading its wings with some exotic electronics. Pictured is a prototype of its new ST60 AV processor, showing its excellent internal build, and there is also a new £14,000 two-box preamp, the Omega 3.



## LINN'S PORTABLE ROOM CONTROL UNIT

A technology demonstrator that may or may not make it into production, the portable RCU's software (designed by Linn head honcho lvor Tiefenbrum's son, by the way) synchronises itself in real time with the catalogue of software on a main home server, using 802.11 b or Bluetooth wireless connectivity technology. Linn showed its Unidisk 1.1 universal disc player too (see news last month).



## ARCAM BOLSTERS ITS HIGH END

Arcam chose CES to launch components to fill out the elegant FMJ range. The T31 (pictured above) is an FM/AM tuner with all mod cons (RDS, 46 presets and a signal strength meter), the P30 is a 'reference quality' stereo preamp and the C1 is a 185-watt mono power amp. CES was also the launch pad for the long-awaited DiVA DV89 DVD-Audio player (see page 7).

## TDK'S ARMOUR PLATED DVD

Demonstrated with a Brillo pad and a DVD player, TDK's ScratchProof DVDs are practically indestructible under everyday conditions. Even after brutal treatment, the discs wipe clean, look perfect and play as normal, and also exhibit superior antistatic properties for what the maker describes as a small cost premium. Presumably a CD version of the same coating technology would be equally viable and worthwhile for mission-critical recordings.



רחווווסר



## THREE-BOX BASS MACHINE

Demonstrating that subwoofers don't have to be big, blunt, muscle-bound boxes, technology start-up Intelligent Audio Systems demonstrated a three-box selfaligning subwoofer that varies its own directivity and other parameters to match the room and main speakers. Quad is investigating this sub as a possible partner for its electrostatic range.

## HIGH-END ALTO MAKES WAVES

Shown appropriately in Paris – the Paris hotel, Las Vegas that is – Gallic speaker maestros Focal.JMlab demonstrated an early version of the Mezzo Utopia replacement behind closed doors. Slightly taller than its predecessor, the beryllium tweeter-equipped Alto continues the Mezzo Utopia theme of high resolution, but with a fuller, warmer tonality in a speaker of exquisite refinement.

## MISSION'S SPECIAL EDITIONS

Mission celebrated 25 years of loudspeaker-making with the SE-suffix versions of the 780 and 782 (pictured). These special edition models employ new tweeters and higher spec crossover components, including polypropylene caps and silicon iron-cored inductors, along with higher spec internal wiring, to provide tighter diaphragm control and finer detail resolution. A special finish is applied.





## ACOUSTIC ENERGY UNVEILS AE1 MKIII

The AE1 was the product that launched Acoustic Energy, and it has been breathed on a number of times in the past. This is the third major iteration, a return to roots for arguably *the* classic high-performance miniature – BBC LS3/5a and wannabes notwithstanding. Every element of the design has been respecified, and the results sounded promising in Las Vegas...



## AUDIO RESEARCH'S DIGITAL MULTICHANNEL AMP

From valve doyen Acoustic Research comes a real surprise - a digital power amplifier, the 150M, sounding very tidy from an SACD source through Magneplanar panel speakers. The amp is rated at 150 watts into eight ohms from up to seven channels, rising to 300 watts into four ohms, and channels can be bridged for a 600-watt eight-ohm output. Cool in every sense.

# auc ofile BEATS'N'PIECES

### **TIME MACHINE**

**FIVE YEARS AGO** Hi-Fi Choice, March 1998



Back in 1998 we could still find 12 new CD players to gather for a test and some were even Japanese, How times have

changed, yet it was the Brits wot won it with Meridian's 506 and Arcam's legendary Alpha 8SE coming out top. The news pages of Choice revealed the world's first digital power amp from Tact called the Millennium - a 90 per cent efficient design capable of delivering 150 watts of power. It boasted unheard of measured performance and a cool £7,500 price tag.

### **TEN YEARS AGO** Hi-Fi Choice, March 1993

Hi-fi was a less varied beast 10 years ago, a hence HFC was quite a different read. Our March 1993 issue was



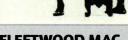
dominated by a 20-way amplifier group test, with iust enouah extra room for a couple of features and the

news. A profile of the legendary

metal guru – not Mark Bolan but Ted Jordan - exposed the designer's take on the joys of metal drivers while elsewhere Cyrus launched a new range of electronics in the now familiar 'shoebox' size case. Other hot news concerned further MiniDisc developments and a new buzzword: THX.

# EACH MONTH. WE PICK A FAVOURITE DISC AND BUILD A SYSTEM TO SHOW IT AT ITS BEST FLEETWOOD MAR UMOR

SYSTEM BUILDER



## FLEETWOOD MAC

Rumours Warner Brothers

Rumours is one of the best selling albums of all time, its 12x platinum and counting status making it Fleetwood Mac's most celebrated album by far. The band's sound had evolved radically from the bluesy Peter Green days of the late 1960s and the entente of the new Brit and American line-up formed in 1975 brought greater success to the California-based outfit than they could possibly have dreamed.

The album first made it to the top of the UK charts in February 1977, and its slick concoction of winning tunes. painstaking instrumentation and male/female vocals still sounds fresh despite familiarity. And if you play it through the system on the right it'll sound fresher still despite a combined price tag well under £2,000, this set-up rocks with pace and clarity.



f--- Click to Enter --- }



### **CD PLAYER** Rotel RCD-1070 £495

A well equipped player that's a real winner technically. Its precise and elegant manner balances the trio of components out nicely and works particularly well with the attributes of the Cyrus 8.

### **SPEAKERS**

Epos M12 £499 An office favourite, the Epos M12 is a superb little box that became an even bigger bargain when Creek bought the brand. It's sometimes a little lean, but always extremely fast and musical with superb detail, stereo imaging and soundstaging skills. Perfect for the Mac's smooth, melodic rock.



AMP Cyrus 8 £800 Crisp, clear new offering from Cyrus that helps to emphasise Epos's super-quick sound.

This 70-watt amp will capture the full-on footwork and rapid wrist action of Mick Fleetwood's drumming and positively relish the classic bass riff in The Chain.

### WEBSITE OF THE MONTH

### www.vivante.co.uk

If you have a passion for high-quality audiophile vinyl pressings, or merely want to browse the latest releases in the DVD-Audio and SACD world, then Vivante is one site that you should bookmark today. The company specialises in hard-to-find albums on audiophile formats and labels, and offers comprehensive album listings that can be downloaded in the PDF format.

A couple of heavyweight 200g Led Zeppelin vinyl pressings caught our eye the last time we were there, as did the useful link to a large second-hand vinyl site. Although (it has to be said) they might not always have the best prices, the chances are they'll have something that will lead you into temptation.

# BEATS'N'PIECES

### CLASSIC DEMO DISCS GREAT MUSIC FOR HI-FI AUDITIONS



### TRACY CHAPMAN Tracy Chapman

"Vocal albums are an ideal benchmark for judging hi-fi components because the human voice is the instrument most demanding of accuracy in reproduction.

An excellent example is *Tracy Chapman*, a disc invariably in every demo

room's collection that contains an interesting little secret that only topnotch equipment will reveal – the first four tracks were recorded earlier than the rest of the album, either in a different studio and/or with a different mix, but you'll only detect this through really fine kit." **Austin Prichard-Levy**, via email

What's your favourite disc for hi-fi auditioning? Why not write in and tell us – 100 words on what and why – we'd love to hear about it. Email your choice to dan.george@futurenet.co.uk or write in to Classic Demo Discs, Hi-Fi Choice, Future Publishing, 99 Baker Street, London W1U 6FP.

### **JIMMY'S TWEAKS #6**

### HANDY HINTS FROM JIMMY HUGHES – HI-FI'S SUPER TWEAKER Check Line Inputs



Most amps offer any number of 'identical' line-level inputs for CD, Mini-Disc, tuner, and tape. It's logical to connect a CD player to the input marked CD. But it's worth trying the others to see if there's any difference in sound quality. Depending on the layout of the printed circuit board, some inputs have a shorter signal path than others – and these

tend to sound better. If your amp has a separate tape monitor button, you'll almost invariably find this input sounds best. Why? Because the tape monitor loop bypasses the main input selector, giving a shorter cleaner signal path. For those who only use a single source (say, CD), it's worth trying the tape output (record) sockets as an input. This bypasses the input selector altogether, and as a result sounds even cleaner and fuller. Always switch off and unplug from the mains before changing connections.

### ON THE OFFICE STEREO MUSIC THAT AMUSED US WHILE CREATING THIS ISSUE

Neil Young Harvest Wayne Shorter Alegría The Go-Betweens Bright Yellow, Bright Orange Jimi Tenor Higher Planes Bonnie 'Prince' Billie Master And Everyone Gilles Peterson Impressed Costes La Suite Tom McRae Just Like Blood Sugababes Angels With Dirty Faces



### **NEW MUSIC IN THE STUDIO** ARTISTS RECENTLY ABSENT FROM THE CUT AND THRUST OF SHOWBIZ HYPE DUE TO FINISHING THEIR LATEST ALBUMS



### WHITE STRIPES Elephant 7 April

Brother and sister Jack and Meg White relocated to Toe Rag studios in London's East End to record the follow-up to 2001's much-lauded *White Blood Cells*. For once the hype was justified and expect more sensual swamp-punk from the Detroit duo, the only band of the last two years to rival the Strokes for sheer visceral excitement (see below).

### RADIOHEAD Title tbc May

Less experimental than the band's controversial 2001 companion pieces, Amnesiac and Kid A, Radiohead's forthcoming sixth album promises a return to the epic melodicism of OK Computer as they seek to make up ground recently lost to label-mates Coldplay. New songs already premiered live include Sail To The Moon, We Suck Young Blood and There There.

### THE STROKES

Title tbc autumn 2003 The Strokes re-entered the studio in January to begin recording the follow-up to their sensational debut, *Is This It.* Several of the songs likely to feature are already familiar from their live set, including *The Way It Is, Meet Me In The Bathroom* and *I Can't Win.* "It's more sophisticated this time around without losing any of the energy," promises bassist Nikolai Fraiture.

### SKIN

Flesh Wounds June 2003 Look for a radical change of direction on the solo debut album from ex-Skunk Anansie frontwoman, Skin. The shaven-haired singer has reportedly set aside the rock posturing and metal-edge in favour of a melodically lush sound and highly personal lyrics that are said to be "a frank and direct exploration" of her turbulent life.



VIVIAN GREEN A Love Story 7 April The debut album

The debut album from Philly's 23-year-old Vivian Green is set to position her alongside

the likes of Macy Gray and Alicia Keys among the best-loved nu-soul sisters on the block. Sophisticated songs, dazzling vocals and a subtle mix of jazz, soul, R&B and pop from the first big new name of 2003. You read it here first.

### ALSO COMING SOON... ROCK/ POP

Goldfrapp Black Cherry (Mute) Apr, Electric Six Fire (XL) May, Limp Bizkit Less Is More (Interscope) May, Macy Gray The Trouble With Being Myself (Sony) May, The Cardigans Long Gone Before Daylight Apr, Martin L Gore Counterfeit 2 (Mute) Apr

### JAZZ/ CLASSICAL

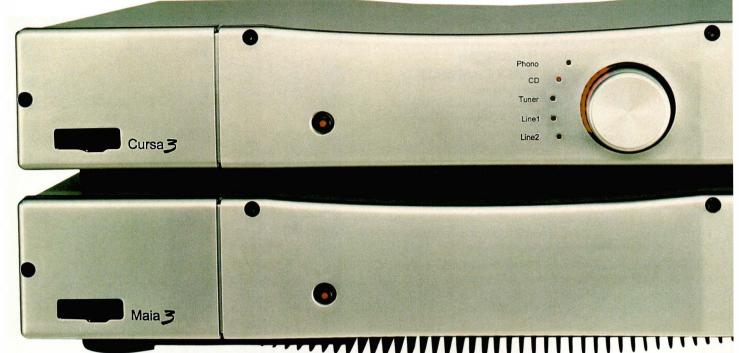
Crusaders Rural Renewal (Verve/PRE) Mar, Summer Summer (Odyssey) Mar, Simon Mulligan Simon Mulligan (Sony Classical) Apr, Beady Belle Cewbeagrappic (Jazzland) Apr, Ravi Coltrane Mad 6 (Sony Jazz) May

### DVD

My Big Fat Greek Wedding Mar, Queen: Made In Heaven Mar, Harry Potter And The Chamber Of Secrets Apr, Fargo: SE Apr

Sugababes Angels with Dirty Faces Queens Of The Stone Age Songs For The Deaf **New Gear** 

# **Incoming** First tests of essential new kit from hi-fi's front line



# Rega Cursa 3 preamp and Maia 3 power amp £996

Rega is not a company that pads out its range. Take amps for example. The company has just two integrateds, one preamp, one small and one beefy power amp. No AV decoders, mono amplifiers, or super-powered upgrade specials.

The Rega Cursa 3 preamp costs £498 in standard line-level guise or £548 with an MM or MC phono stage attached. There is provision for remotely controlling the Cursa 3, but the Solar remote control is not supplied as standard and costs £25. Like the rest of Rega's range, the amp is available in black or silver (no extra cost involved).

The preamp is microprocessor controlled and has a natty red LED background behind the volume control to denote the gain level. Each LED denotes a change of 4dB, and the stepped attenuator moves through an 80dB range in 1dB steps. There's no balance control, but the channels are balanced to within 0.2dB of each other. Cleverly, the volume control doubles up as source selector, there are three output gain levels to match the preamp with a variety of power amps and the preamp features FET input stages.

The Cursa 3 has no on/off switch on the front, but it sounds so much better when kept continually powered, and draws so little current in the process, it should stay juiced up. The matching £498 Maia 3 power amp only needs a few minutes to come on song.

This is the smaller of the two Rega power amps. Delivering 85 watts into eight ohms, the Maia has more than 28,000µF of parallel connected smoothing capacitors and features high-quality Sanken output transformers. Both pre and power amps  KEY FEATURES
 Line-level preamplifier
 Optional MM/MC phono stage

Optional remote control
 Five inputs plus two tape loops

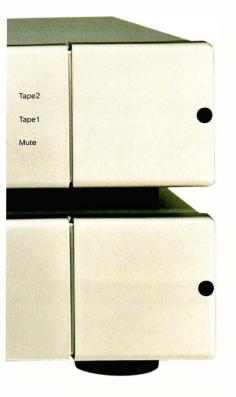
 Two amplifier outputs
 Adjustable preamplifier gain
 85-watt power amplifier feature Rega's impressive customdesigned extruded aluminium casing.

As you might expect from a company with a reputation as a turntable builder, the built-in phono stage is more than an afterthought. These MM or MC modules are interchangeable plug-in cards and perform very much like the Rega Fono phono stage. Like the rest of the Cursa and Maia's performance proper, the phono circuit is a love it or hate it design, but it's an effective tonal foil for the Cursa 3 regardless.

The earthy nature of the Rega amp sound creates that love/hate relationship. It's not a traditional, detailed, stunning holographic imagery type of hi-fi sound – it's more of a down-to-earth affair. In other words, it's musical, smooth and fluid, but those aspiring to Tom Evans-style clarity or the beauteous handiwork of the American high-end may find it lacks precision or ultimate neutrality.

This is an amp duo that is excellent at conveying the musical intent of the

"The music is prime, the detail secondary – that's the difference between this and a traditional 'hi-fi' sound."



recording. Stick on something really temporally challenging – Schoënberg or Ornette Coleman for example – and the Rega manages to decode what little conventional time signature there is and portray it well. Yet it doesn't enforce a beat upon such 'beatless' sounds – it just digs out the music.

Where more explicit-sounding amps win out is in the fine detail. Play a recording of *Bach's Mass In B Minor* and the silent passages are never entirely silent through highly-detailed kit; birds twitter, pages flutter... something – albeit a quiet something – happens. Not with the Rega duo. Here silence means blackness. Well, almost. In fact, those almost inaudible events are all presented, it's just that your

### **VOLUME CONTROL**

Instead of a motorised potentiometer volume control, the Cursa 3 preamp sports a new digitally controlled analogue switched resistor network, controlled by microprocessor. Driven either by the information provided by turning the knob or pressing the remote control, this stepped resistive network is placed in the feedback and input circuits of the FET-input discrete line amplifier.

Not only does this make for an extremely precise volume control of 1dB per step across the entire 80dB range, it also secures a constant input impedance in the preamp circuit, thereby overcoming subtle changes in sound quality relative to volume.

This technology was developed by Scottish chipmaker Wolfson and also features in the MkIII version of Rega's Mira integrated amp. See *HFC* 238 for more information.

attention is drawn away from them and toward the next swell of music.

And that is the key difference between this Rega duo and more traditional-sounding kit – the music is prime, the detail secondary. If you really don't care what string gauge Hendrix was using when he played *Little Wing*, you are thinking along Rega lines.

For some, it will remain lacking in detail. Others will not give a fig about detail and enjoy the music, and they would be hard pushed to find a better sound at any price. Will you like it? Here's a clue... if you think 'audiophile' recordings should be banned as a crime against music, welcome to Regaland! Rega Research 01702 333071 Www.rega.co.uk





# **Perstel DR201** portable DAB radio £239

One of the major selling points of digital radio (DAB) is the supposed increase in sound quality. Of course, the question of whether DAB can match a quality FM system remains the subject of hot debate. However, it's another story when it comes to portable radios. The DR201 is one of the first to offer DAB in your pocket.

Strolling through the streets of London, the unbroken reception is markedly better than most personal FM tuners on the market, which tend to veer between acceptable and pure static. However, there's a downside: the 15-inch extendable aerial that's needed to tune in to DAB stations. Show us the man who doesn't mind walking the streets with that poking out of his pocket, and we'll eat our hats. Perhaps it's a necessary evil, but for a personal radio it's a major problem.

But where the DR201 scores over its predecessor, the DR101, is that it's also an MP3 player with 64Mb of internal memory – enough for about 15 tunes at 128Kbps. Sonic output is fine, although audiophiles who prefer their MP3s at 160 or 192Kbps will blanch at the thought of how many tunes they'll be able to squeeze on. But at

KEY FEATURES
DAB: Band III 174-240MHz
C FM Band: 87-108MHz
C 64Mb memory
O Music format: MP3
Frequency Response: 15Hz – 20KHz
S/N Ratio: 90dB
Audio output: 5mW stereo headphone socket
Size: 60x84x24mm



# **Denon AVR-3803 AV amplifier £899**

High quality multichannel sound doesn't come cheap. Developing and marketing up-to-theminute AV processing costs a bomb, and incorporating at least five channels of amplification to a genuinely high standard is an inevitably expensive proposition. So, if you want high-tech AV amplification that also sounds like proper hi-fi, with stereo music as well as multichannel surround sources, you have to spend a pretty penny...

Recently though, one or two amps have arrived that deliver a remarkably strong quota of sound and features, relatively 'future proofed' and weighing in below £1,000. Last year saw Pioneer's VSX-D2011, which received its first UK review in *HFC* 235 and has since turned the AV world on its head – now Denon's AVR-3803 has arrived.

With processing derived from Denon's flagship AVC-A1 amp, the AVR-3803 AV receiver is so featurepacked that it wouldn't look out of place at the very top of the Denon AV tree. It's big, heavy, shiny gold and all that's missing is a THX-Ultra 2 logo.

### **VIDEO CONVERSION**

Of less direct advantage to hi-fi enthusiasts, but a vital bonus to home cinema types, the video switching options on the Denon AVR-3803 are a significant plus. They allow the user to connect composite video, S-video and component video sources and upgrade ('upconvert') the lesser ones into the best possible video format that's compatible with your display device. This is not usually possible with amps and receivers below the two grand mark. Of course, the price shaving does take its toll - the video standards switcher lacks a Time Base Corrector, which means there is a small chance of flicker on some sources.

Thanks in part to the latest 32-bit Hammerhead SHARC DSP chips, the AVR-3803 sports Dolby pro-Logic II and DTS Neo:6 for making stereo sources into surround, 6.1 Dolby Digital and DTS for existing multichannel DVD soundtracks, DTS 96/24 for those 'notquite-DVD-Audio' discs and more. The 'more' includes a useful Dual Surround Speaker system that switches between side-mounted surround speakers (good for movies) and rear, direct-radiating ones (best for music), the ability to parse 24-bit/192kHz data streams without downshifting and a special allspeakers-on 'widescreen' 7.1 mode.

The AVR-3803 is very multi-room chummy, too. It can deliver a multi-zone stereo audio and composite video output, but also includes serial input/output ports and the option of driving two of the seven 110-watt builtin power amplifiers as a separate stereo zone. RS232 and A-Bus connections are missing, unfortunately.

All of which makes for a very fine, but extremely complex, AV product. With more than 70 buttons on the back-lit, does-everything remote – and a complex menu and manual to wade

**KEY FEATURES** 7.1-channel AV receiver 110 watts per channel Surround sound formats: Dolby Pro-Logic II, Dolby Digital/Digital EX, DTS/DTS ES, DTS Neo:6, DTS 96/24 24-bit/192kHz decoding on all channels Dual surround speaker mode Video conversion (see box) RDS tuner with 40preset stations C Back-lit learning/programmable remote control

through – this is not the AV receiver for people with short attention spans. You need to take time to learn the ways of the Denon, or else you will only realise two-thirds of its potential.

In stereo and surround alike, the AVR-3803 has an extremely solid, slightly dark sound; one that is extremely cinematically attractive and helps to compensate for the bright shiny and forward sound of many DVD-Video soundtracks. In other words, it takes the brassy edge off of the Dolby Digital version of *Lord Of The Rings*. Switching over to multichannel music is equally rewarding; the storm front rolling in from the rear of *Riders on the Storm* by the Doors is close and moody, yet doesn't detract from the sparse, open sound at the front of the soundfield.

This sound is different, but not better or worse, than the performance of the Pioneer with which it directly competes - where the Pioneer VSX-D2011 is bright and detailed, the Denon is rich, dark and colourful. In two-channel music mode, the difference between the two is akin to the difference between, say, a TAG McLaren amplifier (the Pioneer) and a Naim (the Denon). Though you wouldn't expect them to approach a good, similarly priced dedicated stereo amp, both are head and shoulders above most sub-£1,000 AV amps, the Denon perhaps edging it in terms of 'musicality'.

This is not simply a case of "never mind the quality, feel the width" – Denon has got its sums right with the AVR-3803 receiver. It's an excellent AV package, with more gizmos than you might have ever thought possible, yet extremely solid in its performance. Even stereo is no weak link. Now audio/videophiles on a tightish budget can have their cake and eat it too. Denon 01753 888447 # www.denon.co.uk

# *"You need to take time to learn the ways of the Denon, or you will only realise two-thirds of its potential."*



### **New Gear**

# KEF XQ1 loudspeaker £1,000

The new XQ Series fits neatly between the Q range and the high-end (and high cost) Reference Series. The new series features three models besides the XQ1: the larger XQ3 standmount, the XQ5 floorstander and the XQ2C centre speaker.

The XQ1 uses the two-way 'Uni-Q' driver array familiar from previous KEF products, with a 19mm tweeter in the centre of a 165mm bass/mid driver. But the XQ1 is actually a three-way design – it also sports a 19mm titanium 'hyper-tweeter' (see panel). As well as extending frequency response well out of normal hearing range, this extra driver allows KEF to roll off the main tweeter's response slightly lower than usual – at 15kHz – thus making its job easier and the treble smoother.

### KEY FEATURES

Standmount/book shelf loudspeaker Three-way bass reflex Front ported design 165mm Uni-O driver with 19mm aluminium dome tweeter 19mm titanium dome hyper tweeter 60Hz-55kHz requency range 89dB sensitivity Eight ohm impedance 15-120 watts suggested amp powe Crossover at 3kHz and 15kHz Bi-wirable Magnetically shielded C Graphite, pearlescent white, silver, maranello red and maple finishes . available

The XQ series has also been designed with the style market in mind. The XQ1 sports contoured cabinets in a choice of high gloss lacquers, with a non-gloss pale maple finish also available. An aluminium front baffle adds to the striking look.

A word of warning here – the speaker's curved contour extends to the underside of the speaker, so you have to affix the supplied spikes. Which is all fine and dandy except they cover a fairly wide area and won't fit on many conventional speaker stands. So, factor in a pair of KEF's dedicated stands to your budget or you might find yourself with nowhere to put them.

Get a pair up and running and its sonic style is of the big and bold variety. From the orchestral intricacy

## *"From the orchestral intricacy of Arvo Part's* Tabula Rasa to the blistering funk of Herbie Hancock's Headhunters, the KEF delivers a fast, precise and dynamic performance.



of Arvo Part's *Tabula Rasa* to the blistering funk of Herbie Hancock's *Headhunters*, the KEFs deliver a fast, precise and extremely dynamic performance.

The extended treble response of that hyper-tweeter is given a decent run for its money at the other end of the spectrum – the XQ1 is no slouch in the low-end either. For a cabinet of this size, this speaker pumps out bass with impressive weight and power.

That said, there is some coloration down there and certain recordings elicit a rather too enthusiastic presentation of the bassline. It's worth experimenting by inserting the supplied foam bungs into the front ports. With these in place the bass tightens up well, resulting in a far more realistic portrayal.

The benefits of the SACD and DVD-Audio formats are demonstrated very clearly on the XQ1, thanks partly to the extended bandwidth supplied by that hyper-tweeter. DVD-Audio discs like REM's *Reveal* make the point well, the KEF giving the hi-res recording a sense of air and space.

The only criticism is that sometimes it seems to try a little too hard. For all the

vibrancy of the XQ1s' presentation, there are other speakers at this price – the ATC SCM12 for example – that offer more transparency and outright realism than is on show here. The KEF is a very likeable speaker, and if your tastes in both music and design are ultra-modern you may find that the XQ1 will suit you perfectly. But if absolute hi-fi purity is your goal, a thousand pounds can buy you better.

☑ KEF 01622 672 261
 ⊕ www.kef.com

### HYPER-TWEETER

All the speakers in the XQ range sport the titanium hyper-tweeter found on the XQ1. This high frequency driver takes the frequency response of the speakers up to 55kHz – well above the usual 20kHz ceiling. This makes the new KEF range especially suitable for use with new formats such as Super Audio CD and DVD-Audio, which boast greater bandwidths than CD. Despite the generally accepted wisdom that the human ear can't hear much above 20kHz, subjective tests consistently show that the presence of higher frequencies improves perceived sound quality.

## **New Gear**

# Meadowlark Swift loudspeaker £1,000

Meadowlark loudspeakers – the name rang a bell, probably from reading a US magazine or website. But then a name like that would ring a bell, if only because of its basic incongruity. Now distributed in the UK by turntable maker Avid, it's a US company that started off in 1987 doing 'bespoke' specialist custom-installation work in San Diego. Meadowlark then moved to upstate New York in the mid-1990s, and started making a range of freestanding and floorstanding speakers whose core features (give or

through the back panel.

A stylish triangular stand, very neatly fared into the base of the speaker, provides a large tripod footprint for excellent stability. Rather long spikes are supplied, and without lock nuts.

The speakers sounded very bass-light a metre out from the wall, in-room measurements showing fine ultimate extension but also confirming that the whole sub-100Hz sector was about 8dB light. Close-to-wall reinforcement brought a big improvement, but it's still no powerhouse.

### **KEY FEATURES**

 Dimensions (WxHxD): 18x91x24cm
 140mm bass/ mid driver
 Elegant triangular plinth gives excellent stability
 Backward tilt assists time-alignment
 Ultra-simple crossover ensures minimal phase shifting
 Transmission line bass loading and solid hardwood baffle The Swift certainly isn't the least coloured speaker around, especially with the slight midband 'shout' that normally arises as a consequence of close-to-wall midband reflections, and which is particularly obvious with speech. But it does maintain fine expression and intelligibility even at whisper-quiet levels, and has a splendid overall coherence and liveliness that is musically very literate. While it certainly wouldn't be a first choice for heavy rock or dance music, it's very light on its feet, dynamically invigorating, and

# "The Swift can get a bit congested if worked too hard, but complex orchestral textures are particularly well served, and it's a splendid musical communicator."

take the odd home cinema model) include transmission line loading, and simple, time-coherent crossover design.

This Swift has the latest, very distinctive styling that fits in with other 'second generation' models in Meadowlark's range. It's a new 'entry level' model, priced at £1,000 per pair, reflecting the 'pound-for-dollar' conversion that regrettably always seems to make US hi-fi equipment rather pricey over here in Britain.

The shape is very unusual, square from the front but with a tilted back front panel and vertical back so that it's triangular from the side, tapering more or less to a top edge. The thick front panel looks particularly delicious, being hewn from solid, nicely figured ash, and beautifully shaped too, especially around the floor level exit termination of the transmission line.

The main bass/mid driver is a tiny 140mm affair with 102mm plastic cone, sourced from Vifa, as is the 25mm fabric dome tweeter. All connections are pointto-point, silver soldered with DH Labs Silver Sonic wire. A single pair of goldplated socket/binders are fitted directly



particularly dextrous with the subtle textures of acoustic material such as classical, jazz or folk.

Best suited to the smaller room and those who'll be content with modest loudness, the Swift can get a bit congested if worked too hard. But within its limitations complex orchestral textures are particularly well served, and it's a splendid musical communicator. And though it lacks some midband smoothness and refinement, with the right material it's also capable of great subtlety and delicacy. Avid 01480 450402 www.meadowlarkaudio.com

### **TIME-COHERENCE**

Meadowlark's website goes on at some length about the vital musical importance of time-coherence, and two of the Swift's key features put this theory into practice. First, there's the tilted back baffle, which ensures that the voice coils of the two drivers are the same distance from listeners.

Then there's the crossover network, mounted in its own compartment (to avoid microphony effects), which consists of just three components – a heatsinked Caddock resistor, an Auricap capacitor and a heavy gauge aircored Sidewinder inductor. This is just about the simplest possible arrangement, giving first-order roll-off and on, which ensures minimal phase shift and best time-alignment, albeit with considerable overlap through the crossover region.



# Philips DVD963SA DVD/SACD player £400

Philips' DVD962SA was a bit of a star. The DVD-Video/SACD/CD spinner did much to boost the argument for Super Audio as a credible, affordable, audiophile replacement for common or garden CD. But time and technology wait for no man(ufacturer), and it's been replaced by the DVD963SA, which Philips claims is more than just a simple update.

For starters, this box is gentler on the audiophile's eye: gone is the video player styling, replaced with a more serious fascia. The build quality is first rate, and the 963SA is more solid than the likes of Toshiba's DVD-Audio capable SD-520E.

However, the 963SA's improvements over the 962 aren't just cosmetic there's a host of upgrades designed to enhance both audio and video. Philips has improved the audio DAC - it uses Analog Devices' new AD-1955 upgraded the op-amps, introduced an upsampling feature (see panel) and improved the bass management options. For video it has incorporated Faroudja's latest deinterlacer plus a new 13-bit/108Mhz Video DAC. But the big news is this machine offers Progressive Scan with both NTSC and PAL discs to our knowledge the most affordable machine yet to do so.

Indeed, video quality is very good for the money. If you have a monitor that takes a PAL Progressive feed – such as a plasma screen or projector – then you're in for a real treat, as the images from this player are highly impressive. There's a filmic quality to the Superbit DVD of *Gattaca* with this machine – details are present and correct, but they don't distract your attention from the

**KEY FEATURES** Multichannel SACD player DVD-Video Player PAL Progressive Scan Component Video/RGB Scart/ S-Video Optical and Coaxial digital outputs CD Upsampling to 192kHz/24bit MP3 compatible 108Mhz/13bit Video DAC DCDi Faroudja interpolating processing chip

wonderfully natural colour reproduction and impressive contrast range.

Sonically it's a movie star, too, either via the internal Dolby Digital or DTS decoders, or simply outputting a signal using either the optical or coaxial digital outputs or even the stereo phono sockets for a movie downmix for people without a full surround system.

Performance is equally good with SACD. There's a real sense of composure, which belies its budget price. With the multichannel *Carmina Burana* the voices are well focused and solidly realised, but when called upon for the passionate opening section, the player responds with a heady output that really grabs your attention.

Stereo SACD also impresses, but as is usual, it's not as incisive or as musical with straight CD as a dedicated stereo player. It's listenable enough, and goes some way to fulfilling Philips' claim of above-average CD replay, but definition could be better. The bass is on the thick side, and stands out from an otherwise a very reasonable show with Bonnie 'Prince' Billy's *Master And Everyone*.

While PAL Progressive Scan is an added bonus, it's only relevant for users with suitable high-end screens, and the DVD963SA's video performance is below that of Arcam's PAL Progressive player – the £1,000 DV88 Plus. While it may seem churlish to compare it to a machine two-and-a-half times the price, if you've spent thousands on a plasma you want the best source to go with it. However, the performance through plain component or RGB-capable Scart is still impressive, and superior to many DVD-Video players at this price. This makes the Philips a good buy, especially if you're a fan of the Rolling Stones or Bob Dylan, and want to hear those wonderfully re-mastered SACD releases. Philips 020 8689 4444 # www.philips.co.uk

### **IMPROVING CD SOUND**

Philips has heard audiophile criticisms regarding DVD players' inability to play CDs with any credibility. Even many machines that play the new high-res multichannel audio formats have disappointed in this area. But with the DVD963SA, Philips has incorporated audiophile flourishes and technical trickery to buck this trend.

It has a direct audio mode, which shuts off video circuitry during playback. And there's an upsampling option, which takes 16-bit/ 44.1 kHz data and through interpolation concerts this into 24-bit/ 192kHz. Though this leads to an apparent improvement in clarity, purists will resent the polished sheen. But the DVD963SA still does better than most similarly priced video players with CD.





## **THE COMPONENTS**



### LG MZ-42PZ17 plasma screen £2,497

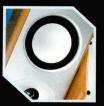
The latest Korean 42-inch plasma screen features its own plasma glass to produce a screen that has a 750:1 contrast ratio and a brightness of 1000cd/m2, which gives it the kind of moving image performance you'd expect from a good TV rather than a computer monitor.



Sony DVP-NS705 multi-format DVD player (multi-region) £220 Sleek and slim SACD/DVD/CD player that is one of the best multichannel SACD players you can get without spending a small fortune. It's also a remarkably good DVD player and not bad at spinning good ol' CDs too. A star buy at £400, imagine how much value for money you get at £220!



Sony STR-VA555ES multichannel AV receiver £750 Although new £900 AV receivers are almost eclipsing this 110-watts-perchannel model, it's still feature-packed and has all the latest gadgets like DPL II, DTS ES and Dolby Digital EX sound. It's also excellent at handling the sixchannel input of a SACD player and not bad in stereo. A true all-rounder.



### Mordaunt-Short Declaration 500 THX speakers £1,599 (£1,000 if bought with a plasma)

A well matched THX-approved system that is perfect for cinema, plus a pair of front speakers that's great for stereo. Dipole side speakers may prove a bit too diffuse for music (direct radiating rears would be better) but the overall package is excellent.

an Sircom System Test



### DEALER CONTACT

This system was recommended and supplied for review by: Richer Sounds ☎ 0870 900 1000 ⊕ www.richersounds.com LG PLASMA SCREEN | SONY SACD/ DVD PLAYER | SONY AV RECEIVER | MORDAUNT-SHORT SPEAKERS | £4,467

# **SYSTEM ADDICT**

### Top-notch multichannel sound and vision needn't cost the Earth, if you know where to look

f you have already worked your way up the hi-fi ladder, it is easy to overlook Richer Sounds. In fact, if you pick and choose carefully Richer Sounds has some real gems, especially for those who want to discover the potential of multichannel music and video without spending a fortune.

Recently, Richer has been pruning thousands of pounds from the cost of admission to the plasma TV club. But, rather than simply choose the cheapest plasma on the market (currently the £2,000 Samsung PS-42P2S, as it happens), we chose the LG MZ-42PZ17. This costs just £2,500, but has a picture quality that would have proved impossible even with a £13,000 plasma screen just a few years ago.

This plasma set receives pictures from the superb Sony DVP-NS705. This combination DVD/SACD/CD player was one of the best around when sold for a bargain £400, but now the price is halved (or for only £220, it comes with full multi-region compatibility for playing DVDs of all regions) this is a real bargain. While it is possible to include players that support DVD-Audio in place of – or as well as – SACD replay, the little Sony does SACD replay so well and represents such a substantial bargain, it's hard not to be swayed.

It undermines any form of 'source-first' ethos, but the perfect foil for this SACD/ DVD player is an AV receiver that should cost a grand (but in Richerland, naturally this price is knocked down to £750). Sony's STR-VA555ES features everything a topnotch AV receiver should, but also includes Sony's Digital Cinema Sound system that aims to emulate some of the best recording suites, control rooms and cinemas

owned by Sony Pictures and Columbia TriStar.

The system is topped off by a set of Mordaunt-Short Declaration 500 THX speakers. These distinctive metal-coned speakers are designed to work well with music and cinema sound - although the side-mounted rear speakers favour the latter greatly - and normally sell for £1,600, but bought with a plasma screen, there is even more budget-busting going on - the five speakers are sold for a mere £1,000. Better still, the unique floorstanders come complete with their own built-in powered subwoofers so that the extra space and added uglification that is entailed with a pair of subwoofer boxes is replaced by a svelte floorstander.

It's a fine cinema and very decent hi-fi replay chain. Pictures are vivid, without the picture lag or solarisation effects that beset early plasmas. The sound is highly detailed and precise, with a tight, crisp, yet surprisingly deep bass, especially from the floorstanding front speakers. Using the same drive units from speaker to speaker manages to keep the sound coherent and broadly spread around the room. And the drive of the Sony receiver means the speakers will play films like *Armagedon* at meteorcrashing power levels.

There are issues, though. Stereo music

is on the anaemic side, compared to a decent dedicated two-channel system – it's still good, but less impactfully dynamic than stereo can really do. Also, we would recommend spending an extra £200 on a pair of Mordaunt-Short 902 Signature speakers as matching rearfiring additions to the THX-chummy side speakers supplied. This makes multichannel SACD sound far more like real direct-radiating music (like the front speakers) and gets away from the diffuse dipolar sound of THX surround speakers.

So to recap, this system could cost a healthy £7,000, but by walking into Richer Sounds, it costs just £4,467. It's a complete solution for high-performance multichannel AV – a playback system that performs to a fine all-round standard with both stereo and multichannel discs, be they music or cinema, audio-only or video too.

Though not first choice for the avid stereophile, this set-up mixes serious electronics with eye-popping style, all for the kind of money you'd have paid for the plasma alone a year or so ago. At £7,000, this kit would still seem like good material value for money, but shaving more than £2,500 off the asking price makes it look, sound and perform like a real bargain on stilts.



# for those with eyes as well as ears

.

## The Nucleus Micro is different.

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Designer Anthony Gallo has used a combination of patented technologies and proven physics to create a loudspeaker that flatters any decor, installs just about anywhere and performs magnificently with a wide range of audio visual components.

The Nucleus Micro is available through our network of approved retailers, a full dealer list can be found at www.anthonygallo.co.uk or call us on 01555 666 444 to find your nearest stockist.

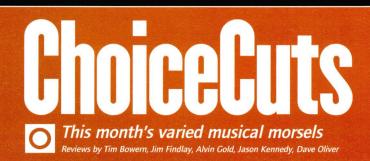
# Discover why black speaker boxes are yesterday's news

"What is amazing is that these gorgeously slimline creatures are capable of producing the most amazing sound." Business AM

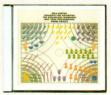
"The Nucleus Micro system from Anthony Gallo Acoustics combines super-realistic audio, great looks and a prudent price" ARENA magazine

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### **NEW MUSIC FORMATS**



**BARTOK: CONCERTO** FOR ORCHESTRA, THE MIRACULOUS MANDARIN New York Philharmonic. Pierre Boulez (conductor) SACD (single layer, stereo/multichannel)

Sony Classical SS 87710 Music: This disc couples the macabre

Miraculous Mandarin, composed in 1919, and the valedictory Concerto For Orchestra composed in 1943, just prior to the composer's death in exile from his native Hungary. The recordings are remastered from early seventies tapes in which Boulez brings out finely disciplined and tautly phrased readings from the New York musicians which plays directly to the strengths of the scores. Nobody could accuse Boulez of not getting under the skin of Bartok's music.

Sound: A difficult disc to reproduce, a poor system will render it as harsh and grainy, with a lack of detail and stereo perspectives. But a well-behaved system shows it as detailed with good presence, the multichannel mix seamlessly adding depth to the soundstage.



### **NEIL YOUNG** Harvest

DVD-Audio (24/192 stereo, 24/96 surround, DD, DTS)

Music: This seminal work is arguably Young's finest, the album that made his name and put west coast rock on the map in the early seventies. Young has long been disillusioned

with CD's sound quality so it's apt that Harvest has appeared on DVD-A albeit not before time. All ten tracks are classics but A Man Needs A Maid, The Needle And The Damage Done, Old Man and Heart Of Gold are the best known. You don't get many albums that are as consistently good as this, but neither do you find David Crosby, Graham Nash, Linda Ronstadt and James Taylor on backing vocals very often either.

Sound: If you've only heard this on CD you're in for a treat. The two-channel 192kHz cut is one of the best remasters on DVD-A and the 24/96 surround mix ain't bad either. The interview is laid back at best but it's nice to see some vintage footage of the great man.

### **DVD: THE CINEMA SELECTION** Because these days hi-fi doesn't just mean music xXx



### COLUMBIA TRISTAR

Film: Vin Diesel does his bald, muscley, low-voiced thing as an adrenaline junky recruited by the US secret service to bring down some sinister Eastern European types. The template is unashamedly stolen from James Bond, with girls, gadgets and an evil genius (complete with henchmen-filled lair) hell-bent on something or other, then set to thumping rock music. It's as if Pepsi Max had bought the 007 franchise, stripped it of all but the most boneheaded irony and set out in earnest to capture the imagination of teenage American

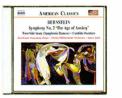
males. Truly brain-dead, high-octane entertainment. Sound and Vision: It's essentially one long special effect and the disc manages it well. The colours look good, detail is sharp and the ludicrously busy soundtrack is handled accurately and with oomph. The extras, while fairly predicable, do contain some interesting insights into some of the more elaborate sequences like the stunning avalanche scene.

### CD AND VINYL



LOU REED The Raven Reprise

Music: In a world of well-oiled audiophile smoothness sometimes you need something brimming with piss and spunk. In that case, Lou Reed is your man. His latest two-CD magnum opus is based on the works of Edgar Allen Poe and features as much bitterness, bile, paranoia and fear delivered by an ageing rocker with literary pretentions as you could wish. Among the two-chord rockers, quietly beautiful ballads and feedback experiments are readings by Willem Dafoe and Steve Buscemi, Poe's gothic text rewritten from Lou's 21st century sexagenarian perspective. Sound: Lou apparently spent a lot of time ensuring the record didn't sound balanced, pulling instruments in and out of the mix without any regard for smooth integration. Strangely, it works.  $\star$   $\star$   $\star$ DO



### **BERNSTEIN: SYMPHONY NO2** AGE OF ANXIETY. WEST SIDE **STORY, CANDIDE OVERTURE** Jean Louis Steuerman (piano),

Florida Symphonic Orchestra Naxos American Classics 8.559099 Music: These three key Bernstein works engineered by Peter McGrath, look at first sight like a significant bargain. Conductor James Judd is establishing a strong reputation, and the performances are very idiomatic. The Age Of Anxiety, the main work here, is a substantial piece that really talks to its time, the paranoias and tensions of the mid-20th century. 

Sound: Something has gone badly wrong in the transfer from master tape. The disc sounds equalised and compressed with a forward balance and suppressed ambience. A lost opportunity.



WILCO Yankee Hotel Foxtrot Nonesuch

Music: This wilfully muted album marks a departure for these generally jaunty alt.country rockers. Described in some circles as Wilco's Kid A. there are similarities between this and Radiohead's 'difficult' fourth album ~ in places the music is injected with ambient warblings, the general mood is subdued and the melodic structure occasionally melts into something more atonal and freeform, but overall the tone is less chilly, the textures and tunes much warmer. This is rock that's both subtle and poignant, bleak yet beautiful; a stiff whisky washed down with a smooth, oaky red. Sound: In the heavy hands of the wrong producer, this album's gorgeous ambience could've been drenched. But the music here is beautifully realised on CD and sounds even better on 180g-audiophile vinyl.



THE GO-BETWEENS Bright Yellow, Bright Orange Circus

Music: The Brisbane boys return with their best album since 1986's Liberty Belle and the Black Diamond Express. The crusty faces on the inside cover may look a world away from the fresh-faced purveyors of barbed love anthems of their glory years, but slip the CD on and the years fall away. This clutch of jangly guitar-based gems, incisive iron fists in velvet pop gloves, sees them rediscovering the freshness and bite that first endeared them to cognitive alt.pop fans everywhere before they began to worry that being pop wasn't enough and they had to be popular too.

Sound: The production is clean and crisp with plenty of sparkle in the guitars and lush, but never suffocating, string arrangements.

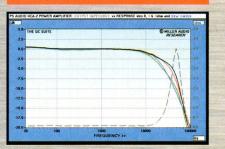
HCA-2

# PS Audio HCA-2 stereo power amplifier £1,550

## Can an analogue/digital hybrid amp really get the best of both worlds?

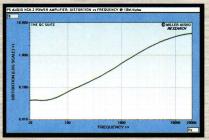
Cool-running, high-power amplifiers are becoming more popular these days, as evidenced by the take-up of Tripath's Class T technology among a variety of manufacturers. PS Audio, a specialist US brand with a strong heritage, has its own ideas about high-efficiency design that are encapsulated in its HCA-2 power amp. There's no Tripath module but a proprietary and fully balanced Class D amplifier stage known as "Super Digital Amplifier Technology" or "SDAT" for short. Because the amplifier uses a linear, rather than switchmode, power supply to sustain its 150-watts-plus power output, the HCA-2 is a little heavier than you might expect. Nevertheless, the *efficiency* of the amplifier means that no external heatsinking or ventilation is required. Hence the sleek and broadly uninterrupted lines of its alloy casework, punctuated by an illuminated blue PS logo and simple status display that reads 'Standby', 'Operate' and, in the event of its protection being activated, 'Fault'.

### **OUTPUT IMPEDANCE V RESPONSE**



As promised by PS, the low output impedance (dashed line) delivers a very consistent response into different loads and loudspeakers. The impedance does shoot up outside of the audioband, producing a corresponding dip in ultrasonic response (which is probably no bad thing).

### **DISTORTION V FREQUENCY**



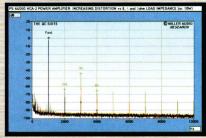
Very low distortion is not its forte however. Here we can see that distortion rises with increasing frequency, reaching several per cent at moderate power into moderate (four ohm) loads. The smoothness of this trend has much to do with its subjective acceptability, however. The rear of the case offers both unbalanced (phono) and balanced (XLR) line-level inputs with substantial, goldplated WBT binding posts for every kind of speaker cable. Set-up is as simple as that.

OPERATE

### **KEY FEATURES**

Class D amp technology is very efficient, which is why these designs run very cool (any wasted energy invariably ends up as heat) and have always found a welcome home in tight spots like in-car amplification.





Not only the level, but the *nature* of the HCA-2's distortion changes with both frequency and speaker load impedance. Odd harmonics (third, fifth, seventh etc) increase into low impedance loads (red = four ohm, green = two ohm). Once again, this must surely contribute to the HCA-2's overall sound.

### Stereo Power Amplifier

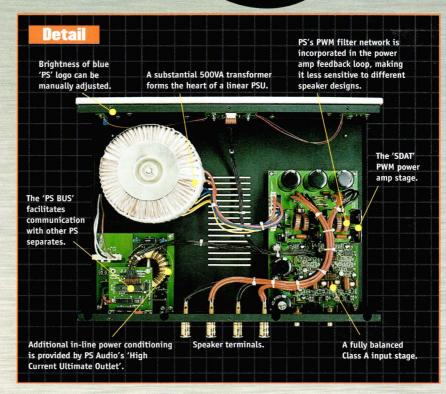
The trick is to enjoy the benefits of its high efficiency while extracting the sort of sound quality obtained from 'hotter' hi-fi amplification. Power supply design is of overriding importance in a Class D amplifier because it's effectively connected directly to the loudspeaker and 'modulated' by the PWM output stage (see Technology).

The dynamic range of the supply has a direct bearing on the dynamic range of the audio, for example, so it's no surprise to find the bulk of the HCA-2's contents devoted to getting the cleanest possible juice on tap. Not only is the HCA-2 fitted with an oversized 500VA toroidal transformer, but it also features some extensive supply conditioning. Because the output of the amplifier is balanced, it's important never to ground the black speaker terminals. Which means certain loudspeaker designs, including Tannoy's Dimension series, must be counted out. It also adds a degree of complication to the amplifier's measurement, we might add!

Incidentally, anyone dabbling with aspects of home automation will be pleased to know that the HCA-2 is also equipped with a pair of communication ports with generic system controllers. There's also a single 12V trigger for synchronising power-up with a choice of source components.

### TECHNOLOGY

This amplifier has been variously described as an analogue/digital hybrid. Its balanced input stage is certainly 'analogue', employing richly biased J-FETs in a



differential configuration with little or no feedback. If PS suggests that it's this input stage that determines the linearity and much of the sound of the amp, it's probably right because the limited compensation is undoubtedly linked to the amplifier's load and frequency-dependent distortion. I'd also shy away from describing the power output stage as 'digital'. In truth it's a Class D design where the music signal is represented as a series of high-speed pulses whose 'width' or duration determines the level of the sound at that particular instant.

Of course, a PWM (Pulse Width Modulation or Modulated) signal can be derived from digital data as it is in some CD/DVD player DAC chips or genuine digital amplifiers like the TACT Millennium. In the HCA-2's case, however, I do not believe the analogue music signal is ever



quantised (represented by a binary number for a given sample period) and so remains wholly analogue. As I've already remarked, this 'analogue' signal is amplified as a series of high voltage pulses that switch up to 500kHz and is recovered by integrating – filtering – the ultrasonic pattern.

All PWM or Class-D amplifiers need this sort of - typically quite substantial - filter to reveal the music waveform. One side effect of the filter is to lift the amplifier's output impedance, particularly through the treble octaves as its inductive component takes over. This makes the overall amplifier/speaker response of most Class-D amplifiers very sensitive to the varying load impedance of the speaker itself. Not so with the HCA-2. By incorporating this filter stage within the corrective feedback loop of the PWM amplifier, PS has kept the output impedance down to a low and very constant 0.07ohm from 20Hz through to 12kHz. Only at very high frequencies does it rise up, prompting the corresponding drop in response visible on Graph 1.

### PERFORMANCE

The HCA-2 was levered into my usual system, with Arcam DV88 Plus and Pioneer DV-757 players, an Arcam AV8 as 'volume control' (with both analogue and digital inputs, where appropriate) all feeding a pair of B&W 802 loudspeakers. During my set-up procedure, I found the amplifier was exceptionally sensitive to system grounding. Finite differences in the earth impedance between the amplifier and the attached source component could produce a very audible buzzing, above and beyond the inherent noise floor of the HCA-2 itself.

### "Livingston Taylor's recording of Isn't She Lovely sounded quite astonishing, the realism of his voice and whistled introduction enough to drop the jaw of the most cynical listener."

Removing the earth from the power inlet (using a two-core rather than three-core lead) sorted the problem as did running both source and amplifier from dissimilar ring mains. However, because the HCA-2's case is connected to earth (both the red and black speaker terminals are floating), we cannot recommend the former on the grounds of safety. I also detected a mild oscillation from the HCA-2 on two occasions, suggesting PS should investigate the conditional stability of the design.

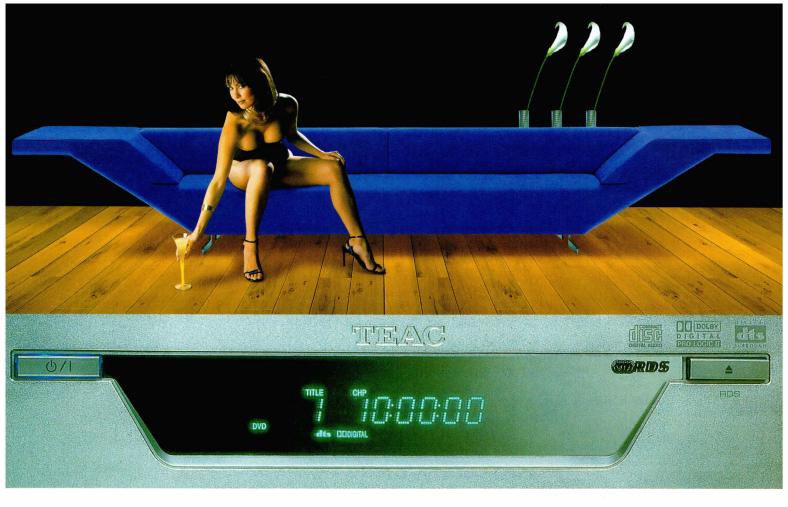
Nevertheless, once I had achieved a quiet background, the liquid velvet that is the sound of the HCA-2 poured with seductive ease from the speakers. I could well understand the plaudits earned by the HCA-2 from US reviewers but could just as easily understand the concerns of engineers who have studied its foibles on the bench. So the HCA-2 has a rolled-off high treble, a relatively poor S/N ratio and a very extended pattern of distortion harmonics and, yes, all these 'features' contributed to the colour of the amplifier during its auditioning. The point is, they all add up to a sound that most people will find both enticing and rewarding if only because the music is so accessible.

Returning to an old favourite like Michael Hedges' live recording of *All Along The Watchtower*, there's really no point pretending that his metal-stringed guitar has either the 'edge' or 'bite' it should, just as there's no denying the added richness, even softness, brought to the ebb and flow of the bass. And yet the HCA-2 still reproduced a piece of music that was both convincing and engaging in the round. In practice, it is mid-dominated recordings that really sing with the HCA-2. Livingston Taylor's recording of *Isn't She Lovely* sounded quite astonishing, the realism of his voice and whistled introduction enough to drop the jaw of the most cynical listener. Here is the HCA-2 at its very best,

crafting a supremely open and believable sound populated with pin-sharp, articulate images of performers and instruments alike. If only the HCA-2 sounded as glorious with more densely-recorded discs, then it would surely offer a template for a raft of new designs. Sadly, such consistency must wait for another day and another amp, for the HCA-2 is less convincing when it's forced to deal with a surfeit of either bass or treble.

### VERDICT

An ingenious amplifier design capable of high power output and broadly resilient to your choice of loudspeaker. It remains slightly eccentric from the technical standpoint but is capable of crafting a fabulous sound with elegant recordings. Ultimate Sonics 020 7435 1222 www.psaudio.com



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Bulky, delicate and awkward to set up, high-performance turntables have never been convenient. But for pure sound, they've yet to be bettered



ALL PRICES QUOTED INCLUDE THE TONEARM SUPPLIED FOR REVIEW BUT NO PHONO CARTRIDGE en years ago the world and his brother had given up on vinyl and record players, CD was at the peak of its powers and no-one outside of the hi-fi fraternity had noticed that it wasn't all it was made out to be – perfect sound forever my arse!

In the intervening years vinyl has carved out a surprisingly buoyant niche, and not just among the DJ fraternity. There's a healthy market for high quality turntables and you can still get a large slice of new releases on the black stuff if you know where to look. There's also an industry dedicated to reissuing older material on pristine, often heavyweight 180g pressings. Things are looking distinctly rosy for this most enduring of formats.

There are a number of reasons for this but the primary one is the sound that vinyl produces when played on a decent turntable – it's natural and lets the music through in an entirely convincing manner. The key word in the last sentence is 'decent', the reason CD was able to get a foothold in the first place was because most people had low quality turntables. The decks gathered here come from the opposite end of the scale – precision engineered machines designed to get the maximum music out of the groove while introducing the minimum coloration.

If anything, CD has forced turntables to become better. They now produce quieter backgrounds, deeper bass and a flatter response than their forebears. Put a good cartridge on any one of these and you'll get a sound that not even the most costly CD players will beat. If you don't believe us, get a dem. First you'll have to find a dealer who is up to the job – in many ways the ability to properly demonstrate turntables marks out the most dedicated vendors, those who are in it for the music, not just for the money

Turntables more than any other component benefit from skilled set-up and installation. Some decks are pretty easy to fix but others by their precise nature require a bit more experience. If you're getting a suspended subchassis turntable for example it's worth paying a bit extra to have it properly installed. No-one said perfection was easy.

### EQUIPMENT USED CARTRIDGE

Ortofon Kontrapunkt B (reference cartridge – others supplied with individual turntables were also tried, as noted in the reviews) PHONO STAGE Trichord Dino/Dino+ AMPLIFIERS Bryston BP25 preamp, Gamut D200 power amp LOUDSPEAKERS Living Voice Avatar OBX-R CABLES Townshend/Living Voice STANDS & SUPPORTS Townshend Seismic Stands

### **MUSIC USED**

Captain Beefheart & The Magic Band Lick My Decals Off Baby Joni Mitchell Mingus Him New Features Gregorio Paniagua La Folia Mukta Jade Ashkenazy/Chicago SO/Solti Beethoven Piano Concerto No5



### WHERE TO GET GREAT VINYL

As well as a healthy proportion of new titles being available on vinyl from the larger chain stores, you can also find luxurious 1800gram pressings of classic albums if you know where to look. These are some 60g heavier than conventional LPs and usually sound better as a result, though good original copies of older titles are hard to beat if they are in good condition.

The following companies stock a good range of 'audiophile' vinyl. Contact them to obtain a full list of available titles – if you play then on a turntable like the ones tested here they're guaranteed to sound better than the CD version.

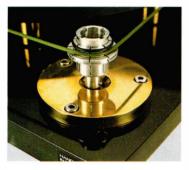
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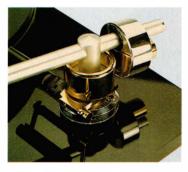


# £1,594 ≥ 01746 769156 ⊕ www.bluenote.it BLUENOTE BELLAVISTA/BORGHESE

New Italian model combines good looks with a beautifully musical sound







PLINTH/MOTOR: A slab of polished acrylic forms the plinth which supports a motor which runs directly from the mains. The 'petal' style pulley offers fine tuning of drive speed.

**PLATTER/BELT:** The drive belt is made of a relatively stiff ceramic and rubber compound that spins a polyvinyl platter with peripheral weights to increase inertia.

TONEARM: The Borghese arm has a large brass cup to increase mass at the bearing point. This can also be used as a trough for silicone damping fluid to reduce arm resonance. ather than the legendary jazz record label, what we have here is an Italian hi-fi brand that produces a range of digital and analogue components. Distributed in the UK by Croft agent Eminent Audio, Bluenote is nothing if not distinctive – the Bellavista is its least expensive turntable and yet it exudes Italian style from its very core.

It's a solid plinth design based around a slab of polished acrylic that supports a motor which runs directly from the mains - no lumpen lead transformers here. This in its finished form will feature a 'petal'-style pulley which offers fine tuning of drive speed. However, as the review sample came with a fixed nylon pulley this option could not be assessed. The green drive belt is made of a ceramic and rubber compound that's surprisingly stiff, but it seems to spin the polyvinyl platter with no difficulty, the latter featuring Michell-style peripheral weights to increase inertia. The deck has nothing in the way of suspension to isolate it save some rubber-tipped, chrome-plated adjustable feet so keep it away from speakers, sideboards and so on.

The £595 Borghese tonearm supplied is the middle of three unipivot designs (the turntable alone costs £999). It's a largely aluminium affair with a brass cup to increase mass at the bearing point. This is said to improve tracking and can also be used as a trough for silicone damping fluid to reduce arm resonance. The large counterweight means even heavyweight cartridges can be fitted but has a secondary function in its ability to adjust azimuth (the 'uprightness' of the stylus in the groove as viewed from the front).

The arm lift is less impressive, serving merely as a rest and not offering any

# VERDICT SOUND

A charming turntable in both appearance and sound, though practicality is not its strongest suit. The arm lift is ineffectual at best, but if you want to enjoy the romance of vinyl this is a great place to be. CHECKLIST

ISOLATION METHOD COMPLIANT FEET ADJUSTABLE ARM HEIGHT ELECTRONIC SPEED CHANCE WITHOUT ARM DUST COVER OPT cueing potential. The literature shows a more conventional damped cueing lift which is apparently an optional extra.

The Bellavista was supplied with a Bobboli high output MC cartridge (£400) and listening commenced with this peculiar looking needle in the groove of Joni Mitchell's *Mingus* LP. The sound that the combination produces is the most relaxed of this small group, smooth and natural with lovely instrumental tone and plenty of rich timbre. The voice seems a little sweeter and perhaps less extended but is nonetheless very inviting, if slightly restrained in scale.

The Beethoven retains its dynamics well and reveals better string tone through the Bluenote, the delicacy of the playing becoming plainer to hear. The Him track could have more attack and energy, but the cymbals are lovely and the saxophone very convincing. The tension that usually builds with the piece is not so well served however – there could certainly be more grip.

Moving over to Ortofon's Kontrapunkt B cartridge introduces greater bass extension and power to proceedings but doesn't undermine the Bellavista's inherently laid-back demeanour – a quality which proves its worth when playing denser material. The intricacy and complexity of Beefheart's *Lick My Decals...* is better served here than by the competition – you can follow each instrument in the band with ease it all pulls together into a musically coherent whole.

A distinctive, even idiosyncratic design, the Bellavista has a lot going for it sonically and with the arm lift option installed the Borghese arm would be rather more pleasing to use. If you want music to charm you, the Italians do a great job.



# £1,058 © 020 8953 0771 Www.michell-engineering.co.uk

### Legendary mid-market turntable gets a new DC motor

he Michell Gyrodec is a genuine classic. Throughout its 20-year lifetime, its imitators have been many thanks to its exquisite balance of form and function – indeed, the Bluenote in this group pays homage with its peripherally weighted platter.

In the SE, or Spider Edition, it has shed its Perspex shell leaving it exposed to the elements but rather more sporty with it. This latest incarnation incorporates a DC rather than an AC motor, a move forced on the company by suppliers but which has happily resulted in improved performance.

The Gyro SE is the only suspended subchassis design in this group. Its large alloy chassis, which supports both the bearing and the tonearm, sits on three springs that can be adjusted once the cylindrical covers are removed. The whole ensemble is supported on three conical feet and a trident-shaped Perspex spider. The best way to set up the Gyro is hinted at in the instructions, but they could be clearer and this is the sort of turntable where a bit of care in set-up will yield significant dividends in the sound department.

If you like turned aluminium you'll love the housing on the free-standing motor. It makes the Michell look every bit the high-class feat of engineering that it is and it almost seems a pity to hide it away at the back. The deck was supplied with the Michell OEM RB300, basically a badged Rega arm that attaches to a chunky arm base – more gorgeous metalwork.

The distinctive platter sits on an inverted bearing with a clever oilcirculating feature which keeps things running very smoothly. The platter itself is a composite material that uses

### VERDICT SOUND SOUND FEATURES BUILD VALUE

Distinctively designed and beautifully made, the Gyro SE offers phenomenal build quality for the money and even more impressive sound. An object of desire that's hard to beat.

CHECKLIST

ISOLATION METHOD SPRUNC SUSPENSION ADJUSTABLE ARM HEIGHT X ELECTRONIC SPEED CHANGE X AVAILABLE WITHOUT ARM DUST COVER OPT peripheral weights to aid momentum. Michell makes a clamp for the Gyro but it is an optional extra and was not used for testing.

With Ortofon Kontrapunkt B cartridge in the RB300, listening began with Him's *New Features*, which immediately revealed the Gyro's potential. The amount of spatial and dynamic information presented here is quite shocking after some of the competition. Revelatory is the word to describe the degree of three dimensionality and power produced. The groove chugs along with the bass line underpinning the music rather than rolling along with it, the energy of the track leaping out of the speakers.

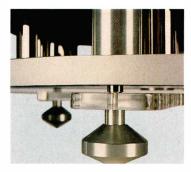
Joni Mitchell's more relaxed tones benefit from a laid-back sound that offers up tremendous intimacy and subtlety of rhythm. The highs could possibly be higher – this is where decent arm height adjustment is useful – but midrange and bass are spot-on.

Beefheart's sometimes hectic arrangements pull together well with the Michell, the band meshing together with good drive and musical coherence. Beethoven's full-scale work has a lot more of the dynamic power and range that it deserves, the counterpoint of different string sections being clearly defined while the size of the recording venue is occasionally illuminated, though perhaps not fully exposed.

The Gyro has the ability to reveal the musical qualities of everything you play on it, revelling in tonal colour while presenting the dynamic energy and range of each recording with considerable accuracy. It's the sort of deck that's guaranteed to turn its owners into vinyl junkies!







MOTOR: Free-standing motor housing with on/off switch and fly lead for power supply. Power supply can be upgraded later.

ARM: The Rega-made tonearm is the best budget design available. One-piece casting with integrated headshell give it very high rigidity which suits the Gyro well. The only drawback is fixed height so VTA can only be adjusted with spacers.

SUSPENSION: Three adjustable springs offer decoupling for the platter, bearing and arm from energy in the supporting platform, improving resolution of fine detail. £1,000 
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Stylish and capable Czech deck with a few tricks up its sleeve

HI·FICHOIO magazine





MOTOR: Free standing with mass-loaded base and twin pulleys for manual speed change. External supply plugs into the side and on/off switching is all the controls you need.

PLATTER: The 40mm acrylic platter is meant to drain energy created by stylus vibration. Weighted puck keeps the vinyl tight against the platter but will not counteract warps.

ARM: Carbon fibre tube with aluminium headshell and gymbal bearing, allows height and headshell adjustment but thread and weight anti-skate system is a minor nuisance with high downforce (2g+) cartridges.

op dog in this Czech Republic brand's extensive and successful range is the chunky RPM 9 with its slinky carbon fibre weave tonearm and separate motor housing. A highly compact design, its painted MDF plinth is for the most part no bigger than the platter, extending beyond that boundary to make a base for the tonearm but otherwise remaining discreet. It sits on three slightly springy adjustable feet and supports an acrylic platter which mirrors its 40mm thickness, making for an attractive sandwich of grey and white. Between the two sits an inverted bearing with a ceramic dome that you dab with a spot of oil. Records can be clamped down with a brass puck which relies on mass rather than a thread – a highly practical system.

Drive is delivered by a chunky outboard motor that comes in two parts – a base and the motor itself, which features an on/off switch, pulleys for 45 and 33.3rpm and an input socket for the power supply. As the motor is free-standing a gauge is supplied so that you achieve the desired tension for the square section belt.

The 9C tonearm features gymbal-type bearings and short headshell slots to aid cartridge alignment. Its carbon fibre construction is designed to damp resonance without adding undue mass. Anti-skating is provided in the form of a weight on a thread, which with high downforce cartridges such as the Ortofon Kontrapunkt B supplied with our sample (£750, 25 per cent off if purchased with the turntable) has a tendency to make cueing up the run-in groove a little tricky, but practice makes perfect. The arm can be adjusted for VTA and, unusually, azimuth – the arm

### VERDICT SOUND FEATURES BUILD VALUE X X X X VALUE

A capable deck with some unusual features for the price and a good range of sonic skills to match. Highly engaging with an essentially neutral character. CHECKLIST

ISOLATION METHOD COMPLIANT FEET ADJUSTABLE ARM HEIGHT / ELECTRONIC SPEED CHANCE / AVAILABLE WITHOUT ARM / DUST COVER OPT tube can be rotated so that the stylus sits vertically in the groove when viewed from the front. The arm cable is a separate item which plugs into sockets behind the deck, so the Pro-Ject may be upgraded by simply buying a better interconnect.

The RPM 9 turns in a pretty respectable sound whatever you clamp down on its hard acrylic platter. First up was Elbow's album with its dark yet gentle groove, the deck resolving a fair amount of image depth while remaining firmly in control of tempo and detail. It sits in between the Michell and Rega in terms of liveliness, being calm but capable of kicking out the energy when required. Bass is tight and a shade dry next to the Michell but nothing if not tuneful. Him's rock-jazz tones bring out good bass shape and reveal the RPM 9's impressive ability to throw up a big image when suitable material comes along. It also builds the tension well as the track works its way up from a gentle beginning into a maelstrom of sonic intensity.

Beefheart's *Decal Licking* works nicely, with instruments richly resolved and the complex interplay of the Magic Band clearly displayed. It deals with orchestral material comfortably as well, revealing the nature of the piano and giving full body to the strings when they start to swell. There could be more of the hall acoustic perhaps but there's no denying the deck's ability to engage your attention.

This is a highly capable and well priced turntable/arm package. For us it's sonically a shade behind the entertaining Michell and subtle Bluenote, yet it still turns in a performance that will keep most of us on the edge of our seats.



**£619** ☎ 01702 333071 ⊕ www.rega.co.uk **REGA P25** 

### Smart aesthetics, coherent sonics and competitive pricing from a classic British brand

VERDICT

SOUND

 $\star \star \star \star \star$ 

FEATURES

 $\star \star \star \star \star$ 

BUILD

 $\times$ 

VALUE

 $\times$   $\times$   $\times$   $\times$ 

contemporary aesthetic

will win admiration, its sonic assurance will turn

it into your own personal

CHECKLIST

**ISOLATION METHOD** 

ADJUSTABLE ARM

ELECTRONIC SPEED

HEIGHT

CHANGE

AVAILABLE WITHOUT ARM

DUST COVER

While the P25's

music shrine.

S itting half-way between the classic 'budget' P3 and the range-topping P9, Rega's P25 may not make sense numerically but it sure looks the part. Sharing the 'picture frame' aesthetic of the P9 it actually sits on a smaller plinth than the P3 which is cited as an advantage because there's less material to resonate. The 'ornamental surround' as Rega calls it can apparently be changed to match a new décor if so desired.

Other differences between this and the P3 come down to a more refined power supply for the motor which sits close to the sub platter and offers manual speed change via twin pulleys. But since you need to remove the glass platter it's a little slower than most.

The RB600 tonearm is a version of the RB300, with tighter specced bearings and chunky Klotz arm cable with high quality Neutrik phono plugs.

The most obvious practical advantage that the P25 has over its rivals in this group is the supplied lid. Not only does this stop the deck getting dusty – turntables and especially arms are fiddly and dangerous, from a cartridge's point of view, to clean – it also stops pets and children from abusing its more sensitive parts. It may be that sound quality is enhanced by removing it, but that's easy enough to do.

Rega makes a full range of components and cartridges are naturally among them. On this occasion a (£150) Super Elys moving magnet was supplied, a model that occupies much the same territory in the Rega hierarchy as the P25.

Listening commenced with this needle *in situ* playing *Impressed*, a new LP of sixties jazz from the UK compiled by Gilles Peterson. It sounded pretty lively, though not as energetic as it did with the Pro-Ject. You certainly appreciate the groove and the unusual style of the material, and while there's a hint of dryness the overall effect is very conducive to extended listening.

The more up-to-date Mukta LP is delivered in jaunty, tightly timed style with a calmness and coherence that has a great sense of 'rightness' about it. Expensive decks do more in terms of producing a three dimensional sound but the P25 has a persuasiveness about its version of events that is very engaging. Bass could be more powerful and scale greater but the intrinsic

musical message is clear and coherent. Joni Mitchell's all-star band reveal good transient response, an ability to reproduce the impact of attack from a drum or guitar, that enlivens instruments and voices alike even if they are not tonally as rich as is possible. A move to the Ortofon Kontrapunkt B cartridge enhances both dynamic and tonal range, reducing background noise in the process. It also improves depth resolution, though not to the extent that the deck troubled the more costly assembled competition.

The Him track offers up tension and detail aplenty, the flow of the music being rendered with a degree of assurance that marks this deck out as something a bit special. Bass is still tuneful rather than thunderous but this is partly due to the inability to alter arm height and thus VTA.

It's not the most energetic sounding deck in the group, yet the smooth and coherent Rega turns in a more than respectable result for the money. It has a degree of consistency that is most welcome – another smart, no nonsense Rega at a very attractive price. (**•**)







ARM: The RB600 has fine tolerance bearings and chunky Klotz arm cable terminated in high quality Neutrik phono plugs. Height can only be adjusted by adding spacers.

**PLATTER:** Felt-topped, 12mm glass platter sits on a sub platter which is driven via a round section belt from a motor pulley directly to the rear of the deck.

SURROUND/LID: The ornamental surround can be changed to other finishes in the range to match a new décor. The clear plastic lid keeps dust and children at bay and can easily be removed for maximum sound quality.

# CONCLUSIONS

### The cream of today's turntables are truly works of sonic art

Back in the day you used to get turntables with great timing or superb bass. Some of them even produced realistic imaging, but rarely would all three elements be found in the same product. Nowadays you can expect all of this with an even frequency response to boot, though the latter is largely dependent on which cartridge you choose.

The group rankings pretty well follow price order though it has to be said that the remarkable Michell

### TRY THEM WITH THESE

CARTRIDGES

An affordable moving coil (MC) with a refined and resolving character that will suit many decks.

SUMIKO BLUE POINT SPECIAL £250 Another well-priced MC that is a bit more vulnerable due to its body-less state but gives a stunning performance.

VAN DEN HUL MC ONE SPECIAL £699 From the serious league this is, as the name suggests, a very special cartridge. Dynamic and powerful, if you listen to this and your socks aren't blown off, they're too tight!

### PHONO STAGES

TOM EVANS MICROGROOVE £400 If you want to get the best out of a good cartridge this is a stunning place to start. It kicks serious analogue ass!

### TRICHORD DINO/DINO+ £498

Also available without the Dino+ power supply for £300, this is a highly refined stage that can be adjusted for all manner of cartridges.

### CREEK OBH-8SE £160

The starting point for decent phono amplification, this Creek is neutral, relaxed and involving.

### HINTS AND TIPS

Turntables need a level surface free from vibration to work well. A dedicated stand or wall shelf will give best results - use a spirit level to get the platter perfectly level. Sprung suspensions sometimes require a bit of fine-tuning to sound their best, but the principle is to achieve a smooth, pistonic bounce. Cartridge set-up requires an alignment protractor and plenty of patience. You need to find the correct tracing angle as the cartridge crosses the record when looking from above, and the correct vertical tracking angle (VTA) for which you adjust the arm base to bring the arm parallel with the record surface.

Gyro SE has the upper hand at the £1,000 price point. Kicking things off we have the latest incarnation of the Rega Planar – the P25 is a refinement of the Planar 3 that has been around since the ark, albeit the late seventies ark. Despite this heritage it has the most contemporary design aesthetic of the bunch and fits into the modern living room very nicely. Alternative veneers on the ornamental surround make it even more friendly in this respect and the fact that it sounds so neutral and consistent will be a bonus for many house proud vinyl fiends.

The chunky Pro-Ject RPM 9 has some unusual features for what is still a relatively affordable turntable, the chunky acrylic platter, brass record clamp and carbon fibre arm being the most obvious. It is superior to the Rega in terms of three dimensionality and bass extension and appears to be well made with an inverted and ceramic-tipped main bearing. The Michell offers the greatest value of the bunch and so gets its own box (see below), which leaves the Italian newcomer from Bluenote. The deck itself bears the legend 'Villa' which is the company behind the Bluenote brand. The deck with this particular arm has perhaps more character than the rest of the competition and an appealingly relaxed one at that – it won't be everyone's cup of tea but it will certainly be very hard to resist for many.

### **STAR PERFORMER**

### **MICHELL GYRO SE**

The latest DC version of Michell's long-running Gyrodek is a superb piece of audio engineering. Some may baulk at its ornate looks, but most who clamp eyes on it consider it to be a beautiful work of sonic art – and once heard its desirability only increases. This is not just a piece of male jewellery or living room sculpture, this is a machine for extracting the life and soul from your vinyl. You may not think you need a record player this good to appreciate the quality of vinyl but once you've heard the results it can produce you'll be hard pressed to do without one.

Where it really shines is the sense of solidity and



three dimensionality to the sound, CD players struggle to emulate this critical aspect of fidelity but the Michell does it with consummate ease. If it's detail you're after it's got that in abundance, and should you ever crave more, an arm or power supply upgrade will take you there.



## TURNTABLES AT A GLANCE

Make	Bluenote	Michell	Pro-Ject	Rega
Model	Bellavista/Borghese	Gyro SE	RPM 9	P25
Price	£1,594	£1,058	£1,000	£619
Sound				
Features				
Build				
Value				
Conclusions	Charming in both appearance and sound, if you want to enjoy the romance of vinyl this is a great place to start.	Phenomenal build quality for the money and even more impressive sound. Hard to beat.	Capable deck that's both highly engaging and possessed of an essentially neutral character.	An attractive, coherent and smooth-sounding turntable – a highly capable package for the price.



# S ANDTHER WORD

# "THE SMALL BLACK REL SOUNDS GREAT WITH ANYTHING YOU FEED IT." REL QI50E WHAT HI-FI SOUND





AWARD



That's why we put every last ounce of energy and care into a hand-built REL sub-bass system. Don't be short-changed by a packaged subwoofer, turn on the real thing and feel the experience.



### **REVIEWS - Alvin Gold**



# Multichannel may be busting a gut to catch up, but stereo amplification is still the serious audiophile's choice – pure and simple



VAN MEDEVOORT MS340 £1,350

espite being an enthusiast for the future of multichannel audio, it was a genuine thrill to get back to a group of straightforward stereo amplifiers. This is still where the musical cutting edge remains, and the idea that the industry could consider abandoning the thousands of great (and even not so great) recordings of the last half century and more is inconceivable. Leaving issues of technical fitness and other considerations to one side, there is always a very special pleasure to be had in coaxing a simple two-channel, two-speaker system into yielding up great sounds.

Even a casual acquaintance with the market shows that the gentle art of amplifier design has advanced considerably over recent years. And yes, it is an art rather than a science, because most of the ideas and circuit topologies are familiar enough. It's true that sophisticated control electronics now play a more important role, but the basic audio amplifying circuits in use now would be familiar to designers of 50 years ago, though performance and quality of individual components might be unrecognisable.

And it is this essential art that separates the wheat from the chaff. Designers have long known how to produce enough puff from compact boxes, at reasonable prices and with more than adequate reliability. But modern amplifiers get closer to the action, and they impose less of their own character while doing so. A good modern amplifier is open and transparent – it scarcely has a sound of its own, and it is unfazed by the majority of modern speakers over a useful volume range.

Modern amps are other things too. They're almost all remote controllable. Few these days bother with tone controls, but input normalisation (ensuring that all inputs have roughly the same perceived loudness at a given volume setting), powerful non-intrusive speaker and output protection, the ability to drive a second amp for bi-amping, even the ability to access the multichannel universe - these things are all on the menu. There are some superbly built and packaged amps out there too - if you're a serious music lover, turn the page now. 🖲

### EQUIPMENT USED SOURCE COMPONENTS

Mark Levinson Model 390S CD player Sony DVP-NS900V DVD/SACD player LOUDSPEAKERS B&W Nautilus 800

Mission m53 Infinity Prelude MTS CABLES Nordost Valhalla speaker cables and interconnects (balanced & single ended)

### **MUSIC USED**

Colin Davis (cond), LSO Bruckner 9th Massive Attack Protection Tracy Chapman Tracy Chapman Alfred Brendel Beethoven Sonatas Lambchop Is A Woman Michael Tilson Thomas (cond), San Francisco Symphony Orchestra (SACD) Mahler Symphony No6





Group Test Stereo amplifiers £750-£1,350









**CONTROLS:** Some of the displays are a tad heavy-handed, but otherwise it's hard to criticise the Arcam's thorough front interface, though the sheer number of control buttons may come as a surprise. Shame they couldn't have done the same with the fussy and only semi-intelligible remote control.

CONNECTIONS: The rear panel is equally comprehensive. Especially noteworthy are two independently switchable speaker circuits, an integrated/pre-power switch (with matching in/outs), blanked off positions for an internal phono module (optional) and I/R remote control and triager sockets.

## **£800** ☎ 01223 203200 ⊕ www.arcam.co.uk **ARCAM DIVA A85**

Top DiVA integrated still sings so sweetly

First impressions of the A85 are of its solid, heavy build – always a good indication of a well endowed power supply – and unusually fine external standards of fit and finish, mirrored incidentally in the controls, the front panel display, but not, sadly, by the stylised but otherwise barely satisfactory system remote.

The front-panel interface is the most polished and capable of the group. The volume control has two resolution settings, and alternative displays, and the menu structure allows input normalising to iron out volume level steps when changing inputs. Tone may also be set individually for each input, while other features support an external processor, and one of the seven available line-level inputs may be converted for turntable use.

The flexibility of the A85 is about to receive a fillip with an optional module which will accept two six-channel inputs from an SACD and/or DVD-Audio player, or perhaps a DVD-Video player with a built-in Dolby or DTS decoder. This £300-ish option will provide audiophile quality multichannel audio when combined with the A85 and three-channel P85/3 power amp without the complication and quality losses imposed by onboard video processing, and without costing a king's ransom. The secret of the A85's flexibility? The internal architecture, in which the active circuits are handled by a fully software-driven controller. The circuit makes extensive use of surfacemount technology, while the amplifier is DC-coupled and well protected. The volume control is a 72-step ladder, with fine 0.5dB steps and near-perfect channel balance at all levels.

The Arcam's refinement is remarkable, though it sounds a little flatter and

### VERDICT SOUND FEATURES BUILD VALUE

Although music A85style doesn't always have quite the excitement or the tactile quality of the Primare or the Roksan, its refinement, detail and wide tonal and dynamic contrasts mean the A85 is perhaps the most compelling performer overall. CHECKLIST

LINE INPUTS 7 PHONO INPUT 0PT PREAMP OUTPUT 7 MAIN AMP INPUT 7 HEADPHONE SOCKET 7 more constrained than either the Primare or the Roksan. When required they are real rock 'n' roll animals, and the Arcam isn't – quite. But this is in part an illusion caused by the Arcam's exquisite overall accomplishment, which becomes more and more apparent as the resolving power of the rest of the system increases.

In the end, the Arcam was the only model tested capable of making sense of the wealth of detail yielded by the Mark Levinson 390S, which really is an order in advance of most CD players. The same applies with the Infinity loudspeakers, which sounded more controlled and alive with the Arcam in command than with the others. The sense of control and purpose is almost palpable, and has nothing to do with midrange punch, timing or any other similarly local effect. The Arcam works because it does everything well. There are no real standout points, no obvious weaknesses, and this gives it a completeness and a maturity denied to other models.

But there is nothing flavourless or sanitised about the A85. With the Tracy Chapman recording the Arcam sounded tactile, disciplined and dynamically lively rather than vital. The Beethoven was equally calm and assured, with expressive fingering, but a slightly clangy quality - the only obvious objective limitation encountered on test. The sometimes discordant complexity of the Bruckner test passage (from the end of the first movement) was not underplayed or concealed, and again this made for a more moving musical experience. In fact it was hard to find music that didn't benefit from the Arcam's powerful blend of refinement, transparency and detail. A genuinely grown-up amplifier.



**£800** ☎ 01480 435577 ₩ www.cyrusaudio.com **CYRUS 8** 

Not a master blaster, but a little wonder at moderate volume

he latest iteration of the generic Cyrus 'magic shoebox', the Cyrus 8 amp is the outcome of a long-term development programme and replaces the successful Cyrus 7.

Changes include a higher-rated power supply, which within the tiny dimensions of the half-width case design is quite a challenge. But a new fully regulated power supply for the power amp section and more sophisticated temperature monitoring appear to have done the trick, and output is up by ten watts (a 16 per cent increase, allegedly) to 70 watts per channel. It has 100 per cent higher claimed current output, reduced highfrequency distortion, a faster slew rate, wider bandwidth and damping factor increased by a factor of two.

The preamp power supply has new capacitors which are claimed to make a big difference. Established Cyrus features remain as before, including the magnesium die-cast chassis which is formed with integral cooling fins. The control system looks simple, but unexpectedly manages to pack more flexibility under its belt than any of the others apart from the Arcam A85.

Pressed into action, the Cyrus proved to be another slow burner, that needed about three days under power before it came on song. Compared to its Cyrus 7 predecessor, the new model seems a rather sweeter and more refined animal. It offers good internal contrasts, making it easy to distinguish between individual instruments and groups of instruments - first and second violins playing separate parts for example without homogenising textures or the obvious loss of clarity noted in similar circumstances lesser amps. In this group, the Van Medevoort model is an obvious example.

#### VERDICT SOUND XXXXX FEATURES XXXXX BUILD XXXXX VALUE

The Cyrus 8 excels in most areas, especially in transparency and retrieval of fine detail, but is not a true all-rounder due to progressive changes in the way it delivers power at high volume levels.

CHECKLIST LINE INPUTS 7 PHONO INPUT X PREAMP OUTPUT X MAIN AMP INPUT X HEADPHONE SOCKET V

But the Cyrus 8 has its limits. While it copes manfully much of the time, and while power output vies with other similarly rated designs, the Roksan Caspian for example, in practice the way it delivers power is rather different. It may go just as loud, but the Cyrus sound changes in character as it approaches its limits. The overall sound generally, and the bass in particular. becomes more elastic, depth information is compressed, and lateral imagery suffers a little too, with gentle scene shifting modulated by the changing dynamics of the music. Some of these effects may not be noticed with particular recordings, but there is always the sense that the Cyrus is working a little harder than some of the others. Ironically, it may be that the greater inherent transparency of the design makes these effects more obvious than they would otherwise have been. The add-on PSX power supply is probably the right way of addressing these limitations, at a price.

These effects are minimised, or disappear altogether, if the volume level is backed off a notch or two, and the conclusion is that the Cyrus is best partnered with reasonably sensitive speakers (say 88-89dB/watt/metre or better) in rooms no bigger than, say 3x4 metres, depending also of course on the volume levels you prefer.

Given this kind of limitation, the Cyrus is an extraordinarily refined amp. Piano reproduction (Brendel's *Beethoven Sonatas* for example) is little short of exquisite, and the orchestral textures of the Bruckner piece retained their complexity and sense of power, making for a thrilling ride. Bottom line, if refinement and clarity at moderate volume levels fits your requirements, the Cyrus 8 is hard to beat.





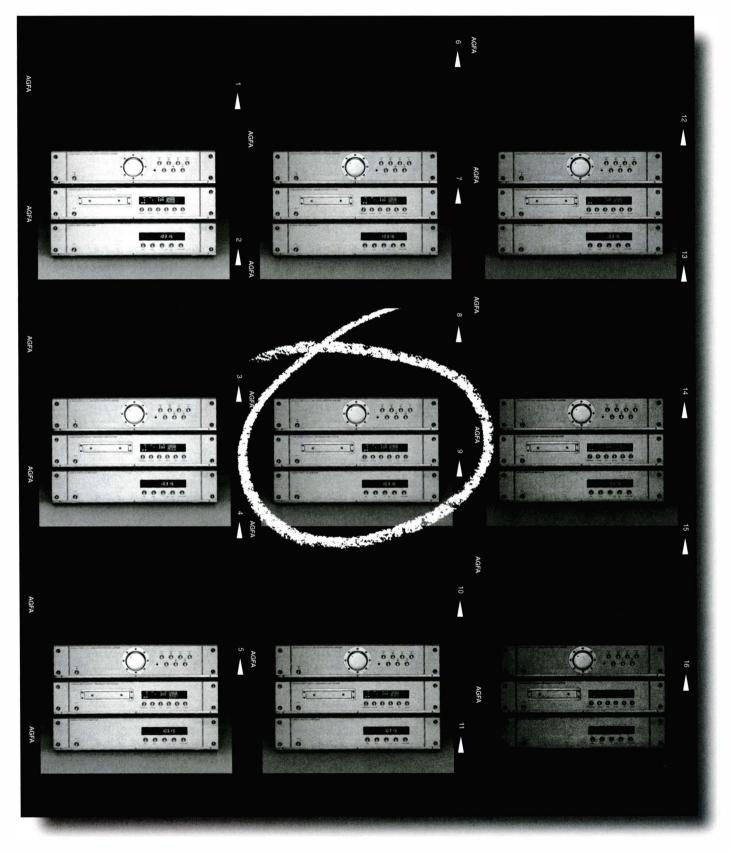




**CONTROLS:** The control system is simple but elegant. The way the ring of LEDs around the volume control periphery reflects the multi-turn gearing of the volume/balance control is a fine example of thoughtful and innovative design.

**CONNECTIONS:** Cyrus crams a lot into the 8's diminutive back panel, including Cyrus's system bus for automated control in complete Cyrus systems. As is usual for Cyrus products, the amp may be upgraded by adding an external PSX-R power supply.

### MUSICAL FIDELITY



A3.2 Series. Machined, mil-spec aluminium front panel. Platinum plated fittings. Remote controlled. Phono stage. Powerful, robust, built.



£750 ☎ 01423 359054 ⊕ www.primaresystems.com

#### Primare's new entry-level integrated finds a more engaging voice

he star in the Primare stereo amp range has long been the A30.1, and Primare has sought to bring the strengths of that design to a more affordable price area in the 20 series. That they failed to do so with the earliest versions of the A20 amp is a matter of record. The 120 is the third bite of the cherry (hawk-eyed readers relax, our test sample carries the early production insignia for this model, A20 MkIII, which by the time you read this will have been changed to 120, the 'I' standing for integrated).

First the nuts and bolts. The 120 is a dual mono amp from input to output, with independent 200VA toroidal transformers for each channel (up from 120VA in earlier versions), delivering a rated 70 watts into eight ohms from its bipolar output. It's no muscle-bound powerhouse, but the use of separate transformers and a multiplicity of regulated supplies should mean that the performance that is available is fully useable, without risk of undue deterioration or modulation of stereo imagery as the limits are approached.

The basic design topology is the same, including the impulse generator volume/balance control, with precisely calibrated 1dB steps and accurate channel balance over a 79dB range. The front end still uses J-FETs, whose high input impedance is required by the impulse generator, but J-FETs need to be constantly powered to retain performance, and the I20 has a standby feature (15 watts maximum consumption) which ensures this is the case. Other changes include a newly designed main PCB with just two polypropylene capacitors in the input signal path, and improved quality components elsewhere, including Burr-Brown OPA2604 op-amps. The circuit

#### VERDICT SOUND SOUND FEATURES BUILD BUILD VALUE XALUE

A significant improvement on the A20 MkII, with new-found vitality and slam that thankfully stops short of rawness or aggression. Overall, a very impressive update, and great value for money too. CHECKLIST

LINE INPUTS 4 PHONO INPUT X PREAMP OUTPUT X MAIN AMP INPUT X HEADPHONE SOCKET X uses surface-mount technology exclusively, and has strong output protection. Separately screened display/front panel electronics are housed in the front panel stand-off. Those familiar with the older models

will hear immediately where design effort has gone. They were marked by a certain warmth and grace, but also a reluctance to rock and roll. The warmth has been partially retained in the new model, though the upper bass is probably leaner than before. But this is a much more bolshy-sounding amp, in the best sense of the word. It really knows how to get up and go.

The balance is now perceptibly forward, punchy and open, and this new-found dynamic demeanour played to great effect in the Tracy Chapman test track, which displayed impressively on-the-ball timing and real punch in the bass. But the same qualities helped with all the test material, investing reproduced music with a panache and enthusiasm that is rarely heard at the price. The Beethoven piano recording had a lovely bold, flowing quality, and the Bruckner was immediate and brassy, though this was one recording which sounded a little dry as much of the lowfrequency content is in the upper bass.

The 120 is scarcely less impressive with other types of music. The forward balance always makes for an engaging, even compelling listening experience, but the 120 stops short of the aggressiveness that some other explicit sounding amps display. Electronic rock of the type exemplified by Massive Attack is reproduced with conviction and a fair semblance of its wide bandwidth intact, though bass never quite stretches to the sublime depths of the best next-rung alternatives, including Primare's own A30.1.









CONTROLS: The very simple user interface is an obvious strength of this design, with just the single, rather phallic looking, but beautifully engineered volume control, four input selectors and a very discreet switchable display to contend with.

CONNECTIONS: The weakness for some will be the lack of input flexibility. There are only four inputs, and this includes the tape circuit which has no monitor facility. However, there is a preamp level output which can be used for bi-amping with a matching power amp that is currently in development.











**CONTROLS:** Hardly bursting with features, the Caspian amp's interface is distinctive yet user-friendly. The input selector and volume control have a precise, well-oiled feel, echoed in the excellent illuminated status indicators. The semi-translucent turquoise remote control is something of a stylistic mismatch, but is practical enough in use and allows control of a full Roksan system.

CONNECTIONS: Back panel provisions are fairly standard, but include two pairs of preamplifier level outputs – for a tri-wired system perhaps?

## £895 ☎ 020 8900 6802 @ www.roksan.co.uk ROKSAN CASPIAN MKII

Second generation Caspian excels in most areas – given time

The Caspian (with a silent 'amplifier' suffix) is a straightforward, modestly specified amp, with a power rating of 70 watts per channel from a 350VA toroidal transformer. Launched less than a year ago, this MkII version features new input-switching relays, and is suitable for line-level sources only – turntables will require a separate stage.

The amp is supplied with a spectacularly inappropriate-looking semi-translucent remote control, but is otherwise fairly frugally equipped, with a grippy volume control with an LED indicator, -20dB mute switch, and two sets of preamp-level outputs. The current version is based around a new, wider bandwidth circuit, with updated, ultra-low noise input components, better drive and output transistors, improved power supply caps and Filmic coupling caps.

There are improvements to the remote to prevent spurious interaction with other products using RC5-coded infra-red control, and an output protection board run from its own dedicated power supply replaces the belt and braces protection previously provided. The amp is solidly built and well finished, and is well protected against overheating and abuse.

Previous, rather dated, experience of an earlier version of the Caspian suggested a competent but unexciting amplifier, and initial results were consistent with this. But after a few days under power, performance improved remarkably. Any suggestion of greyness or granularity simply disappeared, leaving a clean, solidsounding amplifier which seems to illuminate the music from inside. It's not perfect – it lacks a certain gravitas thanks to a rather lightweight lower VERDICT SOUND \* \* \* \* \* FEATURES \* \* \* \* \* BUILD \* \* \* \* \*

Bold, outgoing amplifier with matching refinement, grip and timing, and a supreme indifference to the nature of the loudspeaker load. An excellent and safe choice at the price. CHECKLIST

LINE INPUTS 6 PHONO INPUT X PREAMP OUTPUT V MAIN AMP INPUT V HEADPHONE SOCKET X midband, and the treble region doesn't have the refinement or 'hear through' quality of the best in the group. But set beside the strengths, these

shortcomings are minor league stuff. The Caspian has a very coherent, together quality. The bass is solid and propulsive, with good timing, and a bouncy, rhythmic quality that brought Tracy Chapman's Mountains O' Things startlingly to life. One of its more surprising qualities is its ability to play with the big boys at high volume levels. It's not just that it goes loud; it does so in a consistent matter, and just doesn't seem willing to let go. The Caspian was happy with the various loudspeakers used in the course of the test - it sounded in command, and unfazed in every case. The Massive Attack album sounded truly massive, but with excellent instrumental separation at most volume levels, and a deep. positive and tuneful bass to match. Only when the volume was turned right down to 'don't wake the children at midnight' levels did the Roksan betray a noticeable loss of presence and detail

when compared to the best of the rest. With this one exception, the Roksan distinguished itself by its easy resolving power, its sharply etched midband which helped instruments and voices live independent lives, and by its ability to get to grips with complex, difficult material. The Caspian sailed through the Bruckner test piece, marshalling the massive forces at the end of the first movement of the Ninth Symphony without any strain of loss of euphony. It comes across as confident and alive, as well as being muscular and dynamically sound over a wide range of volume levels. It cruised through most of the tests, planting its imprimatur near the top of this month's group. 回

Stereo amplifiers £750-£1,350 Group Test



## £1,350 № 07765 256048 @ www.vanmedevoort.com

Dutch newcomer can't compete with the strongest opposition

his is a new brand to the UK, and judging by the 'under

construction' notices on parts of the website, it's a fairly new brand in its native Holland too. The MA340 is a bit of a plain Jane, or looked at another way, a thoroughly purposeful, focused design. On either interpretation, it is *almost* a genuine no-frills approach with facilities limited to input selection, volume and remote control.

All inputs are at line level, so turntable users will need an off-board phono stage, and there's no balance control. It is larger than its rivals here, which is reflected in a high-rated 150 watts per channel. RMS output is closer to mainstream at 110 watts, while the inputs have 50kohm input impedance, which will cause no problems with any real line source, and an improbable 'unlimited' input voltage capability.

One extra feature is a single balanced-mode XLR input, though internal circuit topology appears to be conventional single-ended. Indifferent listening results using a balanced source (the Mark Levinson CD player, which can sound exceptionally fine through its XLRs, and clearly superior to the standard output) suggest that this provision is basically window dressing. Pre-out and power-in sockets are also available, so each half of the amp can be bypassed if required.

Build quality is no more than adequate, but there are some obvious minor weaknesses, such as the volume control knob fixing, which is weak in design, and which quickly worked loose on test, and the use of small, protruding case fixing screws at the sides. Internally, the amp seems well specified, and built around a toroidal transformer, with much of the effort having gone into the power supply. VERDICT SOUND SOUND FEATURES STATURES BUILD STATURES VALUE

Perhaps it would once have attracted a cult following, but the ambifier market really has become much more closely fought over the years, and the MS340's inadequacies means it is comprehensively outshone by the opposition.

CHECKLIST LINE INPUTS

PHONO INPUT × PREAMP OUTPUT × MAIN AMP INPUT × HEADPHONE SOCKET × inputs, the MA340 is a worthy amplifier, but in some ways a rather old-fashioned one. Benefits include a powerful, dynamic quality that brings flat recordings to life. Less attractive characteristics include what is best described as a rather obviously mechanical feel, which on more than one occasion elicited the comment 'wooden' in the listening notes. Tonality is rounded and a little dull - the Bruckner orchestral recording found the amplifier at its least attractive. There was little sense of the very complex and discordant quality that makes the ending of the first movement (around 27-28 mins) so exciting. Instead it sounded abrupt and more than a little messy in tonality. Subtlety is simply not its forte, and this was reinforced in a number of run-offs with the other amplifiers in the group using a wide range of music.

Used via its standard unbalanced

In the end, this is not really a classical music fan's amp. It lacks the resolution and 'hear through' qualities that are required. By the same token, it really doesn't work properly with many other music genres either. Jazz and other types of primarily acoustic material sound rough and ready; even the impressionistic soundscapes of Lambchop's *Is A Woman* failed to spring to life, because the amp was incapable of generating a realistic image of the wide open acoustic spaces that make the recording special.

But it did sound suitably menacing and meaty with Massive Attack's *Mezzanine*, and perhaps in a sympathetically chosen system, with a very particular (and inevitably rather narrow) choice of music, the MS340's powerful and relentlessly single-minded quality might earn it some kudos.









CONTROLS: The basic control set is simple enough – a stereo ganged volume control (two mono controls locked together for simplicity) and input selectors that work via relays. However, the lack of a locating flat edge on the volume control spindle extension means the control knob is prone to working loose.

CONNECTIONS: The back panel is neatly enough designed, though the balanced input facility is something of an orphan for the reasons given in the text. The pre-out and power-in sockets usefully facilitate bi-amping and upgrading.

## CONCLUSIONS

Strong marks show there's still plenty of innovation and high quality at the cutting edge of stereo

The results of this test underline the proposition stated in the introduction, namely that stereo amplifiers, these stereo amplifiers at least, really are getting better. True, it was slightly disappointing to find that the class leader from about two years ago, the Arcam A85, has not been surpassed by more recent designs,

#### TRY THEM WITH THESE

CD PLAYERS ARCAM FMJ CD23T £1,200 Accomplished CD player with an

unusually open and refined sound.

Sweet and open player, with strong musical architecture and rhythmic 'bounce'.

MERIDIAN 507 £1,195 A beautifully precise and considered sounding machine, and no less engaging for it.

#### SPEAKERS JMLAB COBALT 816 £899

Tweeter can be pushed to harshness by lesser amplifiers, but overall sound is imposing.

CASTLE CONWAY 3 £930 A gorgeous looking speaker with a beautifully balanced sound and fine dynamics.

B&W 603 S3 £600

Good mid-market performer, with strong all-round resolving power and no obvious weaknesses.

#### HINTS AND TIPS

 The performance of any amp depends critically on the performance of its source components (CD player etc).
 Many amplifiers benefit from being left in standby when they're not in use.

Preamp outputs can be used with external matching power amps for bi-amping, usually to good effect, though matching power amps are often not accurately matched.

Turning off displays where possible usually provides a small but useful sonic advantage.

If you don't have a recorder, use the tape input for your best source – the more direct and shorter signal path means it will almost always sound better than the other inputs. but it was head and shoulders ahead then, and the gap has now narrowed. The Cyrus 8 and the Primare 120 are clearly great improvements in their immediate predecessors, and although we can't say the same about the Roksan Caspian MkII, it is only because we do not have recent previous experience of the original. The one disappointment was the Van Medevoort MS340, which has a faintly kitchen workshop feel, and which in our view is based on a dated paradigm of how a contemporary amp should sound – worthy and with a rough and ready integrity, but coarse grained.

Because the general standard is now so high, there is no reason to

accept second best. It is certainly no longer necessary to put up with sharp edges and poor fit and finish. Power output should also not be a problem in practice. Given that the compact Cyrus is something of a special case, each of these amps will power almost any loudspeaker to substantial volume levels in all but the largest rooms.

#### **STAR PERFORMER**

#### ARCAM DIVA A85

More than two years since launch, this model remains the jewel in the Arcam DiVA stereo range, and retains its position at the top of its class. It is simply the best

all-rounder you can buy at this price, with the most grown-up sound quality, the most flexible user interface and the most comprehensive futureproofing.





### STEREO AMPLIFIERS AT A GLANCE

Make	Arcam	Cyrus	Primare	Roksan	Van Medevoort
Model	Diva A85	8	120	Caspian MkII	MS340
Price	£800	£800	£750	£895	£1,350
Sound					
Features					
Build				****	
Value					
Conclusions	Powerful and engaging, with extensive features and strong upgrade potential.	Superb at low volume and an improvement on its predecessor, but deteriorates at high volume.	An amp with attitude: punchy, fast and secure, also great build and value for money.	An excellent all-rounder, with an articulate, assured delivery and excellent drive capability.	Dated sound: powerful, but on the grainy side and lacks refinement and clarity.

44 HI-FI CHOICE www.hifichoice.co.uk march 2003

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BADA

MAIN BRANDS

# THE SCIENCE OF BASS

There's more to bass than often meats the ear. It's a notoriously tricky thing for hi-fi designers to get right, but when they do it's oh so satisfying. We explore the facts and the theories, then test four subwoofers dedicated to the art

ass is tricky stuff. So tricky, in fact, that some speaker designers – and some hi-fi enthusiasts too – ignore it altogether, as reproducing it can be more trouble than it's worth. They have a point. Deep bass reproduction can lead to problems, no question, but it's also a challenge, with potential rewards that fully justify the efforts.

The heart of the problem is that loudspeakers don't operate in isolation. Speaker designers might like using anechoic (echoless) chambers to develop their products, but in the real world the speakers and the listening room have an intimate and interactive relationship, especially through the low frequency – ie bass – region.

Let's start by defining the bass region. Human hearing extends, more or less, from 20Hz (where 1Hz is one cycle per second) in the deepest bass up to 20,000Hz (20kHz) in the extreme treble. That's a span of around ten octaves, more or less, bottom to top, with the piano's Middle C sitting in the middle of the fourth octave up from the bottom. The bass zone proper is therefore pretty much restricted to the bottom octave (20-40Hz) and some of the next one up (40-80Hz). That doesn't sound very much, but it is important in creating a genuine sense of scale and weight in the music.

You don't actually need a subwoofer to deliver low bass. It can be done with regular speakers, the only problem is that these may be big and bulky. The sub tends to be small and discreet, with its own built-in amp and filtering, so it doesn't make extra demands on the system, and allows smallish speakers to be used elsewhere. While it's true that doing the deep bass thing requires reasonably large regular speakers, even a tiny pair, suitably mounted close to a wall, will go down into the midbass pretty effectively. This is partly due to the close-to-wall siting (which tends to boost the 50-100Hz octave), and partly because of the 'room gain' effect that comes as a result of the room's 'standing waves' – resonances which are created in the air masses and dimensions of the room.

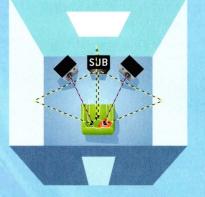
Indeed, one of the most common problems with commercial subwoofers is that they don't roll off early enough to match up with 'normal' speakers. Operating up to 100Hz or 120Hz might suit tiny specialised satellites, but even the smallest 'normal' speaker can give in-room extension down to around 50-60Hz, and many subs are unable to roll off below this point and so generate unwanted overlap.

#### SUBWOOFER POSITIONING

Subwoofer positioning is less critical than with main speakers, but it still makes a difference. Experimentation is the key – one not so scientific method is to place the sub in your usual listening position, play some music and crawl around until you find the spot where the bass sounds best – that's where the sub should sit! Our rough guide below shows three positioning options, with their pros and cons.



Placing a sub in a corner will help avoid room reflections, giving a 'sharper' delivery with more precision. But greater excitation of room modes will make the bass delivery less even, and the greater distance will delay the sound with respect to the main speakers. The sub should be at least 10cm from the wall.



Lining the subwoofer up with the main speakers will equalise the path lengths and hence the timing between the main speakers and the subwoofer, at least for the direct sound from speakers to ears. The down side is that reflected sound is increased, and these delayed reflections will reduce the precision.



Bringing the subwoofer up close to the listening zone is also worth trying, especially in a 'difficult' room, as it will tend to minimise room mode excitation. This will also shorten the direct path significantly, 'speeding up' the bass subjectively, though also increasing the 'smearing' of room reflections.

#### **STANDING WAVES**

Standing waves are the prime source of bass problems. Every room has them – concert halls as well as your own front room. Standing wave frequencies are closely tied in to the dimensions of the room, and the very large space of the concert hall pushes these well down into the deepest bass and subsonic regions, substantially below the frequencies at which musical instruments operate. However, the smaller lounge in which a hi-fi system operates has its standing waves at significantly higher frequencies – those which tend to coincide with the bass regions used in music.

While these standing waves contribute to 'room gain', they also create considerable unevenness through the bass region, boosting some frequencies but nulling others. Also, the pattern of room modes is very unpredictable. It varies considerably from one room to another,

"The reason subwoofers have been getting smaller has much to do with the realisation that massive loudness capability is often unnecessary." and also significantly according to where in the room one measures (or listens to) them, and where the speakers are placed too.

#### **MOVING AIR**

Generating bass is all about moving air molecules, and because the frequencies involved are relatively slow, it's necessary to get quite a

#### BASS CONTROVERSIES

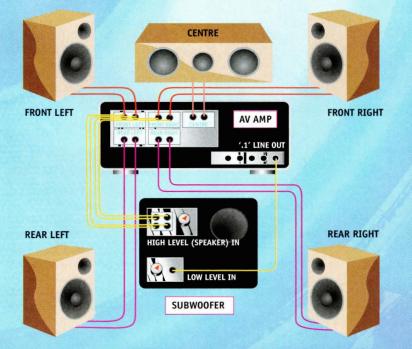
It's easy to appreciate that a subwoofer will add extra bass weight and scale to a system's sound. Less easy to comprehend are widespread claims that adding extra bass also enhances the character and tonality of sounds much further up the audio band, through the midband and even into the treble. Improved stereo soundstaging, especially in terms of depth perspectives, is also often attributed to the use of subwoofers.

Although it's difficult to come up with scientific explanations for this, the anecdotal evidence is very strong. Also, psychoacoustic phenomena are often poorly understood, and history has often shown that subjective observations are more powerful and significant than theoretical assumptions in advancing the hi-fi art.

But one argument against subs is that adding bass extension can upset the original intention for the main speakers, specifically the deliberate choice of relative bass and treble levels to balance each other out on each side of the midband core.

#### **USING A SUBWOOFER IN A MULTICHANNEL SET-UP**

For best results across a range of music and AV material, connect your sub at both speaker and line level. This will optimise bass reinforcement of both stereo and 5.1 content.



lot of molecules moving to get the power into the room. This can be done either by moving a large diaphragm a small distance, or a small diaphragm a relatively large distance. The latter has the obvious advantage of keeping the enclosure handily compact, which is very much the modern trend, while the latter promises higher power handling and loudness capability.

The reason subwoofers have been getting smaller, however, has much to do with the realisation that massive loudness capability is often unnecessary. A case can be made for it when reproducing movie special effects – explosions and the like – but with music programming excessive low bass can actually be quite unpleasant, and there's little point in having a subwoofer that can go a lot louder than the rest of the system speakers.

#### SITING STRATEGIES

The fundamental variability and unpredictability of room standing waves makes it very difficult to do anything apart from putting up with them. However, because deep bass doesn't contain directional information, one of the bonuses of using separate bass-only speakers is that it gives plenty of incentive and almost unlimited freedom to experiment with where any subwoofers are placed.

Narrowing down the possibilities is much harder, because some of the criteria conflict and there's no general agreement on the ideal approach. For example, a corner site will optimise room-gain and 'crispness', but will also maximise unevenness, and may give an audible delay with respect to nearer main speakers.

In truth, the best advice is that it's worth moving your subwoofer around for best results, although a computer programme like the *HFC* Award-winning CARA (call 020 7079 2047 for details) offers an intriguing prospect for getting to grips with standing waves. It's also well worth contemplating using more than one sub. Two small ones may beat one big one because driving the room from more than one position invariably gives a smoother net result.

#### SUBWOOFER GROUP TEST

It's pointless attempting to listen to a subwoofer in isolation. They are strictly accessory components, which can only operate in the context of a complete system, and require very careful set-up to achieve optimum integration. Our tests overleaf used a system based on an upmarket Naim Audio CD player and amplification, the subwoofers partnering a pair of compact JMlab Micro Utopia stand-mounts and also a pair of miniature Rega Aras. Music used during the assessments included Wyclef Jean's The Carnival and The Ecleftic, Mari Boine's Eallin, and Nitin Sawhney's Beyond Skin. £500 ☎ 01656 768777 ⊕ www.rel.net

subwoofer specialist based in South Wales, REL was originally founded with music replay in mind. Coincidentally, this was just around the time that home cinema was starting, though the company's heart remains firmly in music reproduction.

The Q150E is the latest in REL's compact, cube-shaped Q-series. Replacing the larger Q100E, this one cubic foot enclosure, finished in black, combines a 240mm frame/180mm paper cone bass driver with a 150-watt RMS MOSFET amp. Set-safe protection prevents overload damage.

The low pass filter usefully includes five calibrated settings, while low and high-level inputs are provided, with separate gain controls, on phonos and Neutrik Speakons respectively. A mode switch selects between LFE (unfiltered) and line sources, with reversed phase options. A 'slam' switch provides extra midbass 'kick', which might appeal to movie fans, as an alternative to the 'depth' mode used in our listening tests.

### VERDICT SOUND FEATURES BUILD VALUE

Not the fastest sub around perhaps, but great weight and authority, superb filtering and flexibility, all at a price that's very nice.



Measurement shows a very flexible low-pass filter which can be used to provide extra extension even for large speakers, with fine ultimate extension, and a wide range of adjustment.

Sonically, it has impressive weight and authority without mid-bass excess and was the only sub which didn't need its low-pass filter set to roll off at the lowest possible frequency. The result is good integration with both the compact JMlab Micro Utopias and the tiny Rega Aras used for testing, adding impressive extra welly when spinning Wyclef Jean's *The Ecleftic*. Not quite the last word in agility, some of the trickier figures threatened to catch it out, and while it never quite lost the plot, the overall pattern could have been more explicit. But that's a minor criticism of an otherwise excellent sub and an obvious Best Buy.

## £400 ☎ 01702 601410 @ www.ruark.net

Better known for its upmarket real wood speakers and subwoofers, Ruark also has some pretty and effective Vita-series 'lifestyle'-type components. This £399 Vita 50 is the least expensive of three Vita subs, the least expensive in our test, and at 9kg the lightest too. To these eyes it's also arguably the prettiest, in a neutral textured mid-grey sitting on little chrome feet (necessary because the drive unit points downwards towards the floor). This ensures that all the mechanical forces are vertical.

The drive unit has a 200mm frame and 150mm paper cone with foam surround, operating in sealed-box mode and driven by a 50-watt amp. Features include separately adjustable low and high-level inputs (on phonos and Neutrik Speakons respectively), plus variable low-pass filtering (inc LFE) labelled 40-240Hz, and 0-180° phase.

The Vita 50 has a (probably sensible) tendency to turn itself off if over-driven, and doesn't have much headroom in reserve. The low-pass filter seems better

#### VERDICT SOUND FEATURES BUILD CALLER VALUE

Very pretty looking, but lacks power and loudness capability. Filtering is only really suited to sub-miniature satellites.



suited to sub-miniature satellites than normal size speakers, as the minimum bandwidth extends above 80Hz.

Both these findings were directly reflected in the listening experience. Loudness capability clearly falls behind the others assembled here, and there's a clear tendency to create 'thumpy' midbass, due presumably to overlap between the subwoofer and the main speakers. This is all the more noticeable when the volume is turned up, where the thump seemed to get the floorboards going too.

Provided one doesn't demand too much volume, and restricts the main speakers to the smallest types – ie those with 130mm main drivers and seven-litre enclosures – the Vita 50 sub is capable of decent enough results. It certainly looks nice enough, but does rather suggest that more substantial engineering is needed to do the business properly. £799 ☎ 01702 206870 ⊕ www.titanloudspeakers.com

new name on the scene, this Saturn subwoofer shows that Essex-based Titan is not afraid to do things differently. Huge compared to the others in this group, it's cylindrical, like Titan's other planetary subwoofers, with proportions a little like a giant jar of Patum Peperium Gentleman's Relish!

It sits on four castors, mounting the large 320mm frame, 230mm plastic cone driver in the bottom panel, while a smaller ABR (a passive diaphragm that behaves like a mechanical reflex port) sits in the middle of the top surface.

As seen (it's due to be changed), the ABR's cover looks decidedly odd, likewise the square-section amplification that sticks out of the curved side. Though bulky, the circular shape does have its own charm.

The feature set is comprehensive. Hefty heatsinking cools the 200-watt RMS amplifier. Passive operation is also possible here (though the impedance drops alarmingly at high frequencies). There are separately controlled high

#### VERDICT SOUND SOUND FEATURES BUILD

## VALUE

shape with rather curious styling embellishments but decent filtering. Sounds promising with plenty of weight and headroom.



and low-level inputs, a variable low pass filter with an LFE switch, and a variable phase knob. The filtering comes in early enough to boost just the low bass, promising good integration with 'normal' speakers.

Sound quality is rather good, as long as you don't push it too hard. At normal listening levels it works very well indeed, providing a firm foundation, free from upper bass coloration, with good dynamic tracking and a fine sense of headroom and freedom.

Work it too hard however and things can get a tad unruly – after all, there's a lot of woodwork around here, and you can feel the top panel shaking along at times. But this is certainly a lot of subwoofer for the money, although in context one can't help wondering whether its considerable bulk is really necessary.

### 

elodyne has a mean reputation on the other side of the Atlantic, but availability in Britain has been rather sporadic, and the products a bit mixed too – we tried a splendid in-car servo-controlled sub some years ago, but the domestic VA-1012XII was much less impressive.

Now Velodyne is back, with new importer Redline and designs that look altogether better suited to British tastes. This £925 SPL 800 is pricey, to be sure, but weighs a healthy 13kg and is miniscule to boot.

This tiny sealed box – spikes available on request – loads a small woofer equipped with a 210mm frame, a 145mm dish-shaped Kevlar/resin cone, and an unusually stiff half-roll surround. It also generates a powerful magnetic field, and must therefore be kept clear of conventional TV sets.

The high power (600 watts!) digital amplifier is highly efficient, needing little heatsinking. Features include low and high-level inputs, plus a high-pass filtered output pair (to protect small

#### VERDICT SOUND SOUND FEATURES BUILD SOURD

Cute and very compact, this pricey-but-powerful sub has loads of punch and drive, but could have more weight and tighter filtering.



satellites). Although the low-pass filter is labelled 40-120Hz, in practice the lowest setting still leaves plenty of output up at 60Hz. Furthermore, this little sub rolls off rapidly below 28Hz.

The latter is directly reflected in the sound quality, which is punchy, lively and quick, but definitely lacks some of the deep bass authority shown by others in this test group.

The small box ensures box coloration is not an issue here, but for all its

crispness and dynamic literacy, some lack of weight was obvious when playing Wyclef Jean's *Carnival*, and there was also a slight tendency to 'thicken up' the midbass region.

This is unquestionably a fun sub, very agile and superbly capable within its inescapable limitations. It does tend to favour loudness capability over deep bass, so is therefore more movie than music oriented, and is best used alongside small main speakers.

# **High-Fidelity Video**

#### Treat your eyes the way you treat your ears with the latest retina-massaging video technology

uch to our chagrin, hi-fi is a term perennially misused and abused. It means high fidelity – a level of playback quality that remains faithful to the original recording session. It infers superior performance, a phrase originally coined to describe audio equipment that exceeds ordinary standards and more fully captures the character and essence of music. This leap in quality began in the 1950s, but even today only some music playback systems can claim to offer true high fidelity. Your average micro system certainly can't.

But there is one stretch of the term that we would advocate. Video is now undergoing a leap in performance in some ways comparable to the radical thinking that enhanced our experience of audio through the 1960s, 1970s and beyond. There are digital disc players available that offer high-resolution digital sound with music sources along with ultra-high quality digital video, and a host of new technologies are arriving to make our visual experience more real, more faithful to the original. High-fidelity video is here...

*Hi-fi Choice* is all about achieving a genuinely high standard of playback in the home – music playback, and for those who demand it, video too. Across the next four pages we highlight the new video technologies that are raising the bar, along with the various display options available to those seeking a high-fidelity video experience to match their hi-fi sound.

#### PAL PROGRESSIVE SCAN

Up until now Progressive Scan video conversion, which removes the flicker inherent in conventional interlaced video signals, has only been allowed in NTSC players/discs, primarily because of copyright concerns.

Recently however, PAL Progressive Scan has been given the all-clear, enabling UK consumers to enjoy higher resolution pictures than you can get from NTSC Progressive Scan players. That's because PAL Progressive offers 580 lines of resolution compared to NTSC's 480. You'll need a PAL Progressiveenabled player (like Arcam's DVD88 Plus or NAD's T562) and a compatible display with component video inputs to see the benefit (Scart alone is no good) but the improvement is considerable.

#### **SUPER BIT DVDS**

Scan the marketing blurb and it seems that Columbia's recent line of optimised DVDs have much to offer. Stripped of superfluous interactive extras, their USP is that all the available bit space on the disc is turned over to sound and video data (though we're not talking high definition here), supposedly maximising both. The reality is a little different.

While picture quality is, on the whole, improved, it's barely noticeable with most Superbit discs unless you have a truly high resolution display. Not a wholly convincing advance.

#### TV INTERPOLATION TECHNOLOGIES

They aren't High Definition TVs – that's a long way off for Europe yet – but Philips has done well recently with its line of Pixel Plusequipped TVs. Basically they bump up the number of scanning lines in video signals from the standard 625 at 50Hz to 833 lines at 75Hz, while doubling horizontal resolution and reducing flicker.

Now, though, JVC claims to have gone one better with DIST (Digital Image Scaling Technology). This innovation, initially to be found in the company's new HV-32D25 TV, now claims to deliver a remarkable 1250 lines at 75Hz, resulting in even higher resolution flicker – free images. Extraordinary stuff.

#### **VIDEO SCALERS**

Fixed panel video displays, such as LCD and DLP-based types, work best when they receive a video signal that's the same as their



'native' resolution. Video signals of lower or higher resolution are automatically interpolated or compressed, respectively, for the display to produce an image... that's an unwelcome compromise.

Video scalers improve on that. As well as turning out progressively scanned signals, they also 'scale up' the aspect ratio, refresh rate and resolution of video signals to exactly match that of the display.

Scalers are available as separate items but the latest trend is to use a high-end PC in concert with custom scaling software, available free on the internet. Probably best to stick with standalone version if you're not comfortable with the sound of PC cooling fans in your listening room.

#### HIGH-DEFINITION VIDEO

The US consumer electronics market is making enormous headway in its move to HDTV (High-Definition TV), with digital tuners now a requirement on all new Stateside TVs by 2007, but things aren't so rosy this side of the pond. In broadcast terms it is extremely unlikely that we in the UK will be able to enjoy HDTV (defined as programming with a vertical resolution ranging from 720p to 1080i) for the foreseeable future in their infinite wisdom (sic), our broadcasting mandarins opted for quantity, not quality, at the start of the digital TV revolution (an HD signal takes around three times as much bandwidth as a standard definition signal). In effect, we're

#### THE DIGITAL VIDEC

Digital video signal transfer has actually been with us for several years, in the shape of iLink, or IEEE1394. Unfortunately piracy fears have stymied its adoption for carrying video data to/from AV sources and displays. But the DVI (Digital Visual Interface) standard has been gaining support recently. Conceived primarily for flat-panel monitor to PC connection. it offers HDCP (High Bandwidth Content Protection) and so pleases Hollywood's übermeisters. That would have been adequate for digital video transfer but AV manufacturers are setting their sights even higher. A new standard called HDMI (backwards compatible with DVI) will make its debut this year, offering a 5Gbps data rate - enough to stream video and high-res multichannel audio. Expect to start seeing it on highend displays and DVD players in the coming months.

now likely to remain stuck with innumerable channels of (mostly) dross as opposed to fewer channels – which you might actually want to watch – in HD.

There are a few of rays of hope, however. If you're a regular visitor to the US and can bag yourself a JVC HM-DH30000 D-VHS VCR. you can get HD software now. D-Theatre tapes are HD versions of movies from the likes of Universal, Fox, DreamWorks and Artisan, recorded on D-VHS, currently the only HD-compatible software format. They cost around \$40 and although the range isn't vast, the picture quality is stunning - stores like Circuit City stock them and they' re also available online from outfits like Bestbuy.com.

Option two is to wait for Blu-Ray (the high-capacity successor to DVD) which can record and store HD programming. Odds are that US studios will release pre-recorded HD Blu-Ray copies of movies for the US videorental/sell-through market so we'll probably see the same software making its way into this country (in the same way that Region 1 DVDs currently do).

A more immediate possibility is that high-definition programming may soon become available via satellite. A new consortium called Euro1080 has just announced that it's to launch a pan-European HDTV service (using the 1080i standard) on 1 January 2004, with an average of four hours per day, 6pm-11pm (CET). Tests featuring a wide range of content, will begin on 13 September 2003. If you have a 1080i-capable display, and the necessary satellite/decoder equipment, you'll be able to view the programming. Keep an eye on www.euro1080.tv for updates.

## YOUR VIDEO DISPLAY OPTIONS

#### CRT (CATHODE RAY TUBE)

What is it? That large lump that's almost certainly lurking in the corner of your living room. CRT technology has been around since early last century and has become the world's dominant video display technology.

Today, it's relatively cheap, capable of offering okay resolution video images and is available in either widescreen or 4:3 aspect ratios. The major disadvantage of CRT-based TVs is their sheer bulk. A 14-inch portable may not be problematic but a 36-inch TV is the absolute largest widescreen TV you can buy for the home. If you crave anything larger you'll need to investigate alternative display options.

For: Sets are affordable because they've been around a long time, good enough for standard video signals.

Against: Bulky; designed to work with interlaced video signals so by definition are prone to flicker. Not designed to cope with progressively scanned video signals.

#### TRY THESE

Loewe Aventos 3981 ZW Price: £1,150 This Linn-distributed German brand still has a relatively low profile in the UK, but this incredibly versatile (the options list is huge) 32-inch widescreen TV is a simply stunning performer.

Panasonic TX-36DT35 Price: £1,900 A built-in DVB tuner, passable Dolby Digital sound

and superbly detailed picture quality, bolstered by superb contrast performance, mark it out.

Philips 36PW9607 Price: £2,000 TVs can rarely be commended on their aesthetics

but this Pixel Plus set is elegant in the extreme. The pictures it delivers aren't bad either - the sharpest yet seen, to be accurate.

S-VIDEO



#### PLASMA

What is it? The most likely near-term successor to large size (ie 32inch and above) CRT-based TVs. Whereas CRT TVs require an electron scanning gun to fire at different coloured phosphors onscreen, plasma screens use an array of charged electrodes, secreted between glass panels to stimulate inert gases thus making a plasma. This generates UV (ultra violet) light which in turn illuminates red/green/blue phosphors in a grid of sandwiched pixels.

Because they don't need a scanning gun spewing out electrons, plasma screens can be incredibly slimline and lend themselves to wall-mounting. They began with stratospheric price tags a few years back but can now be found for as little as £2,000. For the best performance you'll have to pay more, but prices will continue to fall.

For: All the brightness of a CRT display but capable of sharper, brighter, more uniformly accurate looking images.

Against: Relatively poor contrast performance was an issue until recently. Pictures can look noisy and unconvincing if viewed close up.

#### TRY THESE

Philips 42PF9964 Price: £5,800 Supplied with an external TV tuner box, the 42PF9964 sports internal speakers so is wider than your average plasma. While the Panasonic's contrastpacked picture just edges it, the Philips still looks temptingly smooth.

Panasonic TH-42PW4 Price: £5,800 (with tuner and stand)



Designed to be mercifully simple to operate the 42-inch TH-42PW4's unique claim to fame is that it boasts a 3000:1 contrast ratio, making it one of the most cinematically convincing plasma screens today.

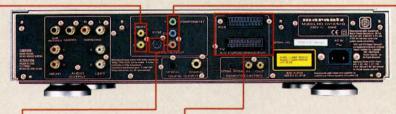
Pioneer PDP-503HDE Price: £8,500

Aimed straight at the well-heeled cinephile. this whopping XGA-resolution screen looks noise-free (at sensible viewing distances) and dynamically pleasing.



#### VIDEO CONNECTIONS All sockets are not created equal...

COMPOSITE VIDEO Bottom of the barrel in video quality terms. Composite connections contain colour (red, blue and green), luminance (brightness) and synchronisation information (the key bits of data you need to create a video image) all modulated so that they pass down one cable. The perfect way to lose high frequency video detail.



A much better option than composite because it separates out brightness and colour data, resulting in more faithful colours and less loss of detail.

#### RGB SCART

The de facto video connection standard in Europe but mostly shunned elsewhere. RGB Scart connections improve picture by employing separate conductors to carry red/green/blue data, with signal synchronisation information combined together.

#### COMPONENT VIDEO

Now we're talking. Commonly found outside of Europe and now getting popular over here, component connections completely separate brightness (luminance) from chrominance (colour) elements. If you want to see the benefits of Progressive Scan output you'll need to use these (and have a similarly equipped display).

#### **Special Report**

#### FRONT PROJECTION

What is it? Essentially the traditional cinema-going experience translated to a domestic environment. Relatively huge CRT-based projectors used to be the weapon of choice for serious cinephiles (and to an extent still are) but lightweight DLP (Digital Light Projection) and LCD-based examples now account for the vast majority of sales.

DLP projectors are fixed panel devices, like LCD types, but make use of light reflected off thousands of tiny, addressable micro-mirrors to create monochrome images. These are

LCD TVS (LIQUID CRYSTAL DISPLAY)

What is it? Another flat-panel technology replacement for CRT, but this one's better suited to smaller screens, maximum sizes topping out roughly where plasma screens pick up. It's also an inherently progressive technology - like plasma - so is free of onscreen flicker.

Already pretty much the de facto screen of choice for PC users (primarily because it's less wearying to look at and frees up lots of desk space), LCD displays offer excellent colour saturation and high potential resolution. Video image quality, however, can look a little lacklustre when viewed alongside an equivalent CRT screen and LCD displays are still exceedingly expensive by comparison

For: Great colour performance, high resolution capability and less wearying to watch for long periods than flicker-prone CRT displays.

Against: Fast moving video ultimately still looks better on CRT. Somewhat overpriced. Contrast performance still inferior to tubed displays, too.

#### TRY THESE Sony KLV-17HR1 Price: £1,600

A very late entrant to the LCD TV market, Sony's first model upholds the brand's reputation for quality. Images are razor-sharp, colours bold and video noise minimal.

Sharp LC-22SV2E Price: £2.000

Its use of ASV (Advanced Super View) technology means the LC-22SV2E delivers a wider than average viewing angle and a higher brightness level, as well as a decent contrast ratio.



Panasonic Model: TX-22LT2

Price: £2,000

As in the plasma sector, Panasonic has made achieving maximum contrast its number one priority for its LCD TV displays. Colours fairly leap out at you from this set as a result.

TRY THESE

NEC HT1000 Price: £3,524 Launched just before Christmas. this near silent-running DLPbased device has turned the DLP market on its head. Nothing else near the price comes close.

#### Barco Cine 7

Price: £11,157 This brilliant CRT projector has 7-inch tubes, a 1000:1 contrast ratio plus a line doubler, to boot.



#### REAR PROJECTION

What is it? An ideal solution if you want to watch 40-55-inch screen images in a room with some ambient light present. Rear projectors contain what is essentially a front projector turned sideways in a largish box. By using reflective surfaces and/or lenses, images from the internal projector are directed onto a lenticular screen, which you can then watch.

Display technologies used in rear projection sets include CRT, LCD and DLP, the latter two types enabling much slimmer cabinet proportions than CRT. Remarkably affordable these days, too.

For: Enables large-screen viewing in relatively medium ambient light conditions. Great value for money, especially when compared to CRT TVs.

Against: Still quite bulky though recent LCD/DLP types are much easier to accommodate. Tube convergence in CRT-based rear projection TVs can be fiddly.



#### TRY THESE

Sony KP-44PX2U Price: £1,800 Auto convergence means that you won't be spending hours aligning the colour tubes on this attractive CRT rear-projection set. All the more time to admire its deeply cinematic picture quality.

#### Toshiba 42PW23P Price: £1,700

Fact: this set is a frill-free zone - no Dolby Digital, no 100Hz operation etc. Turn it on, though, and you'll see that a well-implemented conventional 50Hz CRT technology can still mix it with

the best of them



Thomson 44RW67US Price: £1,800 Based on conventional CRT technology this well-sculpted behemoth cuts a pleasing dash in the living room. Images are boldly rendered and the sound quality is beefy and fulsome.

Did we mention it also has an automatic convergence adjustment system? Well, it has ...



#### Yamaha LPX-500 Price: £4,800

One of the best LCD-based front projectors around, the widescreen LPX-500 offers an excellent blacklevel performance married to an authentic colour palette.

march 2003 www.hifichoice.co.uk HI-FI CHOICE 53

passed through a fast-spinning

projectors can suffer from some

odd rainbow artefacts as a result,

For: Knock yourself out - the best

option if you want to view wall-

sized images. DLP and LCD front

quite the quality) of CRT projectors

Against: Need a darkened room -

hardly convenient for watching

Neighbours at lunchtime. New

tubes/lamps can be pricey.

projectors offer the scale (if not

but with much less fuss.

create the final image. DLP

so they don't suit everybody.

coloured wheel (no, seriously ... ) to

# The world according to...

Vorschprung durch Technik is the catch phrase of another German company but it could equally apply to the intelligent and focussed thinking applied to T+A's hi-fi vision

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t's 'tay und aah', not 'tee and ay, " says Lothar Wiemann, T+A's director of development, perhaps in part to forever distinguish the German company from Russ Meyer movies. It derives from the ethos of the company: Theory and Application.

There's certainly lots of theory – the place has more graduate engineers and researchers than the average university. With about 100 staff in its Herford headquarters in Germany, the 60:40 ratio between manufacture and boffins in the T+A company is uncommon.

Founded in 1978, T+A is proud of its Westphalia heritage; it even has the local Pilsner on tap in its training centre. The German company begari by developing loudspeakers, starting with the omnidirectional Delta. Today, T+A is known as an all-rounder, one that makes everything from cables to electronics to speakers, with an average product life cycle of around five years.

The company's research and development addresses every part of that audio chain. And it has the toys

#### **Past Glories**

TMR TRANSMISSION LINE SPEAKERS When T+A started as principally a loudspeaker company, this innovative transmission line speaker series from 1982 set the standard and forms the basis of its top Criterion speakers today.

AUDIOCON HI-FI SYSTEM Having already made its mark with its

1985 Pulsar amplifier range, the 1988 Pulsar AC range was the first kit to have data links from component to component, similar to the TASI link used today.

DIGITAL SOLITARE SPEAKERS The first truly all-digital active speaker system, the 1995./6 Digital Solitare A2D speaker system sported 11 signal processors a side and achieved extremely high levels of linearity. Forms the basis for T+A's digital audio concepts today. to back up that large research team. The T+A factory complex includes the latest CAD/CAM computer design packages, software engineering suites, an anechoic chamber and a listening room. With such a comprehensive portfolio of development *en suite*, it's little wonder that T+A has several important patents under its belt.

"Perhaps our most important pioneering work", says Lothar Wiemann, "was in the field of digital loudspeakers and our digital linearisation and roomacoustic compensation systems."

#### **DIGITAL VISION**

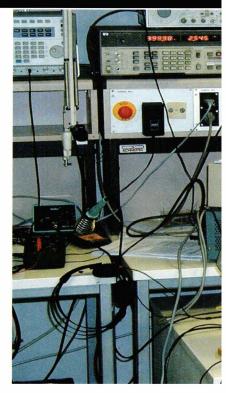
Digital electronics is an increasing factor in T+A's profile. One of its most significant recent products has been the all-digital PD1200R stereo preamp. According to Wiemann, "Digital preamps are a very special solution. They include a DSP-based linearisation technique to compensate for acoustical deficiencies of the listening room." This makes the digital preamp ideal for less than perfect listening rooms, but Wiemann adds, "Under good listening conditions with high quality source devices, I personally prefer the standard analogue preamp with its short signal paths". Recently, T+A's scientists realised

that speaker impedance has been in decline for the last decade or so. Lower impedance coupled with phase shifts place high current demands on the amplifier circuit connected to the speaker. This can cause a sort of 'back wash' into the more sensitive input stages and cause distortion in the process. To eliminate this problem, T+A has developed the Isolated Current Amplifier circuit, that decouples the output stages entirely by using separate power supplies for input and output stages.

High-class design alone does not make a good product. The company sub-contracts all basic assembly, anodising and fabrication of components, but then assembles and tests the products in-house. Unusually for a hi-fi manufacturer of T+A's stature, it doesn't place components on circuit boards directly and has no wave-soldering unit, so often proudly shown off in factory visits. When asked why circuit-mounting and other basic assembly procedures were farmed out, the reply was simple and straightforward: "When you have companies nearby who build circuit boards for Siemens, they use the latest equipment and do a

## *"The final testing staff are in constant motion, but the repairs department is comprised of people staring at a telephone, waiting for it to ring."*





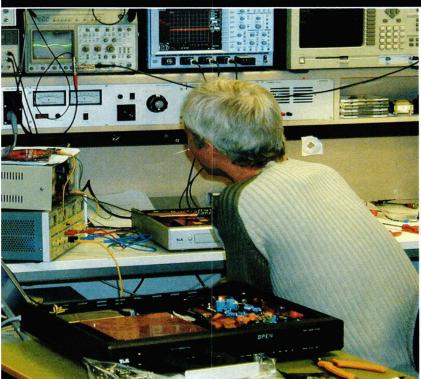
better job of wave-soldering than a hi-fi manufacturer ever could".

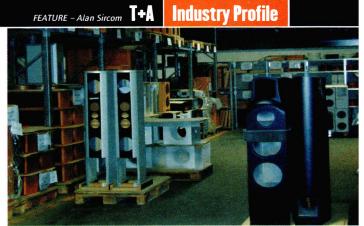
Correctly managed, this subcontracting method works extremely well and means T+A is never lumbered with six months' worth of stock collecting dust in its warehouse. But this can only be managed by logistical genius and curiously this is one part of the T+A technological might that remains manually controlled. Elsewhere in the T+A factory, computers abound, but the most basic stock control is

done by hand. "It works better that way. Computers can read bar codes but they can get fooled – something that never happens to a good stock controller."

#### QUALITY CONTROL

Final testing is important to T+A, so much so the company developed its own special 'shake down' test. Every product is placed on a custom-made test bench that vigorously shakes the product as if submitting it to a couple of days in the back of the Courier Van From Hell, only without the scratch marks and coffee stains. If it can survive such a shakedown and still do its job, the chances of something dislodging itself in transit are effectively nil.





**Industry Profile** 

Below: Siegfried (Siggy) Amft, managing director and owner of T+A, with Lothar Wiemann, head of development. Below left: T+A's anechoic test chamber, and the 'shake down' test in action.







**Current Key Products** 

#### **R SYSTEM**

The flexible, modular hi-fi and home cinema full-sized components in the R-System form the bulk of T+A's product portfolio. Unique hi-fi and home cinema links mean an extremely flexible system. K6

The elegant DVD Surround Receiver is perhaps the ultimate modern-day music centre, only this time it comes with movies too. This has revitalised the staid K-Series audio consoles, and takes on B&O at its own game successfully

#### TALIS SPEAKERS

Slimline aluminium speaker range that includes bookshelf speakers, satellites, floorstanders (pictured left, tested HFC 225), centre speakers and subwoofers. They are T+A's most compact speakers ever, and also its most elegant.

The acid test of any company is finding the busiest and least busy worker on the factory floor. Here, the final testing staff were in constant motion, but the repairs department was comprised of people staring at a phone, waiting for it to ring. "When we get a repair, we try to turn it round within a week whenever possible." said Wiemann, who's obviously never had to wait for a plumber to return his calls.

And there is more to come. Soon, T+A will launch a new surround processor and some exciting (but, currently, secret) 25th anniversary products. And, says Wiemann,

"Another major development for the near future will be to make T+A devices ready for the demands of digital home networks". Even valve amplification, currently driving the Criterion speakers' electrostatic panel, is not ruled out.

In Germany, T+A is considered one of its leading high-end audio and home cinema companies and that reputation is going to cross the channel any day now. Watch out for T+A - they build things proper there! BBG 020 8863 9117 www.bbg.eu.com Turn over for a review of T+A's new PA153OR integrated amp.

## **Appliance of science**

**EXCLUSIVE** German specialist brand T+A is little known in the UK. All that's about to change with the PA1530R.

t's a journalistic cliché to label anything from Germany 'efficient', but like all clichés it has an element of truth. Take this T+A PA1530R integrated for example – it does all you want of an integrated amplifier, with nothing superfluous or unwarranted on tap. It's just so damn efficient.

It's big for an integrated stereo amp. It has the size and weight of the average integrated AV amp, but its thick anodized panelling means it's better built than almost any AV receiver or amp around. It's not hard to see where that bulk comes from, the PA1530R easily delivers a mighty 170 watts into eight ohms and contains 80,000µ F of reservoir capacitance and a 650VA transformer.

One of T+A's more recent clevernesses is its development of a special copper/silver mix in its circuit board manufacturing process. This is claimed to improve the reliability and high frequency performance of the PA1530R, which is measured by T+A to be linear up to around 400kHz – fruit bats take note, this is the amp for you!

The components fitted to this circuit board are of the highest quality. Op amps from Burr-Brown and Analog Devices, resistors from Vishay, capacitors from WIMA, BMC and ELNA and a potentiometer from ALPS; this is Bond Street shopping for hi-fi designers. But it's not some basic amplifier design 'tickled up' with smart parts – the circuit itself is sophisticated and refined. Two of the inputs are buffered to get the best from less than perfect sources with low impedance output stages. The power amp stage features T+A's unique Isolated Current Amplifier module and the output

#### ALSO CONSIDER

ADVANTAGE S-100 £2,250 Beautifully built and uncoloured Scandinavian 100-watt integrated amplifier with a distinctly smooth Class A sound.

CHORD CPM 3300 £3,500 Essentially two Chord products in one, this line-only 200-watt powerhouse is the high

tech choice.

KRELL KAV-300IL £3,700 Well made, upbeat and decently balanced 200-watt integrated from arguably the best known high-end brand in the world.

#### VERDICT T+A PA1530R stereo amplifier £2,300

Exactingly detailed, flexible and powerfully honest sounding amplifier that is built to last for millennia. Readily upgradeable as well.

 The intensely controlled, measured sound may not go well with those who want the free dynamics of a triode amplifier.
 CONCLUSION

#### German high-end at its best. Built to last, powerful and natural

sounding, plus it's easy to upgrade. A true star. KEY FEATURES

#### One box stereo

integrated amplifier Optional MM/MC phono stage Optional

headphone socket
 170 watts

per channel Five line sources

Two tape monitors

Headphone socket
Bass/treble controls

• TASI input for home cinema add-on

stage features custom-made IGBTs (isolated gate bipolar transistors) that use MOSFET and bipolar transistors in combination for the best of both worlds (MOSFETs are better sounding, bipolars deliver high power). All of which spells a product that is designed from the ground up to sound good, and has all the right components in all the right places to get the best out of the underlying design.

As it stands, the PA1530R is a lineonly, remote-free design, but both a remote handset and either an MM or MC phono stage are available as optional

#### SHOW US YOUR TASI

At the rear of the amplifier is a small mini-DIN connector marked TASI. This T+A serial interface is one of the smartest aspects of the whole T+A ethos. This is a link between hi-fi and home cinema systems, according to T+A. You connect hi-fi sources to the hi-fi system, all the home cinema sources to the home cinema system; the two are only connected by this TASI link. When so wired, the AV system powers down when a CD is played and when a DVD is being used, the volume and source selection of the hi-fi amplifier are all overridden.

## *"All of this on-paper spec and practical design is pointless if the sound sucks. Fortunately, the T+A is a suck-free zone."*

extras. The phono stage takes up one of the five line inputs (there are two tape circuits too). And then there's an extra front AV input hidden behind the front flap, that uses two full-sized gold-plated phono terminals. Next to these are – gulp! – tone controls. Before audiophile readers reach for burning crosses and the like, these mild bass and treble boosts and lifts are designed to address individual channels and are implied 'fix and forget' tone shapers.

All of this on-paper specification and practical design is pointless if the sound sucks. Fortunately, the T+A is a suck-free zone. In fact, it's one of those rare amps that are almost impossible to determine what sound they make at all. It's closest to the old Quad maxim that any good amplifier should be simply a 'straight wire with gain'.

Well, almost. This amplifier has a slight tendency to bring out the mids and highs of a recording, as if focusing on the hi-hat and stickwork of a drummer in any recording. This does little more than add a touch of excitement, but otherwise the entire performance is portrayed with absolute fidelity and plenty of detail. This combination of treble focus and good balance makes any recording insightful and musical. It is especially clear and articulate in vocals – it digs out every last syllable of Eminem's psychotherapycum-rap in *Cleanin' Out My Closet*, yet manages to stick to a beat throughout.

'Absolute control' keeps springing to mind with the PA1530R. In a positive way - speakers are gripped by the short crossover cables and are never allowed to get out of line. This means that even middle range bookshelf speakers can cope with huge scale classical recordings without panicking and the acoustic of a recording is portrayed with roomexpansion abilities. The dynamic range is also well controlled, and perhaps here is the one minor flaw in the sound. Play something with some real dynamics like Rachmaninov's Symphonic Dances and the PA153OR doesn't have quite the same bold swings of energy that a less overtly controlled amp can muster.

This slight dynamic foreshortening is not substantial, and the sheer information retrieval and accuracy more than compensates for any reserved dynamics. On balance, the PA1530R deserves close attention. It's a true highend amplifier system that will last a lifetime and has all the neutrality you need to stay the course. ■ BBG Distribution 020 8863 9117 ⊕ www.bbg.eu.com









## **Aiming high**

**EXCLUSIVE** After several years of focussing on mini systems in the UK, TEAC is gunning for the likes of Krell, Levinson and dCS with some of the most serious CD replay kit ever

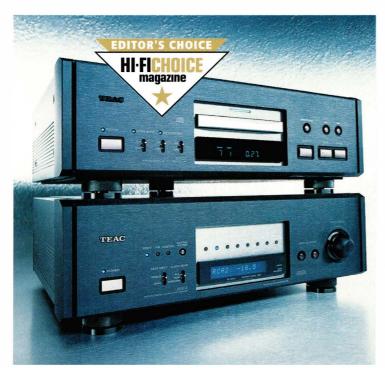
When a very big company decides to do something a bit different it's usually worth a look – some of the best ideas may come from kitchentable designers but the resources of a big, well-equipped research lab should not be underestimated. So it was with some eagerness that we grabbed the opportunity of a UK first on TEAC's range-topping CD kit. At 13 grand total it competes with only a handful of hi-fi models, plus a few pro-oriented solutions.

Actually there's more than a hint of the pro about this pair. True, there are no rackmount ears (and pity the rack that would support the spine-crunching 25kg of each unit<sup>1</sup>), but among the plethora of digital inputs and outputs are word sync and twin XLR connections for 176kHz data transfer... but we're getting ahead.

TEAC's Vibration-free Rigid Discclamping System, VRDS, has been around for a while. It's a very high-grade transport using machined metal parts to clamp the disc firmly and keep it perfectly flat, easing the job of the drive servo and lowering jitter. Normally all the transport does is spin the disc and send digital data, but this one's smarter: it includes an upsampler and an *input*, 'word sync', which allows synchronisation to the DAC, making the DAC the reference for timing and at a stroke removing one of the major sources of jitter in conventional two-box players – clock recovery from the data.

The D-70 DAC matches the P-70 transport for features, accepting data at any sample rate up to 192kHz via seven inputs (XLR, RCA, Toslink), offering a choice of digital (upsampling) filters, outputting word sync, and also giving the benefit of a very well-implemented digital volume control which is completely clickless. It is also possible to select clock recovery modes when a conventional, sync-less, transport is used, with either PLL or a RAM buffer (as seen also in the Chord DAC64, see HFC 237) At this price, you'll rightly expect multiple independent power supplies, high quality op-amps in the signal path, HDCD compatibility, quality socketry...

You may be wondering how data gets around at such high sampling rates. In professional circles, a standard has evolved which uses two XLR connections to transfer at 176 or 192kHz rates. The P-70 and D-70 use this, making them compatible with kit from, for example, dCS. The D-70 also has a slot for an IEEE1394 ('FireWire') input for DVD-A



#### VERDICT TEAC P-70 CD transport £7,000 D-70 DAC £6,000

• Great ease and command across the frequency range, with terrific insight into 'difficult' recordings. Loads of features including excellent digital volume control.

RDDT seems a red herring, corrupting sound unnecessarily. D-70 actually works very well with much cheaper transports!

#### CONCLUSION

One of the leaders in digital replay, with D-70's connectivity making it a natural for an ever-expanding range of sources.

#### KEY FEATURES

 P-70 CD TRANSPORT
 Upsampling (using RDOT) to 88.2 or 176.4kHz

C Digital output on S/PDIF, Toslink and single/twin XLR

O Word sync input

#### D-70 DAC

• 7 digital inputs (S/PDIF, Toslink, single/twin XLR) plus FireWire upgradeability

• Accepts sampling rates from 32kHz to 192kHz

Digital volume control

User selectable digital filter options

Word Sync output

#### Very heavy,

mechanically stable construction throughout

Three feet with internal captive spike support and SACD applications, though this will have to be retro-fitted as an upgrade.

Makes it all nicely future-proof, though. The filters offered by the D-70 include FIR (a conventional sharp cut-off filter), RDOT and 'custom' which combines a bit of both. Refined Digital Output Technology is a TEAC original, using a type of mathematical function called a 'fluency function' to join the dots between samples, rather than the usual 'sinc function'. The Fluency function is specifically intended to provide nicelooking curves between points - it's used for example in image-compression systems. Because the P-70 also uses RDOT to achieve its upsampling, there's little or no mathematical difference between an upsampling P-70 with D-70 and a non-upsampling P-70 (or other transport) and D-70 set to RDOT. Performance of the D-70 with any of the available 'custom' filter options is most strongly influenced by the FIR factor.

#### PERFORMANCE

With so many variables it's hard to know where to start: P-70 used 'straight' or upsampling (by two or four), various filter options on the D-70 in each case, with or without word sync... However, one

#### WORD SYNC

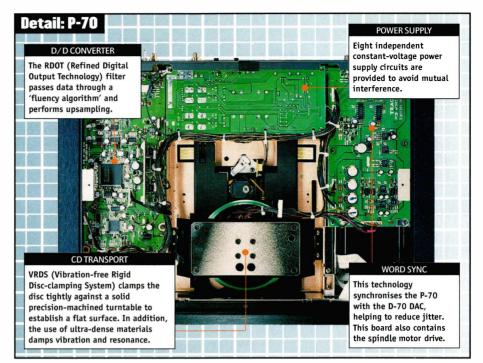
Jitter is one of the evils of digital replay. Because of the way normal digital connections between transport and DAC work, with a 'clock' signal being extracted from the incoming data, there is scope for jitter to increase above levels quite easily achieved in cheap one-box players. TEAC has implemented two high-strength measures against it. One is in the RAM buffer which provides a high immunity to incoming jitter at the expense of a small (1sec) time lag between operating controls on the P-70 and hearing the result. The other is the provision of Word Sync, which ensures that the P-70, or other compatible source, runs in step with the D-70's internal clock. This, along with a small RAM buffer, gives the best of all worlds - low jitter, very short delay in accepting commands and guaranteed hiccup-free operation.



#### TEAC P-70 CD transport and D-70 DAC Statements

early test finding proved illuminating. Fluency functions may be great for reconstructing images, but they're very far from ideal for audio. TEAC clearly implies that audio above 20kHz. unavoidably lost on recording a CD, is somehow recreated by RDOT. In a very limited sense that is possible, but it's not what actually happens here. RDOT outputs signals above 20kHz all right, but it's all distortion, good old-fashioned 'aliasing' which may not be directly audible but can easily be heard down the line due to intermodulation and is at best unhelpful. This proved true with both test signals and real music. It also causes the treble to droop noticeably.

In the circumstances then, most of the listening was carried out with the P-70 not upsampling and the D-70 set to 'FIR', and the results are interesting. It's clear from the start that the D-70 is a particularly capable DAC. It shows effortless command of the whole frequency span, with exemplary control of the bass particularly but also a sweet and pristine treble, and achieves plenty of detail without hardness or unflattering dissection of the music. In a recording I made quite recently of voice and piano it was easy to relive the experience of standing in front of the performers evaluating possible microphone positions: the timbre of the voice was near immaculate and all the spatial cues were just as I remember them visually. Similarly, familiar rock and orchestral recordings produced as much detail as we've ever heard, with no trace of



artificial hardness or aggression. In any material, there's that distinctive high-end ease that makes both casual and intensive listening quite entrancing. Switching between the various input modes on the D-70 showed little difference between RAM buffer and word sync, though these modes did have an edge in tonal purity over the PLL input. Not surprisingly, this difference was more noticeable using a budget CD player as a transport, but – and TEAC may grind its corporate teeth at this irony – the RAM buffer is sufficiently successful in reducing dependence on the transport's quality that the budget CD player was barely distinguishable from the P-70. Not that it even remotely matches the pride of ownership...

It's hard to compare absolute performance at this kind of level and questions of taste are bound to arise. Saying that this is 'the best' CD player available would be frankly silly, but it is clearly among the finest and offers features above and beyond most of its competitors. The D-70 is perfectly equipped to form the heart of a multisource digital system, making the most of any digital format, while the P-70 is like a Swiss watch - it may not do its job, narrowly defined, much better than a cheap Casio but my goodness it's a pleasure to behold doing it. If you are seriously in the market for very high-end digital, you owe it to yourself to audition these little beasties. 2 TEAC 01923 819630 www.teac.co.uk

#### ALSO CONSIDER

#### CHORD DAC64 £1,900

Although considerably cheaper (if not actually cheap!) this unit made a very strong impression in our recent DAC round-up.

#### MARK LEVINSON NO.37 TRANSPORT £4,495 NO.360S DAC £7,495 Not even the top of the Levinson range, but

well equipped and offering analytical yet musical sounds.

world with more features than the TEAC pair,

DCS VERDI TRANSPORT £7,999 ELGAR DAC £9,499 Possibly the only CD transport/DAC in the

and similarly strong on sound.



march 2003 www.hifichoice.co.uk HI-FI CHOICE 61

## Living doll

**EXCLUSIVE** A revamped model from a small British marque takes on the world – and conquers our ears with its natural, effortless sound

ue to the success of the small Living Voice range of speakers over the years, as its trophy cabinet will doubtless testify, we will slowly begin to see the introduction of revised and reworked versions of its current range this year. The first model out of the factory is the Auditorium, a fine looking two-way floorstander visually identical to its bigger brothers the Avatar and Avatar OBX-R, both awarded Editor's Choice status in past issues of *HFC*.

#### INSIDER'S VIEW

Living Voice founder Kevin Scott knew exactly what he wanted when he designed the Auditorium - real live sound in a real world package.

"The Auditorium is a performanceorientated product with an objective to try and successfully capture some of the excitement, scale and impact of a good live performance. We've tried to combine accurate tonal colour and scale with a strong dynamic delivery to give that subjective sense of power, in a seamlessly coherent package that achieves all performance parameters.

"Auditorium is an elegant design solution to uncomplicated output amplifiers – our designers show strong consideration for real world amp and valve users. Above all the speaker is designed to perform well in all areas rather than excelling in a narrow performance area."

#### VERDICT Living Voice Auditorium loudspeaker £1,700 (per pair)

• Effortlessly natural and dynamic music making.

• There are few bells and whistles for your £1,700, and relatively low 100-watt max power handling rules out very powerful amplifiers.

#### CONCLUSION The new, improved Auditorium is a classleading speaker made for music-lovers. Expect many good

#### musical years. KEY FEATURES

Twin 162.5mm
 paper -coned mid/bass
 drivers in d'Appolito
 configuration
 25mm soft dome
 tweeter

 94dB sensitivity
 6 ohms impedance
 100 watts/channel power handling
 Size (WxHxD): 22x100x28cm The brand originally stemmed from Definitive Audio, a small Nottinghambased dealership established in the mid-1980s that went on to develop a range of high performance, lounge friendly loudspeakers to address the needs of real world consumers with real world amplifiers. Indeed, it was founder Kevin Scott's disappointing appraisal of contemporary speakers on the market that encouraged him to make his own, and music lovers should be thankful for his critical market assessment. Fortunately for any readers new to the

brand, or those in the know looking for a new speaker, the reworkings, largely to the crossovers and cabinet, have allowed for a variety of sonic improvements.

The first model to be re-developed is the financial baby of the bunch, the

Auditorium. This highly efficient 94dB floorstander allows partnering with a huge variety of amplifiers, including highly linear valve designs with limited power – a favourite choice of its designers. Visually identical to its better endowed and therefore pricier brothers, it features a d'Appolito driver configuration – a tweeter flanked by two drivers carrying identical signals. This arrangement allows for a highly efficient loudspeaker capable of high SPLs (sound pressure levels) with low effort.

Improvements for this new Auditorium include a stiffer hardwood particleboard cabinet that has upped the resonant frequency, requiring crossover alteration and giving different port tuning, all claimed to give a cleaner, more natural sound. The crossover in fact is key in the design of the Auditorium. Manufacturing control has increased with the new model meaning integral crossover circuit components are now designed and manufactured to the brand's own spec. An affinity for doped paper cones has left the drivers unchanged - twin 162.5mm (6.5-inch) units that Living Voice claims sound more natural than those employing more fashionable, marketing-friendly materials. The tweeter is a fabric dome - it seems the metal tweeters available simply don't do it for Kevin and his team.

"The Auditorium reproduces the most effortless and natural sounding music you can imagine this side of £2,000."







A fine naked veneer is afforded to the cabinet, which is book matched for consistency and expected to mature like a fine Châteu Neuf du Pape. At the foot of the cabinet a separate spiked box plinth can be attached which serves a dual purpose. Firstly, it offers optimum driver height for a cabinet which has been built to the ideal acoustic size for the drivers used. Secondly, it can be easily replaced if damaged by the cat/boot/Hoover.

At 17kg the box is unconventionally light. There's provision at the rear for bi-wiring, but advocates of single cable runs will have to make their own links, as they're not provided. The rear-firing reflex port lies not too far from the speaker binding posts, requiring a good half a metre of space behind it for best results. Kevin Scott's own choice of cable proved interesting – while we had very good results with Chord Company Odyssey, his recommendation of the more expensive Electrofluidics Monolith 20/20 yielded significant improvements.

#### PERFORMANCE

From Mahler to Motörhead, the most obvious and inspiring thing that this box does, is to reproduce the most effortless and natural sounding music you can imagine this side of £2,000. Play a busy track, full of layered instrumentation, and the Auditorium presents a deep, wide and coherent soundstage that refuses to get flustered. Crank the volume and it stays composed, use a powerful transistor amplifier and its dynamism is superb, yet the sound is never forceful or fatiguing, even in brighter environments. The generous toe-in recommended by Living Voice is a little extreme for our tastes, and fine imaging was achieved with drivers pointing forward - in the test room this gave a wider soundstage while retaining a solid stereo image.

The Auditorium's vocal finesse is hugely impressive – Thom Yorke's voice on Radiohead's *Paranoid Android* has a haunting presence that pierces the soul in record time. Indeed, this box presents voices with more depth and detail than virtually anything we've heard for the money. Bass is also solid and well defined, and resolution of low-level detail is little short of breathtaking.

EDITOR'S CHOIC

magazine

HI-FICHOI

Ultimately, this is a dynamic-sounding speaker that succeeds in communicating the essence of music like few other pricecomparable designs. Some eyes may crave a fancier box, some ears more clinical precision, but the way it conveys musical energy, presence and detail is astonishing. Audition a pair today! 2 0115 973 3222

www.livingvoice.co.uk

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## **Hot leads**

**EXCLUSIVE** Nordost has always taken connections very, very seriously, and here's why

www.ith Nordost now firmly ensconced at the pinnacle of the high-end cable market, the time has come to run the rule over some of their best products, namely the Valhalla speaker cables, interconnects, digilink, and the El Dorado mains cable.

Valhalla is the centrepiece here. The speaker cable is a flat type that can be run along walls or under carpets, with corners negotiated by folding the cable over. It is normally supplied with bi-wire or bi-amp connections, and is available with lightweight 4mm hollow connectors or spades. The interconnect is screened and coaxial but is otherwise comparably designed, and is fitted with phonos or XLRs for balanced operation.

The speaker cable consists of four groups of ten high-purity copper strands with a silver top layer which is polished, and then wrapped with a helical monofilament before a Teflon layer is extruded over the top. Nordost is the only manufacturer to be able to extrude Teflon directly this way, and the helical monofilament means that conductor is substantially air-suspended. The interconnects are screened, but follow a similar pattern while the digilink and mains cables are made in a similar way.

The analogue cables are said to offer unusual mechanical stability, extreme geometric accuracy (three microns in any plane), a dielectric constant little worse than a vacuum, plus low capacitance, resistance and inductance. One key claim is that the cables transmit signals at a much higher percentage of the speed of light in a vacuum than any other (96 per cent for the speaker cable), though the sonic implications of this are not clear.

#### PERFORMANCE

There is real consistency here. A system completely wired with Valhalla sounds like one that uses only the Valhalla speaker cables, say, only more so. Consistently however Valhalla adds an impression of speed, transparency (read: detail) and neutrality (read: lack of obvious colour attributable to the cable)

The sense of speed is powerful, though reliant on the rest of the system. Transients snap and sparkle, to the extent that the cable has acquired a reputation VERDICT Valhalla speaker cable £4,400 per 2m pair (+£650 per extra 0.5 metre)

Valhalla interconnect £2,195

per 1m pair (+£329 per extra 0.5 metre) Valhalla digital

interconnect £1,450 per metre (+£199

El Dorado power cable

E420 per 2m terminated (+£160 per extra metre)

• Without a doubt, the best cable system there is in almost any system you can name.

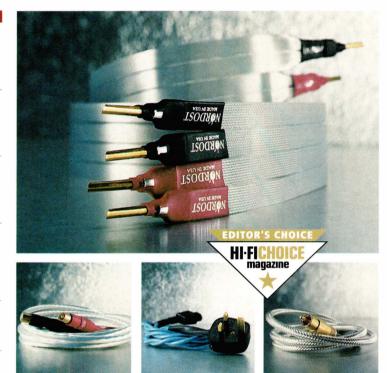
• Mainly cost. Digilink less essential than others in some combinations.

#### CONCLUSION

Absolutely classleading resolution and transparency. Valhalla even suits some highly reactive problem speakers like the B&W N800. But the speaker cable may be inappropriate for speakers which use MIT or Transparent in-lead transformers to complete their crossover networks.

 KEY FEATURES
 Monofilament helical spacer

- means much of cable is air-suspended
- Unique direct Teflon extruded outer
- Very high geometric accuracy and physical stability
- Unusually high transmission speeds
- Silver-plated 9N copper conductors
- copper conductors



Top: Valhalla speaker cable Bottom (l-r): Valhalla interconnect, El Dorado power cable, Valhalla digital interconnect

## *"Transients snap and sparkle, to the extent that the cable has acquired a reputation for being bright. It isn't."*

in some quarters for being bright. It isn't. The bass can sound a little dry and lean in some combinations, but this is due to a lack of waffle and colour – extension and power are beyond reproach.

But it's the clarity of the Valhalla range that impresses. No other cable in our experience, even solid core designs, have the resolution of Valhalla, or their ability to paint in subtle ambient landscapes.

The digital cable is crystal clear, but less distinguished than the analogue cables, perhaps because it was used primarily with equipment which reclocks data internally on receipt. The benefits are there, but they're system-dependent. Our early test sample suffered a connector fit problem which has now been resolved, and this may have influenced quality.

The mains cable however appears to be a safe (if costly) bet which improves everything it touches, typically adding weight, solid outgoing imagery and, once again, transparency. Nordost 01352 730251 www.nordost.com

#### ALSO CONSIDER

TRANSPARENT OPUS SPEAKER CABLE £15,900 PER 8FT PAIR TERMINATED Monowire cable, custom spades or 4mm plugs, heavily gold plated with in-lead R/C network. Offers legendary transparency and detail.

#### TRUE COLOUR INDUSTRIES KING COBRA E380 TERMINATED METRE (+£50/METRE) Bi-wire speaker cable, WBT spades or 4mm plugs. Twisted pair construction and floating screen to minimise RFI, resistance and noise.









## **Buena Vista**

*Musical Fidelity's limited edition flagship integrated amplifier comes with one of the rarest valves around. But is the sound just as rare?* 

Since the classic A1000, Musical Fidelity has been one of the leading lights in top-notch integrated amplifiers. But the £3,999 Tri-Vista 300 integrated amp raises the bar.

This two-box integrated amp has no headphone socket, no provision for tone control and only a remote control for domestic bliss. It is huge and one of the heaviest amps around – if it were any heavier, light itself could not escape from it, or at the very least, it would have a number of smaller amps permanently in orbit around it.

It has huge reserves of power on tap, fed from a separate choke-regulated power supply, itself the weight of most top integrated amplifiers, in an entirely dual mono layout. This means there are two thick braided power hoses between the amp and its power supply – one for each channel. Separating the power supply from the amp itself made a big difference in the A1000 and further separating the channel power delivery should only improve matters further.

Two issues ago, we tested the matching SACD player in the Tri-Vista range. Like that machine, the amplifier features miniature 5703 triode valves, in this case in the preamp stage. This military-spec tube dates back to the 1950s and is extremely robust – it's said to last a good 100,000 hours before eventually giving up the ghost. And Musical Fidelity has reportedly bought up the entire remaining stock.

#### 20 YEARS OF MUSICAL FIDELITY

The Tri-Vista SACD and integrated amp (plus other Tri-Vista products to follow) are all a part of Musical Fidelity's 20th anniversary celebrations. The first MF product was introduced in 1982, a preamplifier called, erm, The Preamp. This was followed by a matching power amp, called Dr Thomas, and then – in 1985 – arguably Musical Fidelity's best known item, the small, hot-running A1 integrated amp. Other highlights of its prolific output of the last 20 years include the A1000 high-end integrated design, the huge SA470 power amplifiers and the distinctive X-Series beer-can-shaped components.

#### VERDICT Musical Fidelity Tri-Vista 300 stereo amplifier

£3,999 The gorgeous combination of huge power reserves and delicate musical grace make this one of the

best integrateds ever. There's only a limited number of these amplifiers to be sold in the UK, and only the well-heeled

One of the very best integrated amplifiers made in the UK, and probably the heaviest. Shame it's only for the select few.

need apply

#### KEY FEATURES

Two box integrated amplifier

Separate choke regulated, dual

- mono power supply 350 watts
- per channel

   Tri-Vista tube driver

stage Five line sources

MM/MC phono stage

Tape monitor

Remote control

'Moonstone' finish
 Illuminated feet

300 rests upon four feet that show the amp's warm-up status. When first powered up, it sports red feet, then amber and finally – after 35minutes or so – blue. Fortunately, this looks much better than it reads and combined with the lovely silver metallic 'moonstone' finish it makes an amplifier that appears every inch the reflection of elegant power. Even the vast dual knobs on the front panel look perfectly judged, whereas on virtually any other product made, this would look garish. The

Also like the SACD player, the Tri-Vista

### *"If it were any heavier, it would have a number of smaller amps permanently in orbit around it."*

servo-controlled knobs add a neat and purposeful touch – the source selector clicks through its settings on power-up, showing off the relay control.

#### PERFORMANCE

This amp represents the oft-used hi-fi expression of 'mailed fist behind velvet glove'. It has the grace and sonic beauty of a small amp with the sort of power you could use to jump-start a battleship.

The Tri-Vista 300 mixes the scale and sweet tonality of high-end US designs with the pace of big British iron. This means pretty hi-fi recordings with huge soundstages are sweetly defined and resolved with imagery so solid you could trip over the microphone cables, yet something more lo-fi and grungy like The Datsuns has all the pace and impact required from nu metal heaviosity.

It has seemingly endless reserves on tap. Play the biggest scale recording you can find – whether that's a wall of Metallica noise or the sonic onslaught of *Mahler's Eighth* at full tilt – and the speakers will panic long before the Tri-Vista does. And, even at high volumes with lots of dynamic events happening, the amplifier never sounds anything other than sweet and accurate.

One of the strangest things about the

Tri-Vista 300 is that it has no real character of its own, yet it places a distinctive stamp on any speaker linked to it. It's as if the tweeter is extended, sweetened and improved, the midrange is opened up and the bass is deepened and enhanced in smaller designs and untouched in full-range systems. In the process, the speaker size is enlarged.

Yet, for all this, the amplifier is not colouring the sound, nor does it change the size and proportion of the image off the CD. Few other integrated designs manage to subjectively 'improve'

speakers to this degree without adding extraneous character, and that combined with unburstable power reserves sums up the Tri-Vista 300's appeal.

Often forgotten, the MM/MC phono stage is a real star too. It is practically noiseless, always musical and capable of coping with even the most powerful orchestral swings of *Rachmaninov's Symphonic Dances*. In short, it is just as good as the line stages.

Of course, no amp delivers perfection. The Tri-Vista 300 may not have the total neutrality of a big Chord or the absolute bass control of a Krell, but it's the delightful balance of sonic attributes that makes this amplifier so attractive. There will be less than 150 of these amplifiers sold in the UK. Place your order now! Musical Fidelity 020 8900 2866 www.musicalfidelity.com

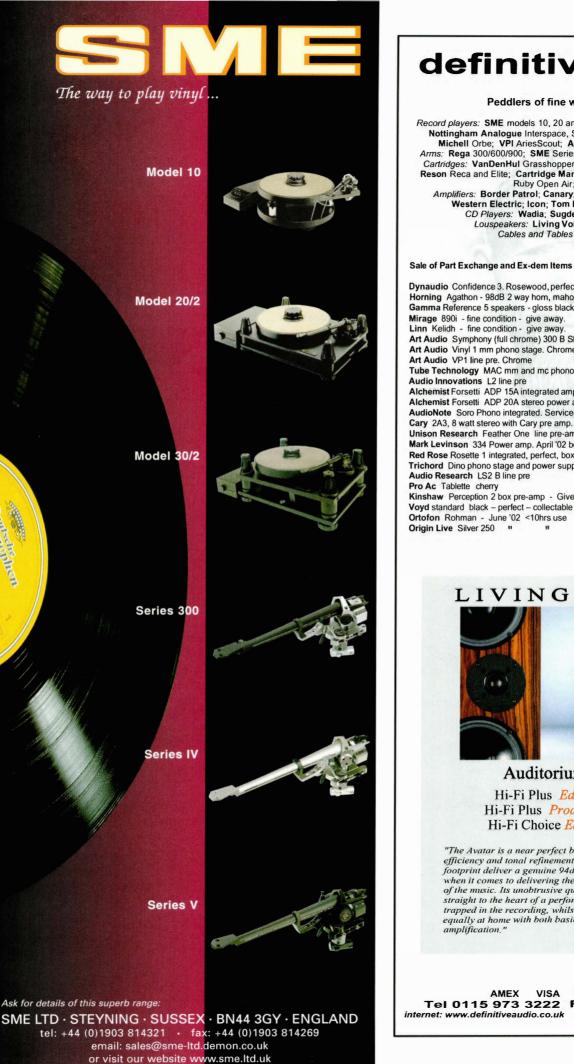
#### ALSO CONSIDER

ADVANTAGE S-100 £2,250 Beautifully built and uncoloured Scandinavian 100 watt integrated amplifier with a distinctly smooth Class A sound.

CHORD CPM 3300 £3,500 Essentially two Chord products in one, it's a

high-tech, line-only 200 watt powerhouse. KRELL KAV-300IL £3,700

Well made, up-beat and decently balanced 200-watt integrated from the legendary high-end US brand.



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Sale

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HI-FI REVISITED





Unusually for a product featured in *Retro*, the Xerxes is still alive and well, albeit in modified form as the Xerxes 10 (pictured), and though its place at the helm of Roksan's turntable range has been usurped

by the TMS (Touraj Moghaddam Signature). The current Xerxes has developed to the point where it is barely recognisable under the skin, and is based in part on the design of the TMS. But for a brief moment in history, the Xerxes defined the state of the art.

The Xerxes will go down as the turntable that broke the hegemony of the Linn Sondek LP12, which for many years had been the standard bearer at the high end. Let's qualify this straight away. There were turntables that others preferred to the Linn, such as Canada's Oracle or the little known but very talented Townshend Rock. The Pink Triangle was also a serious contender for a while but when the Xerxes was released in 1985 by a fledgling two-man company in an engineering workshop on London's Clerkenwell Road, it gave the establishment a kick in the backside from which it never completely recovered.

The Xerxes was an elegant and subtle design, a true engineer's conception of what a turntable should be. At its core was a two-part platter with an outer section which was a virtual interference fit, mounted on a small-diameter, high-precision bearing of sophisticated design. It was full of innovative features, including surprising details that delivered minor but noticeable improvements in sound quality, such as the centre spindle surround which could be removed once the record was placed on the mat, so there was no contact between the latter and the metalwork. The suspension system was based on a cut-through top plate, providing relatively stiff decoupling from the outside world. From the outset, the Xerxes was supplied with a high-performance external power supply.

Because specialised dealer help was needed to set up and maintain performance, set-up issues indirectly helped define the all-important relationship between the manufacturer and the end user. This was especially true of the Linn, but it was scarcely

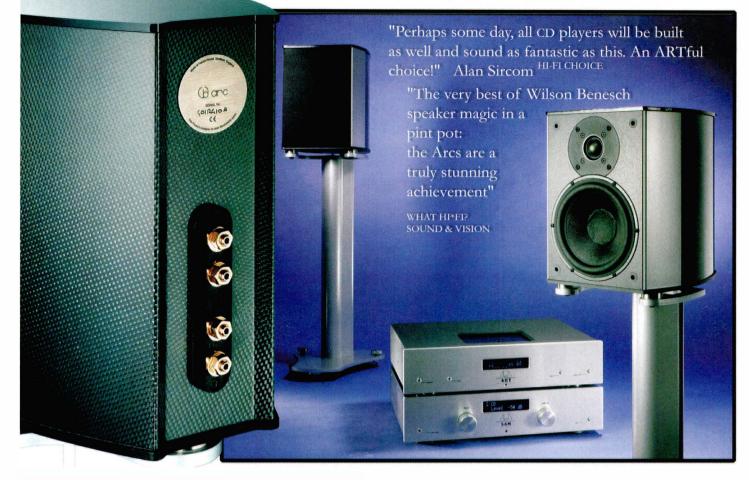
#### *"The Xerxes was the turntable that broke the hegemony of the Linn Sondek LP12, for many years the standard bearer at the high end."*

less so for the Roksan, which had its own coterie of specialist dealerships. Set-up was a little easier than the LP12 on the whole, but not by a large margin. Although the player was less resiliently decoupled from the environment, set-up remained a painstaking procedure, one for which a stethoscope was recommended, though the task eased considerably once the current Xerxes 10 was introduced.

The design was not without problems, and it went through a number of mostly minor updates and enhancements through its near ten-year lifetime, but throughout it provided a clean, stable and pitch-accurate sound, with low surface noise and better pitch stability than most. It was free of the detectable slowing that was noticeable with some turntables when negotiating heavily modulated grooves and was also an excellent platform for a number of high-performance arms and cartridges, not least Roksan's own Artaxerxes arm, which was as innovative and as beautifully engineered as the turntable itself.

Set against this, the rather unprepossessing appearance was hardly a major problem. Although it did put off some potential purchasers, others were probably reassured by the engineeringled approach. In fact the Xerxes offers superior aesthetics, easier set-up and more stable long-term performance than most, but soon the focus was no longer on record replay as the cutting edge of music reproduction. Since the original Xerxes, Roksan has become a much more broadly based producer, focussing mainly on mid-market amplifiers, CD players and the like. But the early turntables, and the Xerxes in particular, will for many always define what made the Roksan brand special. *Alvin Gold* 

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BOB DYLAN THE BOOTLEG SERIES VOL 5: LIVE 1975 THE ROLLING THUNDER REVUE



Along with the colossal effort of mining Bob Dylan's thirty-year treasure trove of unreleased recordings comes the third instalment of *The Bootleg Series. Vols 1-3* was a single boxed set

(1991) and *Vol 4* (1998) was the infamous Manchester Free Trade Hall gig of 1966 where he went electric and was called Judas by outraged folkies. On *Live 1975*, archivist Jeff Rosen has brought 22 much sought after tracks into focus with a remastered release that should have every Dylan fan from here to Alaska salivating with anticipation.

1975 was a very special time for Dylan. He had scored a US/UK number one album slot with the incomparable Blood On The Tracks and had returned to Greenwich Village to reacquaint himself with his old folk-era haunts. In July 1975 he laid down the extraordinary Desire, it's wide cineramic sweep and brilliant instrumentation (including gypsy violinist Scarlet Rivera) ensuring a worldwide No1 on its release in January 1976. Moreover Dylan was politically hot again as he strove for the re-release of boxer Rubin 'Hurricane' Carter and penned an anthem in his honour. In the Village he teamed up with Joan Baez, Roger McGuinn, Mick Ronson, Jack Elliott and violinist Scarlet Rivera and began playing bars. Soon the poet Allen Ginsberg and playwright Sam Shepherd were on board and the idea of The Rolling Thunder Revue took off. Basically an informal travelling circus, Rolling Thunder meandered all over the Atlantic North East from October to December of 1975, starting in Massachusetts and ending at a huge Madison Square garden gig with Muhammad Ali. Along the way Dylan filmed the four-hour opus Renaldo & Clara, which included cameos from Joni Mitchell and his wife Sara. But the most important part of the whole shebang was the performances, some so delicate they made grown men weep, some so potent that many hailed the return of classic Dylan.

But up to now this has not been available! In 1977 the film *Renaldo And Clara* contained a few of these performances but Dylan mysteriously issued a soundtrack in early 1978 made up of hotel jams with himself at the piano. Although bootlegged, it was

#### *"The only reason that Dylan did not wish to revisit the tapes was the serious drubbing given the impenetrable Renaldo And Clara film on its release."*

a Columbia promo-only which was quickly withdrawn. Bootleggers contented themselves with bits of this and dubbing material from the film in theatres or later off VHS or TV. Given the fact that the tour was recorded on a 24-track Sound Truck with Dolby and all the rest of it, the only reason that Dylan did not wish to revisit the tapes was the serious drubbing given the impenetrable *Renaldo And Clara* film on its release.

Thankfully we now have a true picture of what happened on that remarkable Revue where spontaneity and love drove Dylan to deliver some of the greatest performances of his career. Taken from the Worcester, Boston, Cambridge and Montreal shows, *Live 1975* completely re-frames the songs on *Desire*, especially *Isis* which comes complete with Mick Ronson glam guitar licks. On many tracks we can hear the telepathy Dylan developed with bow sorceress Rivera and the tracks with Baez, especially *I Shall Be Released*. After spiralling through nuggets like *Oh Sister, Sara* and the Hebraic cantillation of *One More Cup Of Coffee*, Dylan concludes this magnificent set with a fully rewritten version of *Knocking On Heaven's Door* alongside Roger McGuinn.

Completists among you will note that *Romance In Durango* and another *Isis* from these shows were released as part of the 1985 boxed set *Biograph*. You will also be interested in the limited edition DVD of *Tangled Up In Blue* and *Isis* which accompanies early copies of *Live 1975*. Remastered by Greg Calbi at Sterling Sound in New York this sonically detailed release is a world away, in terms of sound quality and track content, from all the scruffy bootlegs that have been doing the rounds for 27 years. Simply stated, one of the pivotal live albums of the 1970s is finally with us. Mark Prendergast

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Last month we looked at differences between interlaced and progressive (non-interlaced) video, the historical dominance of the former and the superior performance offered by the latter. Plasma

screens and projection systems based on LCD, DLP or DILA panels address each of their display elements (pixels) directly and so are purpose-designed for a progressive video signal, but until these technologies are more widely adopted, the benefits of progressive video will not be appreciated by a wide audience.

However, now that DVD players are being launched with progressive PAL video outputs and both LCD and DLP projection systems are tumbling in price, a fair swathe of AV enthusiasts will start to 'see' the difference. Conventional TV systems are designed to implement the interlaced video signal from broadcast, tape and DVD sources. Here each frame of the image is divided into two interlaced fields, one that traces out the odd-numbered lines and the other that interleaves the evennumbered lines. PAL video has a total of 625 lines per frame at a rate of 25 frames per second (or 50 fields per second), although only 576 lines (288 per field) carry visible information.

Digital projection systems that use miniature DLP or LCD panels do not represent the video signal in discrete lines. Instead, each pixel on the DLP or LCD panel is updated individually and at the same time. Standard video signals have to be de-interlaced so that the 50 fields per second are converted into 50 sequential frames, which are then updated every second on the DLP or LCD panel. As a result, every display system of this type must include a built-in progressive-scan converter, or de-interlacer. However, depending on the available video DSP (Digital Signal Processing), not all these de-interlacers will deliver the same clarity of image.

Do not imagine that just because a projector claims some fancy de-interlacer/line-doubler technology that this is necessarily going to deliver the goods. It's certainly worth driving the projector with the *progressive* video output of a currentgeneration DVD player, including Arcam's DV88 Plus, and bypassing the projector's internal de-interlacer. Even some of the costliest DLP projectors still achieve a better picture quality when used with a progressive-capable DVD player in this way.

It really depends on just how the de-interlacing is achieved. There are two 'cheap and dirty' methods. The first creates individual frames by interpolating between fields, which is pretty successful for images moving across the screen but less so for maintaining the sharpness of vertical detail. Better vertical resolution is achieved by weaving or merging two fields together, although a smearing or ghosting effect is produced with moving images. Sophisticated merging routines will adapt the current field with either the preceding or subsequent field or, indeed, an average of the two depending on the nature of the image.

It's only by adaptively interpolating *and* merging fields, according to the nature of the image, that the real benefits of progressive video begin to be realised, particularly in the resolution of edge detail that cuts diagonally across the screen. Typically, the de-interlacer will detect motion by comparing changes in luminance of individual or blocks of pixels over two, three or four fields. Where motion is discovered, the respective fields are interpolated while, when there's little or no motion, the fields are merged to improve vertical detailing. Adaptive interpolation is analogous to the more advanced digital filter algorithms used in Pioneer and Sony CD players, for example. With video, rather than audio data, the interpolator makes a 'best guess' at individual pixels missing in areas of a frame where there's rapidly-changing detail.

Where there's DSP and onboard memory in abundance, an estimation of the motion of individual objects is calculated between fields. The rate and direction of movement of each object is projected on a dynamic basis, with each subtle shift being weaved, or merged, from one field to the next. This only happens on top-flight de-interlacers but, as with all things digital, it's the sort of video-enhancing technology that's bound to filter down to more cost-effective DVD players in the future. Paul Miller

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Do some research on which brands have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy.

Usually, speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble - have a proper dem, and judge the seller as well as the goods!

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## INTRO BUYER'S BIBLE

## HI-FICIOLGE BALANCE BUYER'S BIBLE

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### SOURCE COMPONENTS

- 78 CD PLAYERS
- 80 **DVD PLAYERS**
- 84 VINYL
- 89 RADIO TUNERS
- 90 DIGITAL RECORDERS

### AMPLIFIERS

- 98 STEREO AMPS
- 100 **AV AMPS**

### LOUDSPEAKERS

- 104 STEREO SPEAKERS
- 108 AV SPEAKER PACKAGES

### ANCILLARIES

- 111 HEADPHONES
- 112 CABLES
- 115 STANDS AND SUPPORTS
- 117 GLOSSARY

### DEALER CLASSIFIED

- 118 DEALER GUIDE
- 126 DEALER DIRECTORY

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CD players work by reading a stream of 1s and 0s off a disc that spins at a constantly changing speed (to counteract the increasing length of 'groove'). This bitstream is then digitally filtered before undergoing digital-to-analogue conversion in the DAC (D-to-A convertor). Thereafter, the signal is filtered



again before being amplified and sent to the output sockets.

The processes of reading the disc and converting the data are sometimes split between a CD transport and separate DAC in so-called two-box players. A popular approach with very high-end kit, this separates the electronically noisy elements from the sensitive analogue stages, but can introduce timing errors known as jitter, therefore one-box players usually offer best results where budget is a consideration.

### **SUPER AUDIO CD**

SACD or Super Audio CD is a relatively new audio-only format introduced by Sony and Philips. It offers higher resolution than CD in the form of considerably greater bandwidth and improved dynamic range. It also has the potential for uncompressed six-channel surround, and most new discs take advantage of this. SACD discs are usually hybrids and will play on normal CD players, but you won't be able to appreciate their highest quality or their multichannel capability without an SACD-compatible player. Some SACD players also play DVD and even DVD-Audio – these are listed in our DVD section.

### 0&A

#### WHAT'S A DAC?

A DAC or digital-to-analogue convertor is a fundamental part of any CD player and converts the digits read from the disc into an analogue music waveform which is amplified to line level.

#### WHY HAVE SEPARATE TRANSPORTS & DACS?

Discs are read by a transport or disc drive, which creates radio frequency 'noise'. Separating the DAC means the conversion can be done with less interference.

#### CAN I USE AN OUTBOARD DAC WITH MY INTEGRATED CD PLAYER?

Yes, if it has a digital output - and most do.

#### **DO I NEED DIGITAL CABLES FOR A CD PLAYER?**

No. All analogue cables are suitable for connecting a CD player to an amp. Digital specific cables with 75ohms impedance are useful when connecting the player to a digital recorder or DAC.

### WHAT IS OVERSAMPLING/UPSAMPLING?

Oversampling involves multiplying the sampling frequency by a whole number, usually between four and 32, but sometimes higher, and is designed let the DAC to work in a more linear fashion. Upsampling is where the data stream is stretched out by interpolation and is typically used to refer to large changes in sampling rate such as from 44.1kHz to 192kHz.

#### **CAN I PLAY SACDS ON A NORMAL CD PLAYER?**

Yes. The vast majority of SACD discs are hybrids, with a CD layer that all CD players can read.

#### **CAN I PLAY DVDS ON A CD PLAYER?**

No, the same applies to DVD-As. But you can play CDs and DVD-As on normal DVD players.

### **TOP BUYS**



### **NAD** C451i £330 Dynamic, tonally varied and confident sound combines with class-leading detail resolution. Excellent value and highly entertaining.



**Marantz** CD6000 KI Signature £500 An affordable high-end machine, this very impressive player has it all: brawn, finesse and class. Not to mention the full range of features.

## CD PLAYERS BUYER'S BIBLE

		r d d				SPE	CIFIC	TION	S		
CD PL			SACD COMPATIBLE	ELEC DIG OUTPUT	OPT DIG (	CD-RW COMPATIBLE	0	BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTPUT	ISSUE NUMBER
ATUS PRODUCT		COMMENTS	ATIBL	UTPU	OUTPUT	PATIBL	CD TEXT	UE OU	SOCKE	UTPU	UMBE
IP TO £1,000	L	UCMINIELATS	m	-	-	m	-	-	-	-	B
Arcam CD92	900	High-resolution player needs a touch of spit and polish to be completely convincing					•				212
Cambridge Audio	0500 SE 200	A really lively sounding player with good detail but just a hint of dryness		0	•						21
Cyrus CD7	800	New Cyrus player has strong all-round attributes to match its good looks		•							21
Exposure 2010	600	Undistinguished in the final analysis, but the 2010 nevertheless is a return to form for this famous marque				•	•				23
Linn Genki	995	Explicit, rather bright-sounding player with strong multiroom appeal								۲	21
Marantz CD6000	DSELE 300	Detailed, well rounded, at home in any musical context - a real bargain		•	0		0		•	•	21
Marantz CD6000 H	√ Sig 500	Impressive mid-market player is an unusually accomplished all-rounder, and is also well built		•	•	•	•		•	0	23
Marantz CD-17 M	<li>800</li>	Sophisticated player with a short but attractive feature set, and a new-found bounce in its step		۲	•		۰	۲			20
NAD C 541i	330	High-octane player has the occasional rough edge, but is remarkable value for money		۲	0	۲					23
Rotel RCD-02	375	Against some strong competition in the same price area, the new Rotel generally holds up well		0		۲					23
Rotel RCD-1070	495	Technically sound and well equipped, this player lacks a little excitement but shows excellent precision									22
BOVE £1,000											
Arcam FMJ CD23	r 1,200	Refined FMJ series player now boasts CD-RW and CD Text compatibility		•	۰	•	•				22
Audionet ART V2	2,300	Built to last forever, this CD has a dark natural sound with excellent bass and would be cheap at twice the price!		•		۲					23
Classé CDP-10	1,599	Very natural yet capable of revealing the finest of details in a coherent and engaging manner		0		۲		•			23
Creek CD53	1,199	Fine, assured and well-built player - balanced outputs too		•			•				22
Cyrus CD7Q	1,150	This refined and expressive addition to the top of the Cyrus range builds on the qualities of the lesser models		۰							22
Exposure XXII	1,175	Natural sounding player, great with voices and acoustic instruments and makes for engaging listening		۲	۲	۲					23
Krell KPS 25sc	24,998	3 One of the finest CD players available, this is also a state of the art preamplifier with Cast interface technology		•		۲		۲		0	23
Marantz CD17 Mk	II KI Sig 1,200	Fabulously built player adds musical integrity to an already impressive basic model (the CD17 Mk II)		۰	۰						22
Mark Levinson No	390S 6,495	Superbly built and comprehensively equipped with genuinely high-resolution sound		۲	۲	۲		۰		۰	23
Meridian 507	1,195	Unusually precise and considered performer that sounds as different as the discs you stick in the drawer		•	•	•					23
Musical Fidelity CE	)-PRE <sup>24</sup> 2,000	Substantial player incorporates upsampling and extensive analogue and digital preamplification facilities		۲	۲					0	22
Musical Fidelity Tri	-Vista 4,000	Limited edition stereo-only SACD/CD player that is simply the best player MF has ever made	•	0	0	۲	0				23
NAD S500i	1,200	A beautifully built machine that treads the fine line between precision and musicality with aplomb		•	•	•		•			23
Naim Audio CD5	1,150	Recommended subject to audition - a dynamic machine, yet some physical minuses									21
Naim CDX2	2,650	Fine quality one-box CD player, but its best feature is upgradeability via outboard XPS supply				۲					23
Primare D30.2	1,499	Superb high-resolution player gives a strong taste of musical structure and physicality						۰			22
Sony SCD-XA333E	S 1,200	High-end multichannel SACD player is excellent with CD, impressive in surround		Ф	۰		۲				22
Sony SCD-XA777E	S 2,300	Superb multichannel player that set the benchmark for the format at its launch	٥	۲	۲		•	•			22
Wadia 301	3,650	Insightful player with digital preamp options and good onboard volume control. Try it direct for maximum effect		•	0			•		0	22

SPECSICEY SACD COMPATIBLE Plays high-resolution SACD discs in two and multichannel modes. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a DAC or digital recorder. OPT DIGITAL OUTPUT Optical Toslink output for digital connection to a DAC or digital recorder. CD-RW COMPATIBLE Will play CD-RW (rewritable) discs, most CD players can cope with CD-Rs. CD TEXT Will display album and track titles from inserted disc. BAL ANALOGUE OUT Balanced XLR output connections for similarly equipped amplifiers.

HEAD PHONE SOCKET Quarter inch (6.3mm) headphone jack fitted to the CD player. VARIABLE OUTPUT Player features both fixed level and variable, volume adjustable outputs.



Meridian 507 £1,195

The entry-level player from British digital audio specialist Meridian is an absolute peach – a transparent and detailed sound, and superb build quality to boot.



**Naim** CDX2 £2,650 A superb player that mixes rhythm and timing with precision and poise. Add the £2,300 XPS power supply (pictured) to make one of the best CD players in the world.

## BUYER'S BIBLE DVD PLAYERS

## **DVD PLAYERS** Disc players for audio and video

DVD has proved a phenomenal success in commercial terms and has virtually extinguished the market for budget CD players - you can't really beat a multiformat player when it comes to features. Early DVD players were not particularly good CD spinners because of the enormous amount of RF interference produced by video circuits, but as this problem has been identified manufacturers have begun to tackle it. Nowadays, most DVD players are competent CD players and a few are remarkably good – often as not they are the ones that play DVD-Audio discs as well.

The great advantage of DVD, apart from being the first digital video format for the home, is that it offers discrete multi-channel sound. In the case of plain DVD video discs, this music is encoded in either the Dolby Digital or DTS format, both of which use 'lossy' compression to fit onto the disc alongside the video data. You



can use a DVD player with your stereo system by connecting the stereo outputs, though this won't give the surround benefits that the format specialises in.

### DVD-AUDIÓ

DVD-Audio is a high-resolution format that offers multichannel, stereo and Dolby



Digital tracks on dedicated DVD-A discs. The discs can be played on any DVD player, but the CD-beating high-fidelity sound can only be appreciated with a DVD-A player. While

offering similar benefits to SACD, it has the advantage of on-screen display for

information - lyrics, images and so on. To save you having to decide which format to go for, a few brands are bringing out universal players to cover SACD and DVD-A, and this would seem to be the best route if you want to enjoy high-resolution digital audio. If you're after a high-end model, look for one with a 'high bandwidth' digital audio output as well as 5.1 analogue outputs.

### 0.**&**.A

### WHICH AUDIO OUTPUTS **GIVE THE BEST QUALITY?**

Use the analogue outputs for CD, DVD-A and SACD, and the coaxial digital output for DTS and Dolby Digital movie soundtracks.

### WHICH VIDEO OUTPUTS **GIVE THE BEST QUALITY?**

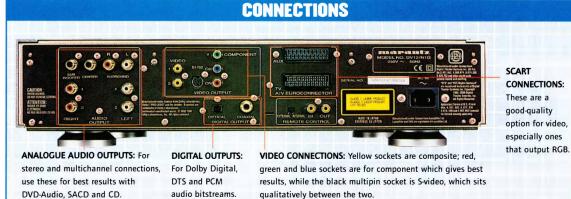
The best connection is component video closely followed by RGB Scart, which is clearly superior to S-video and the basic composite video option.

### **DO I NEED A MULTICHANNEL AMP TO USE A DVD PLAYER?**

Only if you want to hear the benefits of surround sound. DVD players can be used with stereo amps to great effect, but you won't be able to decode the Dolby Digital and DTS soundtracks on movies.

#### **DO I NEED PROGRESSIVE SCAN VIDEO?**

Not unless you have a progressive scan/NTSC compatible monitor or TV - as yet there is no PAL version.



qualitatively between the two.

		_	ROUP TEST BEST BLY 🔄 GROUP TEST RECOMMENDED 📧 EDITOR'S CHOICE 🔁 NEW GEAR REVIEW	SPECIFICATIONS					
	VD PL	A	YERS	DVD-A CC	SACD COMPATIBLE	ELEC DIG OUTPUT	OPT DIG OUTPUT	HEADPHONE SOCKET	ISSUE
Auc	udio/Video disc players		COMPATIBLE	IMPAT	IG OUT	IG OUT	IE SOC	E NUMBER	
STATUS	S PRODUCT	£	COMMENTS	BLE	BLE	PUT	PUT	ŔĒ	BER
UP T	D £1,000			100				3.3	
EC	Arcam DiVA DV88 Plus	1,000	The first DVD player to offer progressive scan with PAL discs. Superb picture quality and great sound			۲	0		238
R	Cyrus DVD 7+	1,000	Typical Cyrus style - open, vivid and bouncy sound, with moderate picture quality to match						237
88	Denon DVD-2800 Mkll	750	Excellent Silicon Graphics processing, a wide range of features and sharp pricing make this a winner			•	۲		237
88	Denon DVD-3800	1,000	High and progressive DVD-Video player with good CD and DVD-Audio capabilities, priced below its station	•		۲	0		234
88	Pioneer DV-656A	400	'Universal' SACD/DVD-Audio/Video player does everything moderately well or better, and is an excellent buy	۲	0	۲	۲	۲	234
EC	Pioneer DV-757Ai	800	Superb second generation 'universal' player equipped with next gen FireWire digital output - cutting edge disc replay	۲	۲	•	۲	0	236
R	Primare V25	1,000	Bold pictures on screen are matched to easy, likeable sound quality and a huge range of outputs	0		۲	0		237
88	Sony DVP-NS905V	400	DVD-Video and SACD is a distinctly superior package, with above average performance	۲		۲		۲	234
ABOV	E £1,000								
≥	Cyrus DVD8	1,200	An impressive step up from the DVD7+, which includes component video outputs			۲	0		238
EC	Denon DVD-A1	2,500	A convincing case for the DVD-A format, battleship construction combined with sonic and visual finesse	۲		0	۲		230
EC	Marantz DV8300	1,400	'Universal' machine with a great sense of timing and comprehensive features	۲	۲	0	۲		233
EC	Marantz DV-12S1	2,500	THX Ultra-progressive DVD-A player is a classy all-rounder, and absolutely top notch in legacy CD mode	۲		۲	0		229
EC	Meridian DVD596	2,485	Very classy player with DVD-A upgrade potential, one of the few that is also a superb CD player			۲			218
EC	Meridian 800	10,805	The ultimate in DVD replay, modular construction, buffered ROM drive, upsampling and high-res digital outputs	•		0		0	230
R	Pioneer DV-939A	1,200	Near state-of-the-art video and attractive, easy-on-the-ear music-making, from CD and DVD-Audio alike			۲	•	۲	213
R	Roksan Caspian DVD	1,195	A good all-rounder – a solid and propulsive sounding DVD player which is also a surprisingly capable picture-making machine			0	۲		237
EC	Townshend DV-747A	2.899	Major upgrade to Pioneer machine turns it into a giant slayer of a disc player, available as an upgrade to existing owners		0	•	0	-	232

SPECSIVEY DVD-A COMPATIBLE Plays high-resolution DVD-A discs in two and multichannel modes. SACO COMPATIBLE Plays high-resolution SACD discs in two and multichannel modes. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a multichannel amplifier or receiver. OPT DIGITAL OUTPUT Optical Toslink output for digital connection to a multichannel amplifier or receiver. HEADPHONE SOCKET Quarter inch (6.3mm) headphone jack fitted to the DVD player.







# Five Stars for Value

Does the best price always mean the best deal? Ask the UK's top twenty specialist hi-fi dealers.

"I thought I had this buying hi-fi business sorted out. I bought all the hi-fi magazines and read them thoroughly, because I reckoned their experts knew exactly what they were talking about - at least a lot more than I did! It was reassuring to see the same product names cropping up regularly and I figured the writers' experience and guidance would steer me straight to the system of my dreams. The trouble is I've ended up more confused than when I started".

ne reviewer said a product I fancied was absolutely brilliant but another said it was nothing special at all. How can that be? Surely one CD player is pretty much the same as another? And how can a loudspeaker that's one magazine's top recommendation not get so much as a mention in any of the others? I don't mind admitting it, I'm completely lost."

#### Plan B - I'm going for a deal

"So, I've decided to adopt plan B. I'm sure there can't be any really dramatic differences between all this gear and it's all bound to work together properly, so I'm going to check the price lists and the adverts and shop around for the best deal. I know getting the right hi-fi is important hey, I'm as mad about music as anyone but if I can get close to the mark and save a few guid, I'm sure I'll end up with a good system and be happy. I know there are specialist shops out there that do demonstrations and reckon they've got all the solutions but, to be honest, I'm a bit scared of going to one. I'd really welcome some advice and guidance but I don't know all the technical jargon and I'd feel daft sitting there trying to 'hear the differences' if I couldn't. Anyway, a friend told me that these shops only sell the really expensive gear and that they're not interested if you don't have loads of money to spend." And so another hi-fi buyer starts his

journey down the road to dissatisfaction, endless upgrades and a permanent overdraft.

There is only one way to buy a hi-fi system that will prove satisfying, reliable and

deliver true value for money, and that's through a specialist hi-fi dealer. Let's face it, you wouldn't think about buying a car if you couldn't take it for a test drive. You wouldn't buy a house solely on the strength of seeing the estate agent's details and a photograph. Even if you're spending far less, say buying a jacket or a pair of shoes, you want to try them on to make sure they fit you.

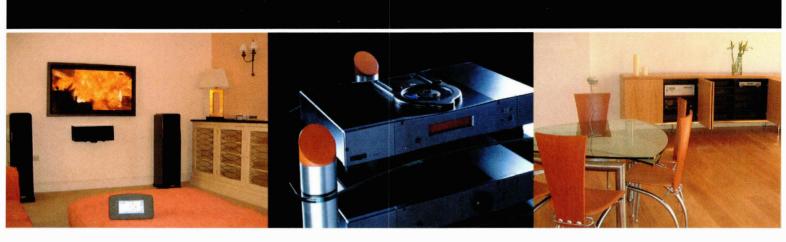
Buying a hi-fi system is no different. It doesn't matter what the specifications say or what the 'experts' think: if it doesn't measure up to what you want from a system, then it's not the right choice. Knowing that you've bought a room full of five-star favourites or best-buys is no consolation when you can't bear to listen to them for more than five minutes. Even that ten per cent discount on the price won't make them sound any better.

#### Buying or being sold to?

Mind you, most of us are easily suckered when it comes to buying hi-fi. Given the choice of venturing into the unknown territory of a specialist dealer's shop and exerting some influence over what we buy, or taking what looks like the easy route having adverts and magazine reviews push us along a path sweetened with discounts and special offers - we opt for the latter. We don't buy a system, we allow ourselves to be sold one. We side-line our own ideas about quality and personal satisfaction and buy someone else's opinion of what's good for us and good value for our money.

#### Take control!

Now there's a group of long-established, independent specialist dealers who are



**66** You wouldn't think about buying a car if you couldn't take it for a test drive. You wouldn't buy a house solely on the strength of seeing the estate agent's details. **99** 

totally committed to putting the customer back in the driving seat. They're encouraging the buyer to take control with a little help and guidance provided where required. They know how difficult it can be to establish the true quality and worth of hifi and home cinema systems. They know that without experiencing the performance of the systems they offer, you can't possibly assess the value of them. That's why their idea of 'selling' is to play the systems for you and allow you to be the judge.

Listening to your choice of music in a peaceful, well organised demonstration room, you may be surprised and, almost

certainly, relieved to discover how easy it is to hear the differences between components and between systems. With the dealer's help and advice you will be able to make a clear and informed decision about what to buy. It comes down to trusting your own judgement rather than the opinion of a reviewer you've never met ... and who won't refund your money if you're not satisfied or be at the end of a phone to sort out any problems you might encounter.

The story doesn't end there. These shops won't abandon you once you've put your hand into your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it sounds great, and make sure that you're entirely happy with the way it works.

#### Why bother?

There is, of course, one question that hasn't been answered: why should you and these dealers go to all this trouble? Well, from your point of view maybe it's because a good deal is about a great deal more than just price. unless you've got money to burn,

### **STAR QUALITIES**

VALUE FOR MONEY	*	*	*	*	*
SERVICE	*	*	$\star$	*	*
FACILITIES	*	*	*	*	*
VERDICT	*	$\star$	$\star$	*	*

you'll be living with your new system for years - years during which most of those five star products will probably stop shining quite so brightly. As far as the dealers are concerned, maybe they believe that taking care of their customers properly is a nicer way of doing business than just handing over boxes.

Listed below are 20 of the best hi-fi shops in the country. They all have lots of stars. You'll find them on the shop floor: they're the people waiting to guide customers towards hi-fi that will give them years of musical enjoyment and total satisfaction.

### **TOP 20 UK SPECIALIST HI-FI DEALERS**

#### LONDON

N1 GRAHAMS HI-FI 190a New North Road 020 7226 5500 SW11 ORANGES & LEMONS 61/63 Webbs Road, Battersea 020 7924 2040 W4 MARTIN-KLEISER 109 Chiswick High Road 020 8400 5555

#### SOUTH

Ashford, Kent SOUNDCRAFT HI-FI 40 High St. 01233 624441 Beaconsfield MARTIN-KLEISER 9 London End 01494 681300 Chelmsford RAYLEIGH HI-FI 216 Moulsham Street 01245 265245

East Grinstead AUDIO DESIGNS 26 High St. 01342 314569 **Kingston-upon-Thames** INFIDELITY 9 High Street Hampton Wick 020 8943 3530 Lakeside Retail Park **RAYLEIGH HI-FI Dansk International** Furniture World 01708 680551 **Rayleigh**, Essex **RAYLEIGH HI-FI** 44a High St. 01268 779762 **Ringwood, Hampshire** PHONOGRAPHY Star Lane 01425 461230 Southend-on-Sea **RAYLEIGH HI-FI** 132/4 London Road 01702 435255

Worthing PHASE 3 HI-FI 213-217 Tarring Road 01903 245577

#### MIDLANDS Banbury OVERTURE 3 Church Lane 01295 272158 Birmingham SOUND ACADEMY 152a High Street, Bloxwich 01922 493499 Leicester CYMBIOSIS 6 Hotel St. 0116 262 3754 Northampton LISTEN INN 32 Gold St. 01604 637871 Shrewsbury CREATIVE AUDIO 9 Dogpole 01743 241924

NORTH Cheadle THE AUDIO WORKS 14 Stockport Road 0161 428 7887

#### Oldham AUDIO COUNSEL 12/14 Shaw Road 0161 633 2602 Sheffield MOORGATE ACOUSTICS 184 Fitzwilliam St 0114 275 6048 York SOUND ORGANISATION 2 Gillygate 01904 627108

SCOTLAND Edinburgh RUSS ANDREWS HI-FI 34 Northumberland Street 0131 557 1672 Glasgow STEREO STEREO 260 St. Vincent Street 0141 248 4079

N. IRELAND Belfast LYRIC HI-FI 161 Stranmillis Road 028 90 381296

### HI-FICHOICE BUYER'S BIBLE VINYL

## **VINYL** Turntables, cartridges and phono stages

Record players or turntables offer the digital revolution serious competition when it comes to sound quality. Even a modest model can turn musical tricks that most CD players struggle with. Some call it vinyl warmth, but in reality it's a lack of digital hardness that makes the format so engaging. True, the software requires a bit more care, but even a knackered LP is more playable than a scratched CD.

Record players are made of three, perhaps four, fundamental parts. The turntable is the plinth and platter, usually also containing the motor and any suspension system. A tonearm sits on the plinth and allows the cartridge to trace the vinyl groove by pivoting or parallel tracking over the record. The cartridge contains the means of turning the mechanical movement of the groove wall into an electrical signal.

A fourth element is an amp dedicated to the delicate job of amplifying and equalising the cartridge's insubstantial output. This is called a phono stage and can be found in some integrated amplifiers and preamps, but is increasingly purchased separately for use with line-only amps.



There are two types of phono cartridge: moving magnet (MM) and moving coil (MC), and with a few exceptions the latter outperforms the former. But MCs produce a lower output and require better-quality amplification to be heard at their best. As a general rule, MCs offer a broader bandwidth, greater dynamics and more detail, but the better moving magnets do most things well enough to distract you from your CD collection.

### **TURNTABLE SET-UP**

Setting up a turntable varies from model to model, but the general principle is to level the platter by adjusting the suspension or, as with solid platters, the surface it sits on. Sprung suspensions sometimes require a bit of fine-tuning to sound their best, but the principle is to achieve a smooth, pistonic bounce.

Cartridge set-up is even more critical, as the angles at which the stylus traces the groove affects its tonal balance and levels of distortion. A good alignment protractor is essential if you are intending to set up your own cartridge, as is a degree of patience. In essence, there are two angles you need to get right: the tracing angle as the cartridge crosses the record if you are looking from above, and the vertical tracking angle (VTA), which is adjusted by raising or lowering the arm base to bring the arm parallel with the record surface.

### **TOP BUYS**



**Rega** P3 £298 Latest version of a hi-fi classic is a very capable deck for a very modest price, with very little serious competition from other makes. A great turntable for the money and a very safe buy.



Audio Note TT1/ARM1 £594 Simple, unpretentious and relatively inexpensive, Audio Note's TT1 delivers a real taste of high-end performance at a realistically affordable price.



Michell Orbe SE £1,825 A fine example of the turntable art, the stripped down SE version of Michell's flagship now features a DC motor. Does justice to the best arms and cartridges.



Avid Volvere Sequel £3,500 A beautifully made turntable that delivers a high-end vinyl experience without costing the earth. Neutral, even-handed, detailed and frankly spellbinding.

## VINYL BUYER'S BIBLE

SPECIFICATIONS

SPECIFICATIONS

PECIFICATIONS

MN

REPLACE

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	URNTA		LES		SUSP SUB	SWITCHABLE SPEED CHANGE	SUPPLIED W	SUPPLIED WITH	ISSUE I
Rec	ord players			SPEEDS	SUBCHASSIS	CHAN	WITH ARM	TH CART	NUMBER
STATUS	PRODUCT	£	COMMENTS	SC	Sic	ЖF	M	4	3
BB	Audio Note TT1/ARM1	594	Simple and unpretentious, it delivers a real taste of true high-end performance at an affordable price	33/45	0	0	•		203
EC	Avid Volvere Sequel	3,500	Heavyweight turntable that will deliver more of what's in a vinyl groove than most of the competition	33/45	•	•			229
EC	Avid Acutus	5,000	Extremely capable design with no apparent shortcomings. Don't sell your vinyl 'til you've heard it on this!	33/45	۲	•			194
В	Clearaudio Champion Level 2	1,955	Neutral balance, great looks, but only so-so detail. Benefits greatly from isolation	33/45			0	•	223
R	Linn LP12 Basik	1,100	Trails the full LP12 significantly, but pace, rhythm, timing etc are still top rank	33	۲		0		103
R	Michell Gyro SE	829	Stripped-down version of classic GyroDec, offering strong and lively sound	33/45	۲				223
EC	Michell Orbe SE	1,825	A superb turntable, able to mix it with the best at virtually any price. Now features new DC motor.	33/45	۲				235
$\geq$	Pro-Ject RPM 6	500	Basic, very neutral turntable and arm combination that can take a very expensive cartridge. A high-end bargain!	33/45			0		236
88	Rega P2	198	Updated Planar 2: just as much fun as ever and now even better value as the competition falls away	33/45			0		214
R	Rega P3	298	Updated Planar 3, building on the strengths of the P2 with added subtlety and detail	33/45			0		214
88	Rega Planar 25	619	Great-looking turntable has a silky smooth sound with exceptional midband coherence	33/45		۲			203
EC	Rega P9	2,248	Exceptionally elegant hi-tech player with complex outboard supply, ceramic platter and wonderful RB1000 tonearm	33/45		۲	۲		228
EC	SME Model 10A	3,411	Elegant and extremely capable design with Series V/309 hybrid arm, superbly built	33/45	۲	۲	0		195
EC	SME Model 20.2A	5,274	Beautifully built, extremely neutral damped and suspended deck with superb sound. Inc V arm	33/45/78	۲	0	0		186
EC	Well Tempered Reference	5,500	Superb mechanical stability and unflappability result in clean, clear reproduction	33/45	۲	0	0		205

## Our favourite PHONO CARTRIDGES

				EABLE	SSUE	
MM and MC cartridge	es		-		E STYLUS	SSUE NUMBER
PRODUCT	£	COMMENTS	MM	MC	SU	\$
Allaerts MC1B	1,295	Highly capable and entertaining Belgian cartridge that warrants the finest turntable and phono stage you can afford		•		203
Audio Technica AT110E	29	Excellent performance for the price, with little more than some mild coloration and a touch of hardness at high levels	•		0	214
Clearaudio Aurum Beta S	270	Clear improvement over cheaper Alpha, and good sound all round by any standards				223
Clearaudio Sigma	580	A nimble and revealing cartridge that is more at home in lower mass arms		0		235
Dynavector DV-20X L	350	Articulate-sounding with impressive treble resolve, though lightweight at times. Needs a high-quality turntable and arm		۲		192
Goldring Elite	250	A remarkably subtle and persuasive design that should tempt anyone		•		235
Grado Prestige Black	40	Offers admirable detail and treble extension, with good bass and ambience too	•		۲	214
Grado Prestige Gold	110	Produces rich, open and expansive music with the minimum of fuss			۲	235
Lyra Helikon	1095	Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality				215
Reson Reca	250	If you're after a high-quality moving magnet cartridge, they don't get much better than this	۲			192
Reson Etile	485	Plenty of life and detail, and refined with it		0		223
Sumiko Blue Point Special	250	A no-nonsense performer with engaging musical properties - one of the best around for less than £300		•		192
Van den Hul MC One Special	699	A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light		•		235

## Our favourite PHONO STAGES

			PHONO	PHONO		DJ. IN	ISSUE
Phono stages			IO INPUTS	IO INPUTS	ADJ. G/	IMPEDANCE	NUMBER
PRODUCT	£	COMMENTS	SIL	SL	GAIN	R	53
Creek OBH-8SE	160	Neutral, relaxed and involving sound from this neat little unit	•				223
Lehmann Black Cube	275	Creates a well balanced sound that has few limitations and plenty of good qualities. Very flexible for the price	0	0	۲	۰	234
Pass Labs XOno	2,995	Not absolutely neutral, but the overall result is so beguiling it's hard to resist	•	0		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	0			201
Tom Evans Microgroove	400	For dynamics and real bass extension alongside good tonal colour this is the one to beat, excellent value for the money					234
Tom Evans Microgroove Plus	700	Stunning detail, gives new insights into familiar discs		•			223
Tom Evans The Groove	1,800	Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for maximum information retrieval off any LP					201
Trichord Dino/Dino+	498	Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility	0	۲	0	•	234

TURNTABLE SPEEDS Speeds offered in rpm. SUSP SUBCHASSIS Turntables with a sprung or suspended support for the platter and arm. SWITCHABLE SPEED CHANGE Some decks require manual lifting of the belt from one pulley to another to change speed, but not these ones. SUPPLIED WITH ARM Deck is supplied complete with tonearm – some require a separate purchase in this department, but the dealer will fit it for you. SUPPLIED WITH CARTRIDGE Some decks are supplied with a starter cartridge and this is included in the price shown

CARTRIDGE SPECS KEY MM Moving magnet cartridge – see amp and phono stage features to match this type. MC Moving coil cartridge – see amp and phono stage features to match this type.

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C28WF540N	32DW9625	PJ-LC2001	CSMART	
C32WF540N	28DW6577	The second s		DVD PLAYERS
JVC	32DW6577	PANASONIC	YAMAHA	DV3100
and the second	28DW6557	PT-AE100E	DPX-1	DV4200
AV-24WT5	32DW6557			DV6200
AV28CT1 AV32S2GR	32PW9586	SELEC0	TOSHIBA	DV7010
AV329201	32PW9576/05E	HT200	MT3 MT7	DV4100 OSE
AV28T25	32PW9595	HT250	SONY	DV-12S1
AV32T25	32PW9596 32PW9594	HT300		AMPLIFIERS
AV28R25	32PW9607	*Full range of	VPL-VW11HT	PM-14MKII
AV32R25	32PW9527	Screens available	VPL-HS1	AV9000
AV28X25	32PW9617			ММ9000
AV32X25	32PW6826	Pior	neer	MA6100
LOEWE	28PW6816	AUTHORISE	D DEALER	PM4200
ACCONDA 9381 ZW	32PW6515	Proneer VSA-AX10	Proneer VSX-D810	PM7000 PM8000
PLANUS 4781 ZP	32PW9526	Proneer VSA-AX10	Pioneer VSX-D810	PM8200
XELOS 5381 ZW	32PW6006	2407		PM6010 0SE
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Panasonic	24PW6006	00	- o	CD PLAYERS
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TX-28PB50				CD6000
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TX-32PL10				DR6000
TX-28PL10		VSA-E07	PD-F1007	DR6050
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TX-28PL4 TX-32PL1		VSX D810 VSX D710		TAPES & TUNERS
TX-32DK2		VSX D510	CD RECORDER	SD4050
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TX-24DX1	<b>8</b> 01204 861861		PDR-609	



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MDS-JE330	CDP-M305	SS-LA500EA	SD5		DVP-NS400	- Pioneer
MDS-JE470	CDP-XE270	SS-MF400H	SD4	A REAL PROPERTY OF A READ REAL PROPERTY OF A REAL P	DVP-NS305	DV444
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MDS-JA555ES	CDP-XE570	SCDI	DVD-RA		DVP-CX860	PDV-20 PDV-LC20
MXD-D40 MXD-D5C	CDP-XB740E	SCD-XE 670	DVD-XV DVD-RV		DVP-9000ES	FDV-L020
MDS-PC3	CDP-XB930E	SCD-XE 770	DVD-KV		ACRAM	HITACHI
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## TUNERS BUYER'S BIBLE

## **RADIO TUNERS**

FM and DAB hi-fi separates

Radio is a fantastic musical resource that's in danger of being taken for granted, but whatever your tastes there's someone out there catering for it. If you haven't got a decent tuner hooked up to your hi-fi already, you're missing out!

#### DAB or FM?

Digital Audio Broadcasting (DAB) is said to be available to 80 per cent of the population and the long-term plan is to switch public broadcasting over to digital, but hardware prices have yet to come down to a point where this would be acceptable. Its advantages over FM include hiss-free reception, the potential for a wider range of stations and the ability to display comprehensive programming information. FM's RDS system means that station name and occasionally track titles are displayed, but the range of information is fairly limited. Where FM scores over DAB is in the lower cost of hardware and the greater reception area. It can also provide higher sound quality if reception conditions are favourable. Absolute sound quality judgements are muddied by the fact that you are listening to different forms of compression and processing at the studio for each station.

What is clear, however, is that there are more and more radio stations broadcasting on DAB that aren't available on FM. So if it's variety of programming you're after, they have a lot to offer.

#### RECEPTION

The quality of signal you feed a tuner will dictate its sound quality. So serious FM listeners should get a decent external aerial and connect it with as few junctions and splits as possible. Every time you split the cable (ie take a feed for another tuner) you halve signal strength! With DAB the same applies but get a DAB-specific aerial. See www.bbc.co.uk/digitalradio for details.



Pure DRX-701ES £250 This 'budget' DAB model can meet much more expensive alternatives head-on.



DAB technology makes this one of the best options on the digital tuner market.

SPECIFICATIONS

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			WAL			REMOTE C	3. STRENGTH	ROT. TUNING KNOB	ISSUE	
ΗM	& DAB HI-FI SEPAR	AIES	)	WAVEBANDS	PRESETS	т	CONTROL	H METER	IG KN	NUMBER
	PRODUCT	£	COMMENTS	IDS	ETS	RDS	Õ	FR	OB	Ĥ
FM TU										
ĥ	Cambridge T500	180	Very capable tuner suited to good and less good reception conditions	FM,M,L	64			۲	0	193
R	Creek T43	399	Quality UK-made tuner offering classy sound in all areas at a very fair price	FM,M,L	64		۲	۲	۲	193
R	Cyrus FM7.5	400	Beautifully made and presented, with sound that's a small but worthwhile advance over budget models	FM	7			۲	۲	211
88	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	۲			0	193
98	Harman Kardon TU940	180	Good sound and particularly good signal recovery under tricky reception conditions	FM, M	30	۲		۲	۲	221
B8	Marantz ST6000	180	Another budget killer from Marantz, with sound well above its class and useful features	FM, M, L	90	۲		•		211
B	Myryad T-30	400	Attractive product that produces attractive sounds too: capable of very musical performance with a good aerial	FM	29		•	•		193
80	NAD S400	600	One of the best around - bass and treble are both well extended and detail is excellent	FM	30	0	۲	•		230
36	Primare T21	600	Identical to NAD S400 and likewise a very fine tuner	FM	30	۲		۲		230
R	Sony ST-SE570	130	Good, honest, budget tuner - loads of features, just a trifle bland	FM, M, L	30	0		۲	0	221
DAB T	UNERS									0.53
R	Arcam DT-81	650	A very smart and polished DAB performer	DAB	16		۲	۲	•	221
$\geq$	Pure DRX-701ES	250	An excellent introduction to DAB, fine value, simple to use and feature loaded	DAB	99		۲	۲	•	234
R	Pure DRX-601ESM	330	Cheap, small and capable, but with major tonal variations from neutral which confuse the issue	DAB .	90		۲	۲	•	230
28	Pure DRX-601E	300	Cheapest DAB separate available at the time of review - concedes little if anything to more expensive models	DAB	9			•	•	211
R	TAG McLaren T32R+DAB	2,290	Classy hi-fi at its best: top sounds on FM and DAB, and a joy to own and use	DAB,FM,M,L	99	۲	۲	٠		230

**SPECS KEY** WAVEBANDS Which bands are supported: FM, M – medium wave, L – long wave, DAB – digital audio broadcasting. **PRESETS** How many stations can be stored in memory. **RDS** Radio Data System – station names and program titles can be displayed among other facilities (FM only, DAB has more comprehensive display potential). **REMOTE CONTROL** For the couch potato. **SIGNAL STRENGTH METER** Useful for setting up an aerial. **ROTARY TUNING KNOB** An ergonomic alternative to buttons.

# **DIGITAL AUDIO RECORDERS**

CD. MiniDisc and hard drive recorders

### MiniDisc

MD's strength is versatility. You can record and then re-record many times over. Editing facilities are second to none - you can erase mistakes, name tracks and re-order a disc's contents with a few simple button pushes, making it ideal for building compilations. They're pretty robust too.

Sound quality is below that of CD-R/ CD-RW. The format uses a Sony-developed compression technology called ATRAC, which discards part of the data in order to squeeze it on the disc. If you're copying from CD to MD, the result tends to sound a little cold in comparison, lacking a degree of detail and ambience. But to most people it still sounds light years ahead of cassette - clean and hiss-free.

### **Recordable CD**

With recordable CD you have a choice of two disc types: CD-R discs are the cheapest, but you can only record once; and CD-RW discs are a little more costly, but you can re-record on them ad infinitum.

Though the latest machines incorporate some useful editing facilities, CD-R/RW is not as flexible as MD. However, sound

quality is higher - if you're recording from a CD, the best models will give you a copy that is very close to the original. In terms of compatibility, most CD players will play back a CD-R disc, but older models might have trouble with CD-RW (though you can. of course, play the disc back on your own recorder). If you want to play a CD-R/RW on a DVD player, check for compatibility.

### Hard drive

The latest contender on the digital recording scene is also the most flexible. Some HDD (hard drive) recorders can store whole music collections if you use a compression format such as MP3. HDD recorders are taking over from multidisc CD changers as sound servers in multiroom installations, where their ability to play more than one piece of music at a time is a great boon. HDD also offers impressive editing facilities on a par with MD, and they can also record from CD (or to CD-R/RW) at high speed.

At present, sound quality isn't the driving force behind the format - flexibility and storage capacity being bigger issues - and a plain CD-R/RW machine will outperform an HDD recorder in fidelity terms.



CDR-HD1300 £600 Impressive implementation of hard drive technology for home audio applications.

### Our favourite 🗌 group test best buy 🕝 group test recommended 🔟 editor's choice 🖻 new gear review **DIGITAL RECORDERS**

CD-I	R/RW, MD and HD	) recor	ders	Æ	ACITY (GB	VOUTPUTS	VOUTPUTS	E NUMBER
STATUS	PRODUCT	£	COMMENTS	DECKS	(GB)	SID	SID	BER
CO-R/F	RW RECORDERS							
B	Denon CDR-1000	400	A respectable player and recorder, though some midband congestion was noted when recording	1		۲	•	218
BB	Marantz DR6000	400	No frills, but in its fundamentals this is one of the finest CD recorders on the market	1		٥	۲	233
B	Marantz DR-17	1,500	Highly recommended, but with a jitter problem that, resolved, would improve sound quality	1		0		205
88	Philips CDR802	300	Tacky looks and build notwithstanding, this is a well-equipped and technically sound 3-to-1 autochanger/recorder at a good price	2		۲	0	233
BB	Philips CDR951	380	An improvement on previous models, it delivers the musical goods in some style	1		٠	۲	205
R	Philips CDR785	350	Ragged play quality, but a good record performance from this well-equipped, well-priced CD-R/RW deck	1		۲	۲	218
68	Pioneer PDR-609	280	Classy single-deck CD-R/RW burner is also a good, if characterful, player	1		۲	۲	218
R	Pioneer PDR-W839	350	Good-quality twin CD burner makes recordings that can be hard to distinguish from the original. Good value too	1			۲	218
≥	Sony RCD-W3	250	Superb Sony build and ease of use complement great recording ability and amiable CD playback	2		۲		238
MD REC	CORDERS	2.22			15			
R	Pioneer MJ-D508	200	Well equipped, but musically sleep-inducing player that receives its Recommendation owing to the price	1		٥	0	205
S	Sony MDS-JE480	130	Straightforward and effective, but the three real killer features are price, price and price	1		•		233
HDD RE	CORDERS							
	Yamaha CDR-HD1300	600	CD-R/RW and hard drive in one - a flexible beast, one of the best of its ilk thus far though just short of formal recommendation	2	80	0	•	237

EXCESSION DECKS Amount of drive mechanisms on board - twin-deck recorders use one to play while the other records. HD CAPACITY Amount of olioabytes of storage capacity, for HD only OPTICAL IN/OUTPUTS Optical Toslink in and outputs for digital connection to a CD player or DAC. ELEC IN/OUTPUTS Electrical coaxial in and outputs for digital connection to a CD player or DAC.

# Sevenoaks sound & vision

Sevenoaks Sound & Vision stocks a wide range of DVD players, amplifiers, speakers, plasma monitors, televisions and projection systems from all the leading manufacturers.

From starter systems to custom designed multi-room and home cinema installations, our friendly staff are available in all outlets to advise, demonstrate and guide you through the home entertainment jungle. If you're interested in home entertainment and want to avoid the confusion, contact your local Sevenoaks Sound & Vision outlet and experience more. 0% interest free option\* is available on most products. "Written details on request. Licensed credit brokers. Minimum balance 2400. Subject to status."

### MUSICAL FIDELITY Tri-Vista Series

Celebrating Musical Fidelity's twentieth anniversary, the new limited edition Tri-Vista



series offers both audio excellence and value for money. The first products released are the Tri-Vista 300 Integrated Amplifier and the Tri-Vista CD/SACD Player, with Pre and Power Amplifiers following later this year. Both products are already receiving excellent reviews - Hi-Fi World (January 2003) said "If you want extreme power with superb grace the new Tri-Vista 300 is quite

exceptional" - while the CD is, according to Hi-Fi Choice (January 2003), "Simply the best CD Player MF has ever made and one of the finest available anywhere."



### **New Outlets Now Open**

We are delighted to announce that we have opened new stores in the following locations: **Poole** 01202 671677 • **Solihull** 0121 733 3727 • **Swindon** 01793 610992 and **Wolverhampton** 01902 312225. In addition, the **Leeds** store has relocated to larger premises and offers an improved product range and demonstration facilities.





## ARCAM (·M)

Arcam has been at the forefront of designing home cinema since 1996 and has established an international reputation for audio excellence. This highly specified combination is enhancing this reputation even further, having already been described as "Arcam's best ever product to date."

The ultra-flexible AV8 Pre-amp Processor offers Dolby Digital, THX-EX, Dolby Pro Logic II and DTS decoding and is among the first processors to have THX Ultra II certification for music and movie post processing. According to Arcam, the partnering P7 Power Amplifier is a 'true audiophile powerhouse' delivering over a kilowatt of power from seven channels each THX-Ultra rated at 150 watts.

This combinaton has recently been awarded 'Editor's Choice' by Hi-Fi Choice magazine - being described as "A fantastic achievement from this respected UK brand - an AV processor par excellence." - while Hi-Fi World (March 2003) concludes, "Right now, this is the best reason to go multichannel I can think of. Exquisite."

### **48 Outlets Nationwide**

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Please refer to Page 7 for full address and telephone number details.

### www.sevenoakssoundandvision.co.uk experience more



### **PRO-JECT**

### **Debut II** Turntable (Black) £114.95

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

### **Turntables & Tuners**

Arcam DiVA T61 Tuner	£199.95
Denon TU260L MKII Tuner	£99.95
Marantz ST4000 Tuner	£109.95
Michell Gyro SE/RB300 Turntable	£1049.95
Project Debut Phono SB Turntable	£159.95
Project Debut II Turntable (Colours)	£129.95
Project RPM4 Turntable	£324.95
Pure Evoke 1 DAB Radio	£99.95
Sony ST-D777ES FM/DAB Tuner	£499.95
Videologic DRX-701ES DAB Tuner	£249.95
-	



is a fine turntable, and it clearly reveals the benefits of listening to vinyl, with a rich and detailed soundstage, and a good dynamic response.

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

#### 10000000 \*\*\*\* Awards 2000

Selected outlets are Project Turntable Centres. Colour Options are available at additional cost



Michell Gyro SE • £1049.95

## RCD-02 CD Player £379.95

Claim £120 Off the Speakers\* of your choice ROTEL RA-02 Amplifier £349.95 When purchased together with any Rotel CD & Rotel Amplifier combination. Min Spk Value £240

RCD-02 CD Player "Whether it's the raw, and sometimes just plain barking vocals of Tom Waits, or the stinging guitar stabs of Pete Townsend on some old Who tracks, the Rotel is one of those players that can't help but bring a smile to the face - it's a breath of fresh air."



30000 Marantz PM4200 • £139.95

\*\*\*\* September 2002

RA-02 Amplifier "The amp has a fast, detailed and yet satisfyingly full presentation. That allows it to make a fine job of the beats of Groove Armada's Goodbye Century set without losing sight of the fine

details of the mix, and also husking out

Marianne Faithfull's deliciously smutty vocals on Kissing Time with real relish. Add in decent levels of equipment - and the convenience of remote control, and we reckon Rotel has a winner on its hands." \*\*\*\* August 2002

### Aegis Evo One Speakers £179.95



"The original Aegis Ones were great speakers, to the extent that they were category winners in our 1998 awards. Since ther a host of new models have raised the standards in the sub-£200 category, and the Aegis Ones soon went from stunner to also ran. AE's response to that is an EVO version



The Aegis Ones genes are clearly evident. The original's refinement and bass weight are preserved and backed up

with better openness and more free-flowing dynamic ability. The old speakers would have delivered a cool and calm version of Pink's Missundaztood set they'd be enjoyable, but would lack a little drive and excitement The new speakers, however, address those limitations... Add

authority and good stereo imaging to the list of plus points and it comes as no surprise to find these speakers at home

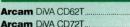
through our test room's extensive CD library we couldn't find a

genre that these AE's weren't happy playing." ★★★★★ July 2002



KEF Q1 • £249.95

with classical, too, Indeed, running



**CD** Players

£369 95

Arcam DiVA CD72T	£449.95
Arcam FMJ CD23T	£1199.95
Cyrus CD7	£799.95
Denon DCD485	£119.95
Linn Genki,	
Linn Ikemi	
Marantz CD4000	
Marantz CD6000Ki Signature	
Meridian 507	
Musical Fidelity A308 <sup>ce</sup>	
Musical Fidelity Tri-Vista SACD	
Quad 99 CD-P	
Roksan Caspian	
Rotel RCD1070	
Sony CDPXE570	

### Free Interconnect Cable\* worth £60 with ALL CD Players over £300

Please Note: Some products may not be available at all outlets Advertisement valid until at least 12th March 2003, E&OE. selection in-store - Not in conjunction with any other offer.



# page TWO

experience more

### **Amplifier** Selection

A PARTY OF THE REAL PROPERTY OF THE PARTY	CONTRACTOR OF THE OWNER OF THE OWNER
Arcam DiVA A65 Plus Amplifier	£369.95
Arcam DiVA A75 Plus Amplifier	£469.95
Arcam FMJ A32 Amplifier	£1149.95
Cyrus 6 Amplifier	£599.95
Cyrus 8 Amplifier	£799.95
Denon PMA355 Amplifier	
Linn Kolector Pre Amplifier	£494.95
Linn LK85 Power Amplifier	£494.95
Marantz PM4200 Amplifier	£139.95
Musical Fidelity A3.2 Pre Amplifier	£999.95
Musical Fidelity A3.2 Power Amplifier	£999.95
Musical Fidelity A308 Amplifier	£1999.95
Musical Fidelity Tri-Vista 300 Amplifier	£3994.95
Quad 99 Power Amplifier	£549.95
Roksan Caspian Amplifier	£894.95
Rotel RA-01 Amplifier	£249.95





ARCAM Claim £150 Off the Speakers\* of your choice When purchased together with any Arcam CD & Arcam Amplifier combination. Min Spk Value £300 DiVA CD82T CD Player **DiVA A85** Integrated Amplifier

DIVA CD82T "Arcam's lastest sounds like a more mature version of its little brother. On an initial listen the increased solidity and refinement are obvious, but over time the subtler dynamic shading and more assured handling of transients come to the fore... The Arcam CD82T is one of the best CD players available at this price point."

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



### **B&W** Bowers & Wilkins DM602S3 Speakers £299.95

**Speaker Cable** worth £50 with ALL Speakers over £280

"But the B&W 602 S3 are our winners. They're big and not particularly beautiful, yet if it were our money they're what we would buy. No rival can match the wide ranging dynamics or low frequency performance of these not so compact

standmounters. Add all-round sonic excellence and the choice is easy. Give them sufficient space to breathe, then sit back and enjoy the music." Supertest Winner August 2002

B&W CDM NT Series • Prices start from £749.95



HAT HI-FT Product

£599.95

£799.95

### PURE DRX-701ES Digital Tuner £249.95

This new tuner from the recently renamed Pure is based on the 2001 Award-winning Videologic DRX-601ES, but under the lid is an allnew third-generation digital radio engine, in the form of Frontier Silicon's Chorus FS1010. Its biggest advantages are lower energy consumption and above all cost - it's the major reason why the

DRX-701ES is £100 less than last year's model.

The tuner uses 24-bit/192kHz conversion with 4x upsampling and data interpolation, and is powered by a low-noise toroidal transformer - such attention to sonic detail pays off. Digital outputs are provided

pricing policy



We always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.

on electrical and optical feed, but most people will use the



analogue out, and these sound very good indeed. As usual the tuner is subject to the signal quality off-air,

but when it's fed from a high-quality outdoor aerial and a good signal it's capable of a crisp, powerful and detailed presentation. Even more populist music stations like Radio 6 benefit from the mix of a neutral balance and fine weight, while speech is also neutral and easy to follow... If you want a quality home tuner for digital radio, you need look no further."

### Claim £200 Off the Speakers\* of your choice

When purchased together with any Cyrus CD & Cyrus Amplifier combination. Min Spk Value £400



### **CD7Q** CD Player **£1149.95** 8 Integrated Amplifier £799.95

Cyrus 7Q CD "How it compares directly (with the competition) is a matter for a group test, but I can tell you now that it'll be a close one, because the CD7Q is a fantastic CD Player, offering all you'd expect from a disc spinner at this price, and more ... The CD7Q's a major upgrade from the

class-leading CD7. Its weighty, detailed sound puts it at the pinnacle of CD players at this price." 



**Best Buy** 

2002

£349.95

£749.95

£1249.95

£179.95

£249.95

Cyrus 8 Amplifier

**Best Buy** 

£1001-£2000

2002

"The 8 is a large step forward from older generations of Cyrus amplifiers, and takes the company back into the leading pack in the sub-£1000 integrated amp sector... The Cyrus 8 is a must-audition product."

### ROKSAN Kandy KA1 MKIII Amplifier £544.95

Claim £150 Off the Speakers\* of your choice When purchased together with any Roksan CD & Roksan Amplifier combination. Min Spk Value £300

"When we last reviewed Roksan's Kandy integrated amp in February it fought off serious competition to come top in a Supertest. This is its replacement, the MkIII. Internal changes include an uprated power supply for the preamp section and identical mono modules for the left and right power amp sections. Roksan also AT HI-FI?

claims 50 pecent lower distortion on line-level inputs and a whopping 150 percent less on the phono input. The rated power output is an impressive 120 watts per channel into 8 ohms, and this amp has a confident, muscular way with music that bears this out. But don't be fooled into thinking this amp is raw but unrefined. With Van Morrison's Down the Road the Kandy has the guts to render the performance exciting and dynamic, but also the guile to deliver subtle details.

> The upgraded Kandy MkIII is an excellent amp; the Mkll version was

impressive, but MkIII is a stunner. It betters all the amps here in the timing department, and has a wonderfully robust character that works well with all types of music. It manages to retain the good points of the MkII while adding extra resolution and subtlety. All the amps here have a place in the market. It's just that at £550 the Kandy really does set the pace." ► ★★★★★ October 2002



Product

2002

00000

Also Availab

Musical Fidelity Tri-Vista 300

Amplifier • £3994.95

Free Speaker Cable\* worth £50 with ALL Speakers over £280

### **11L** Speakers **£379.95**

"Quad is best known for its superlative electrostatic designs, which start at £3500. So any £379 pair of speakers that carries the company's name has to be going some to avoid tarnishing the family reputation. The first surprise is that the

11Ls come in real-wood veneers covered with piano-gloss lacquer. This type of finish is almost unheard of at the £1000 mark, let alone at this price. Has anything been sacrificed for such a luxury finish? Here's the second surprise: apparently not

The final surprise? Well, saving the best for the last, the sound quality of the 11Ls is phenomenally good. These are small speakers at just 33cm tall, but the scale and authority of

their performance is terrific. The laws of physics dictate

bass extension limitations, but thanks to a clever dual rear firing port arrangement the 11Ls plumb the depths with the determination of a rottweiler. even when placed in free space

If you're in the market for a pair of top quality standmounters these Quads are a must listen. Quite simply, they're good enough to scare the competition bia time. Entering ★★★★★ August 2002



Monitor Audio Silver S1 • £299.95

#### Cyrus CLS70 (Black) ..... £799.95 £249.95 £399.95 KEF XO1 £999.95 £634.95 Linn Katan (Maple) .....

Speaker Selection

Acoustic Energy Aegis Evo Three ...

Linn Ninka (Maple)	£894.95
Mission 780 (Not SE)	£249.95
Mission 780SE.	£349.95
Mission m74i	£299.95
Monitor Audio Bronze B2	£199.95
Monitor Audio Gold Reference 10,	£799.95
Monitor Audio Gold Reference 20	£1499.95
Quad 22L,	£895.95
Ruark Epilogue II	£344.95

Please Note: Some products may not be available at all outlets

ement valid until at least 12th March 2003, E&OE \*From our selection in-store - Not in conjunction with any other offer.



### experience more

### KEF Q1 KEF O3

B&W CDM 1NT .....

B&W DM601 S3....

B&W DM303 ....

B&W CDM 7NT .....



## MUSICAL FIDELITY A3.2 Series

### A3.2 CD Player £999.95 A3.2 Amplifier £979.95

Replacing the WHAT HI+FI? SOUND AND VISION Award Winning A3 CD and Amplifier, the new A3.2 models have been further refined and re-styled. The A3.2 CD Player now incorporates the same DAC, filter assembly and control mechanism as the highly-acclaimed Nu-Vista CD Player. The A3.2 Amplifier draws on experience gained through the development of the Nu-Vista M3 amplifier and as such has inherited many of its qualities, producing a sense of ease and flexibility that is normally only associated with far more expensive designs.

### Claim £250 Off the Speakers\* of your choice

When purchased together with any MF CD & MF Amplifier combination. Min Spk Value £500



Also Availab

Marantz DR6000

CD Recorder • £279.95





### **MONITOR AUDIO** Silver S6 Speakers £599.95

Free Speaker Cable\* worth £70 with ALL Speakers over £500

British loudspeaker manufacturer Monitor Audio has introduced a replacement series for its acclaimed and award winning Silver Series speakers. "The aim has been to offer real advances in performance and value", says technical director Dean Hartley, " New

models include the S1 and S2 standmounters, the S6 S8 and S10 floorstanders

"With a close-miked track such as James Taylor's Line 'Em Up from SACD they really deliver the character of the singer's voice and they're just as expressive with the cultured rhythms of Groove Armada's latest outing, having just the right mix of rhythmic control and fluidity... But amazingly the best is yet to come; these are simply beautiful speakers for classical music, once a few days' thrashing has tamed their initial rawness. With the latest release of Holst's The Planets on DVD-Audio, they thunder out Mars with true conviction



These are rather magical speakers, with a poise and grace that belies their ability to turn on the power when required. Pair them with a good CD player and suitably accomplished amp, and you won't go far wrong." English \*\*\*\*\* October 2002

### Pioneer PDR609 CD-RW Recorder £199.95

"While it looks simple, the Pioneer has an impressive array of features, including the handy double-speed disc finalization and CD-Text compatibility. Internally, the PDR609 is a big step up from the Award-winning PDR-509 it replaced: the DAC is now a 24-bit/96kHz number, aided and abetted by Pioneer's Legato Link conversion technology, and it has 24-bit A-to-D conversion, which is ideal for copying your vinyl onto CD. If this is your plan, you'll appreciate that the Pioneer makes it easy to create first-rate copies from any source, helped by the manual recording-level controls. It was hard to tell our copy of Jim White's No Such Place from the original.

While the Pioneer's replay quality can't match the Marantz, it costs £120 less, which would buy you a lot of blank discs. If you've already got a dedicated CD player, we'd go with this recorder."

### **Recorder** Selection

Marantz DR6000 CD-RW	£279.95
Sony RCDW3 CD-RW	£229.95
Yamaha KX393 Cassette Deck	£119.95
Yamaha KX580SE Cassette Deck	£199.95
Yamaha CDR-HD1300 CD-RW,	£519.95





**pricing** point we always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.

### Free Interconnect Cable\* Worth £150 When TAG AV30R & TAG 100x5R Purchased Together

**KG**//cLaren

### **AV30R** AV Processor **£1799.95 100x5R** Power Amplifier **£2994.95**

TAG McLaren's AV30R AV Processor is aimed at the home cinema enthusiast who is concerned with keeping up-to-date with the latest surround formats. When partnered with TAG's 100x5R Power Amplifier it makes an exceptional combination.

According to What Hi-Fi? Sound and Vision magazine in their October 2002 issue: "In use, the AV30R, connected to TAG's 100x5R power amp, is superb. True, it can't quite match the clarity and power of the latest-specification TAG flagship, the AV32Rbp-192, but by any AV standard this is a very high-end piece of kit, with excellent impact and fine detail across a range of movie soundtracks from Once Upon A Time In America to the explosive actionfests. Channel steering is immaculate, and the sense of a soundfield wrapped around you - even in 5.1-channel mode - entrancing, with spine-tingling rear-channel effects. The fine Pro Logic II implementation serves music as well as it does non-discrete AV soundtracks, and with an SACD machine hooked up via the 5.1 channel inputs, the lack of coloration and sheer bass oomph is extraordinary."







## Strata IIISubwoofer (Wood)£799.95Q150ESubwoofer£499.95

REL is an audiophile company who take great pride in designing and building their highly acclaimed subwoofers. Because of their total commitment to performance, REL sometimes adopt unusual solutions to otherwise straight-forward problems.

"The aggression of Rage Against The Machine's Take The Power Back is near-tangible, the midrange a spitting, spiteful companion for the tight, deep, air-agitating bassline. As for the more deft creations of Chick Corea, the REL's articulate nature serves subtly to underpin basslines, rather than swamp them. The adaptability makes the Strata III a highly recommended subwoofer - it's a very versatile, musical piece of kit, and it doesn't cost the earth."



### Claim £150 Off The Speakers\* of your choice when purchased at the same time as the Linn Classik Music System . MINIMUM VALUE £250

Claim £300 011 • The Speakers' of your choice when purchased at the same time as the Linn Classik Movie System - Minimum Value £500

### LINN Linn Classik Music System £999.95

The Classik Music System is an alternative to the sound and looks of mass market compact systems. Designed to be useful throughout the home, the

Classik is simple and stylish with all the advanced features needed to satisfy the most



demanding hi-fi enthusiast or discriminating music lover.

LINN CLASSIK

"Since the Scottish company added a tuner to the amp/CD player, mouths have gaped even wider in appreciation. The addition of colour options panders to the public's taste for kit to match their interior design, but it doesn't just look lovely in the lounge: the Classik sounds simply marvellous. Boasting fine impact and drive, it retains its grip even as it thumps out rock and dance tracks. Ask it to play quiet

acoustic music and its smooth, liquid presentation impresses still further. The Classik offers the performance you'd expect from high quality separates in one lovely package - this is a very superior product."

Please Note: Some products may not be available at all outlets. Advertisement valid until at least 12th March 2003, E&OE. \*From our selection in-store - Not in conjunction with any other offer.



48



Systems Best Buy £1000 plus





### outlets nationwide

Aberdeen 491 Union Street 01224 587070 Bedford 29-31 St Peters Street 01234 272779 Birmingham Arch 12, Livery Street 0121 233 2977 Brighton 57 Western Road, Hove 01273 733338 Bristol 92b White Ladies Road, Clifton 0117 974 3727 Cambridge 17 Burleigh Street 01223 304770 Cardiff 104-106 Albany Road 029 2047 2899 Cheltenham 14 Pitville Street 01242 241171 Crawley 32 The Boulevard 01293 510777 Edinburgh 5 The Grassmarket 0131 229 7267 Exeter 28 Cowick Street 01392 218895 Glasgow 88 Great Western Road 0141 332 9655 Guildford 73b North Street 01483 536666 Hull 1 Savile Row, Savile Street 01482 587171 Ipswich 12-14 Dogs Head Street 01473 286977 MOVED Leeds 62 North Street 0113 245 2775 Open Sunday Leicester 10 Loseby Lane 0116 253 6567 Lincoln 20-22 Corporation Street 01522 527397 Liverpool 16 Lord Street 0151 707 8417 Maidstone 96 Week Street 01622 686366 Open Sunday Manchester 69 High Street, City Centre 0161 831 7969 Newcastle 19 Newgate Street 0191 221 2320 Norwich 29-29a St Giles Street 01603 767605 Nottingham 597-599 Mansfield Road 0115 911 2121 Oxford 41 St Clements Street 01865 241773 Peterborough 36-38 Park Road 01733 897697 Open Sunday Plymouth 107 Cornwall Street 01752 226011 NEW Poole Latimer House, 44-46 High Street 01202 671677 Preston 40-41 Lune Street 01772 825777 Open Sunday Reading 3-4 Kings Walk Shopping Centre 0118 959 7768 Sevenoaks 109-113 London Road 01732 459555 Sheffield 635 Queens Road, Heeley 0114 255 5861 Open Sunday NEW Solihull 149-151 Stratford Road 0121 733 3727 Southampton 33 London Road 023 8033 7770 Swansea 24 Mansel Street 01792 465777 Open Sunday NEW Swindon 8-9 Commercial Road 01793 610992 Tunbridge Wells 28-30 St Johns Road 01892 531543 Witham (Essex) 1 The Grove Centre 01376 501733 NEW Wolverhampton Burdett House, 29-30 Cleveland St. 01902 312225

### within the M25

 Bromley 39a East Street 020 8290 1988

 Chelsea 403 Kings Road 020 7352 9466

 Croydon 369-373 London Road 020 8665 1203 Open Sunday

 Epsom 12 Upper High Street 01372 720720 Open Sunday

 Holborn 144-148 Grays Inn Road 020 7837 7540

 Kingston 43 Fife Road 020 8547 0717 Open Sunday

 Southgate 79-81 Chase Side 020 8886 2777 Open Sunday

 Swiss Cottage 21 Northways Parade, Finchley Rd 020 7722 9777 Open Sunday

 Watford 478 St Albans Road 01923 213533 Open Sunday

Please call to verify hours of business. Contact our outlets via E-Mail outlet@sevenoakssoundandvision.co.uk

### who are sevenoaks?

Founded in 1972, Sevenoaks Sound & Vision are one of the largest and most successful hi-fi and home cinema retailers in the country.

Each Sevenoaks Sound & Vision outlet stocks a wide range of quality products, covering all categories of specialist home entertainment, from DVD Players to Widescreen Plasma Televisions and Projection Systems, all at highly competitive prices.

Friendly staff are available in all stores to advise, demonstrate and guide you through the home entertainment jungle.

### new outlets now open

We are delighted to announce that we have opened new stores in the following locations. **Poole** 01202 671677 • **Solihull** 0121 733 3727 • **Swindon** 01793 610992 and **Wolverhampton** 01902 312225. Also our **Leeds** store has re-located to larger premises



## staff wanted

We are currently recruiting staff at several locations. If you are enthusiastic, knowledgeable, have good customer service skills and would like a career within the audio/visual industry, call Janys Ness on 01732 466214 for more information.

### sevenoaks online

The Sevenoaks Sound & Vision website has news and information on the Sevenoaks group and its 48 outlets nationwide. The website is designed to provide you with answers to the questions you may have when buying new equipment.

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

For impartial advice and information, just click on sevenoakssound and vision.co.uk

### stock clearance

With 48 outlets nationwide, the Sevenoaks Sound & Vision group stock and display a wide range of products. As Individual models and product ranges are changed or superseded, the preceding models are made available at a reduced price, for clearance. Visit our Website for an up-to-date list of the clearance stock, listed by outlet, within the Sevenoaks Sound and Vision group.

### 0% finance option<sup>+</sup>

Spread the cost of buying. 0% finance option is available on the vast majority of products we stock. Written details on request. Licensed credit brokers. Minimum balance 2400. Subject to status

### pricing policy

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

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

## www.sevenoakssoundandvision.co.uk

### HIFICHOICE UYER'S BIBLE STEREO AMPS

### **STEREO AMPLIFIERS** Integrated and pre/power amps

Amplifiers come in two basic forms: integrated and preamplifier (pre) plus power amp combinations. Integrated simply means that both pre and power sections are in one box. There are definite advantages to separating the low level, delicate signals in the preamp from the radiations of a power amp, so the more ambitious designs come in two or more cases. In some cases, each channel has its own power amp called a monoblock.

Amplifiers use two basic technologies: transistors or valves. Transistors are popular because of their practical and technical advantages, but valves - aka tubes - live on owing to aspects of sound quality that trannies can't replicate. If you want to play your music loud, use trannies; if you appreciate acoustic music, try valves.

The fundamental of amp/speaker interfacing is power rating and speaker sensitivity. You can drive a high-sensitivity speaker with a ten watt valve amp, but it takes a 200W behemoth to get the best out of speakers which present a difficult load. As a rule, you can't have too much power.

#### How to choose an amp

The main areas in which amps vary are: timing, dynamics, stereo imaging and transparency. Timing is the ability to present the attack and decay of each note precisely; amps with strong timing have a snap and coherence that is very appealing.

### HOME CINEMA STEREO

Stereo amps can be used in home cinema set-ups as well. You don't get the surround and centre channels, but well set-up stereo speakers do a remarkably good job of creating atmosphere for movies. Stereo



Dynamics is a general term for the ability to portrav variations in level between individual notes and is different to dynamic range (the difference between the loudest and softest notes). Dynamically strong amps tend to have more life and energy.

Stereo imaging is how solid or three-dimensional an instrument or voice sounds. The point of having two rather than one speaker is to make it possible to recreate the soundstage of the original recording, thus amps that have strong imaging skills can create a sonic space that seems to extend the room.

Transparency of detail is the most obvious difference between amps. One amp will present more subtlety than another, but the drawback with using this as your main criterion is that a forward or 'bright' sounding amplifier will emphasise detail at the expense of overall musical coherence.

amps tend to be better at reproducing music as they don't have the (electrical) noise-inducing digital processing of AV amps. AV amps cost three to four times as much as stereo models of a similar quality.

### 0.&.A SHOULD I LEAVE MY AMP ON **ALL THE TIME FOR BEST**

**RESULTS?** All audio electronics perform better when they are warmed up, and this is particularly the case when it comes to amplifiers. If there's no way that you can leave it on all the time, make an effort to switch

it on at least 20 minutes before listening.

#### WHAT IS BI-WIRING AND **BI-AMPING?**

Bi-wiring is when you run separate cables to the treble and bass/mid terminals on the speaker. In most instances, this improves sound quality so long as identical cables are used. Bi-amping is using two stereo amps to drive one pair of speakers, using one amp to drive the treble and the other for the bass/mid sections of the speakers.

#### WHY DO VALVE AMPS HAVE **SO LITTLE POWER?**

Valve amps are inherently low powered in absolute terms - at least when you compare them to their transistor-based cousins. But when partnered with high-sensitivity loudspeakers, they are quite capable of producing perfectly adequate head-banging levels.

### 1231



RA-02 £349 A terrific budget integrated from Rotel's latest line-up. Offers pace, guts and finesse, wrapped up in a prettier package than one might traditionally expect from the marque.



Sugden A21a £899 Build quality is not very slick and it runs uncomfortably hot. But don't worry about the low power specification - sound is in the very top class.



A85/P85 £1,330 Bi-amp combo featuring Arcam's £800 integrated and matching power amp. The resulting sound is both robust and finely detailed across myryad music types.



## STEREO AMPS BUYER'S BIBLE

### Our favourite 🔲 group test best buy 🕒 group test recommended 📧 editor's choice ▷ new gear review **STEREO AMPLIFIERS**

			AMPLIFIERS	5	PHO	REMOTE CONTROL	HEADPHONE SOCKET	Power output (M)	ISSUE
Inte	grated amplifiers			LINE INPUTS	PHONO INPUT	CONTR	E SOC	JIPUT	ISSUE NUMBER
	PRODUCT	£	COMMENTS	JTS	ğ	QL	Ê	3	Ĥ
	£1,000 Arcam A65 Plus	370	Highly articulate and flyant, offere you gue insight for its price	5	0	0		40	232
38	Arcam DiVA A75 Plus	470	Highly articulate and fluent, offers unusual insight for its price Quick, lively and well-presented amplifier, bass is sharper and more tuneful than its predecessor	5	0		•	50	224
88	Arcam DiVA A75 Plus	800		7	-			85	214
			Much enhanced design topology gives a more hard-hitting, engaging sound than previous Arcams	5					214
	Cyrus 8	800	The best-yet stereo amplifier from Cyrus is extremely good in standard guise, but can be upgraded too!	-		0		70	
88	Denon PMA-255UK	140	Great beer-budget buy, with everything necessary for basic but decent high-fidelity operation	5		_	۰	30	208
R	Exposure 2010	599	Neatly turned-out amplifier with mainstream appeal, but a bit on the bland side	6		•		50	214
2	Marantz PM8200	599	Warm, solid and likeable sound, with the occasional flash of steel when under pressure	5		•	•	60	224
8	Myryad Z140	450	Slimline beauty with genuine integrity and coherence, if relatively limited power	5	•	0	۲	50	232
8	NAD C320BEE	220	Spirited and enthusiastic amp with slight bass hump and a sound that will suit relaxed speakers	7		•	•	50	232
88	NAD C350	300	A typical NAD: refined, warm tonality, adequate detail and a strong power yield	7		•	۰	60	208
88	NAD C370	450	Flexible, ultra high-power integrated amplifier delivers a real punch, but is not without finesse	6		•	۲	120	217
R	Naim Nait 5	825	As always with the Nait, less is more, and the Nait 5's 30 watts seem to go a lot further with some sources	6		•		30	214
÷	Primare A10	500	Beautifully made, smooth and easy sounding, and though not overtly detailed it is well organised musically	6		•		50	208
R	Roksan Kandy KA-1	475	Power with control, barely compromised by a small degree of dryness	6		•	٠	120	205
R	Roksan Caspian	795	Mainstream Roksan line level amp works well under most circumstances	6				70	201
BB	Rotel RA-931 Mkll	189	Simple, non-remote amp majors on clarity and transparency, without sounding over-analytical	4			•	35	208
	Rotel RA-01	250	Take a Best Buy amplifier and rip out the remote control to save £100. No wonder we love it!	4	•		•	40	237
88	Rotel RA-02	349	Agile and capable slimline design with an engaging sound that draws you into the music	4	•	•	•	40	232
88	Sugden A21a	899	This single-ended, Class A transistor amp has exquisite resolving ability and presence - an authentic classic	5				25	224
ABOV	E£1,000					1	0.1		
88	Arcam FMJ A32	1,150	Remarkably flexible and well-featured, with excellent sound quality for the price	7	•	0	•	100	228
88	ATC SIA2-150	2,375	Starkly revealing powerhouse that eats most integrateds for breakfast	5		•		150	228
H	Canary Audio CA-608	2,250	If you value the grand scheme of things and appreciate a bit of dynamic vigour this could be the amp for you	4				24	202
EC	Karan KA-i180	3,900	Lean, sharp and articulate, this impressively constructed heavyweight is almost up there with the audiophile pre/power elite	4		•		180	236
8	Marantz PM-14 Mkll Kl	2,000	Highly sophisticated and well equipped, with a refined and relaxed sound quality that's hard to resist	7	0	٠	٠	100	228
88	Primare A30.1	1,500	Smooth, detailed singing quality, elegant appearance and healthy power yield	6		0		100	214
R	T+A PA 1520 R	2,400	Powerful, punchy amp that has many positive qualities, but sometimes seems to try too hard	8	OPT			260	230
8	YBA Intégré	1,550	Careful system matching is essential, but this is definitely one of the good guys	6		•		50	214

Our favourite 🔲 group test best buy 🖹 group test recommended 📧 editor's choice ≥ new gear review

						SPE	CIFIC	ATIO	IS	
5	IEKEU	A	MPLIFIERS	PRE	POWER AMPLIFIER		PHO	REMOTE CONTROL	POWER 0	ISSUE
Pre/	power amplifiers			PREAMPLIFIER	AMPLI	LINE INPUTS	PHONO INPUT	CONT	OUTPUT	ENUMBER
STATUS	PRODUCT	£	COMMENTS	FIER	FIER	SID	IPUT	ROL	(M)	IBER
UP TO	£2,000			12				100		
88	Arcam A85/P85	1,330	Integrated/power amp combo won't suit all systems, but delivers classic A85 virtues plus extra gravitas and range	•	۲	7		۲	85	225
EC	Arcam FMJ A32/P35	1,980	One of the few correctly matched integrated/power combinations, the sound has real gravitas and sophistication	•	۲	7	۲	۲	100	227
EC	ATC CA2	750	Stripped-down version of ATC's range topper delivers considerable transparency and bandwidth. Excellent value	•		5		•		221
98	Creek P43R/A43	900	Great value, with a particularly impressive way with dynamics	•	•	6		۲	140	212
88	Croft Vitali/Series 5C	2,000	Oddball retro style and ergonomics, but truly magical voice coherence and projection, great transparency	0	۲	3	۲		30	216
R	Cyrus aCA7.5/Smart Power	1,250	Great for classical, jazz, and existing Cyrus owners	۲	•	7			60	212
R	Densen Beat 200/300	1,985	Classy jet black cast boxes pack plenty of punch with good total musical coherence (remote £300 extra)	٠	•	6	OPT	OPT	100	216
EC	Musical Fidelity A308CR	3,898	Bold-looking design with an absence of sonic signature that proves there is life after Nuvista	•	•	4	۲	۲	250	231
R	NAD Silver Series S100/S200	2,000	Beautifully built kit that sounds as good as it looks, with heaps of power	•	۲	7		•	200	200
EC	Naim NAC112/NAP150	1,425	Clean, clever simplicity, plus a very well-balanced sound that's much sweeter than earlier Naims	•	•	6		•	50	213
<del>58</del>	Rothwell Indus/Rubicon	1,488	Quirky valve combo with passive pre-amp has a lovely neutrality and consistency across a wide dynamic range	•	٠	6			10	216
ABOV	£2,000									
B	Audio Note M2Phono/P2SE	2,698	Wonderfully natural and inviting sound with great warmth and drama, but limited loudness capability	•	•	4	•		18	216
EC	Audio Research LS25/VT100	12,199	This is not so much a fine valve amp, as a fine amplifier, full stop (LS25 MkII/VT100 MkII)	•	•	6	•	•	100	216

SPECS KEY LINE INPUTS Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. PHONO INPUT Input sockets and onboard phono stage for a cartridge Either MM (moving magnet) or MC (moving coll), occasionally both. **REMOTE CONTROL** A remote control is supplied with the amplifier. **HEADPHONE SOCKET** To drive your cans with. **POWER OUTPUT** Manufacturer's rated output in watts per channel.

SPECIFICATIONS

### 

Pre/	Pre/power amplifiers		VER AMPLIFIER	LINE INPUTS	PHONO IN	OTE CONT	R OUTPUT	SSUE NUMBER		
STATUS	PRODUCT	£	COMMENTS	ĒŖ	ÎR	UTS	PLI	ROL	3	BER
EC	AVI S2000M	2,398	This preamp/monoblock pairing does most things very well and images better than most	۲	0	5		0	150	221
EC	Border Patrol P20	6,750	Muscular 300B P-P design with fluidity and dynamics to match the best	۲	۲				20	231
88	Bryston BP-20/4B-ST	3,375	Quick, articulate and powerful, this is an excellent all-round amp which controls difficult loudspeakers superbly	۲	•	8			250	230
EC	Classé CP-35/CA-101	2,797	Very classy Canadian pre/power combo with a natural, open and no-nonsense sound	•	۲	4		0	100	237
88	Electrocompaniet EC4.7/120DMB	3,448	Bulky Norwegian combo has wonderful transparency, wide dynamic range and fine musical tension	•	۰	6		۰	120	216
EC	Krell FPB 700cx	14,998	Reference class amplifier may represent overkill in many systems, but when no compromise is called for, this is it		•				700	234
EC	Linn Klimax Kontrol	6,000	Beautifully executed example of Scots audio art, sounds as clean as it looks and is a lot more transparent than most	•		4		۲		238
EC	Linn Klimax Twin	6,000	Super-slim stereo power amp uses advanced switch-mode power supplies to fast, engaging effect		•				125	230
EC	Mark Levinson No380/No334	9,490	Pre has precision and warmth with unusual configurability, power has refinement, authority and transparency to spare	۲	•	6		•	125	195
EC	Naim NAP500	10,995	Wonderful neutrality, bandwidth and dynamic range, plus Naim's traditional leading-edge definition		۲				140	208
EC	Naim NAC552	11,750	Extremely expensive preamp, but still solid value. Magnificent sound with fine flexibility and convenience			6		۲		233
R	Primare A30.1/A30.2	2,700	Powerful, smooth, though slightly uneven with some speakers, but excellent control and separation in others	۲	•	6		•	100	225
EC	Steinhart DVP 2XR/Fidelio 102 DD	7,440	Brilliantly musical, making even difficult material enjoyable, but gets hot and has ergonomic foibles	•		7	•	0	100	236
R	TAG McLaren DPA32R/250MR	4,940	In a class of its own for extendibility and it's tremendously subtle, though it can sound constrained dynamically	•	•	6		۲	250	230

### AV AMPLIFIERS Surround sound amps for music and movies

The multichannel, surround sound or AV amplifier is a popular option, thanks to the success of the DVD player and home cinema. Now you can buy five channels or more of amplification for the price of two. Now that multichannel music is also on the agenda, there's a lot to be said for a good AV amp or receiver (an amp with a radio tuner built in).

So if you fancy hearing what DVD-Audio, SACD or even music DVD-Video can do, then check out a multichannel amp and speaker set-up – they're stunning with movies and none too shabby with music.

AV amps are usually designed primarily for movies and come with digital processing for the various soundtrack formats – Dolby Pro-Logic (analogue), Dolby Digital and DTS, which offer discrete surround sound in 5.1 and 7.1 channel formats. More ambitious designs also offer THX post processing, designed to emulate the sound of the mixing theatre at home.

Processing in AV amps is needed because the surround formats on DVD-Vs are compressed, limiting their high-fidelity



potential. This is why new formats SACD and DVD-A, which don't use 'lossy' compression, were created for music.

All this processing power can take its toll on analogue formats. The best multichannel amps for music are often the simplest, but any that offer a complete bypass option with six-channel input are suitable. It's also worth looking at real power – five or seven channels of amplification are not easy to produce with a feeble power supply, and the cheaper amps in particular often fail to live up to the claims.

### Q&A

### **HOW MANY CHANNELS?**

Depends on how many speakers you want. Multichannel music discs come with six or 5.1 channels, but for new movies, 7.1 systems are where it's at. 7.1 set-ups also mean you have speakers directly behind you – preferable for music discs.

#### WHAT'S THE DIFFERENCE Between a processor and an av AMP?

Processors don't have amplification on board and you need separate power amps. AV amps and receivers have processing and amps in the same box.

### WHAT DOES THE .1 In 5.1 stand for?

This is the LFE (low frequency effects) or bass channel that is reproduced by a subwoofer.

With DVD-Audio and SACD offering high-quality multichannel music, surround sound is no longer just a home cinema thing. An increasing number of people want to build a multichannel system that will do their music as well as

### HI-FI MEETS SURROUND SOUND

their movie DVDs justice, and the number of AV products delivering sufficient quality is on the increase. But most aren't cheap – building a top-quality system with five or more channels is inevitably more expensive than sticking with stereo. There are some very decent integrated options below £1,000, though the best (and most costly) route is to buy a separate processor and power amp(s). Or you can add AV amplification to a stereo model you can't bear to part with.

## AV AMPS BUYER'S BIBLE



### Pioneer VSX-D2011 £900 A feature-packed receiver, and a great sounding one to boot. Currently the best AV amp below £1,000 for music and video.



Marantz SR9200 £2,000 Few AV receivers manage to sound as musical as this one. A top all-rounder and an excellent multichannel solution.



AVC-A1SR £3,000 Denon's AV behemoth is arguably the best integrated multichannel amp to date superbly cinematic and one of the very few with genuine 'hi-fi' music credentials.



AV8/P7 £5,498 A fantastic achievement from this respected UK brand - an AV processor and seven-channel power amp par excellence.

SPECIFICATIONS

5-CHANNEL PC

### Our favourite 🗉 group test best buy 🖹 group test recommended 🔟 editor's choice 🖻 new gear review **AV AMPLIFIERS**

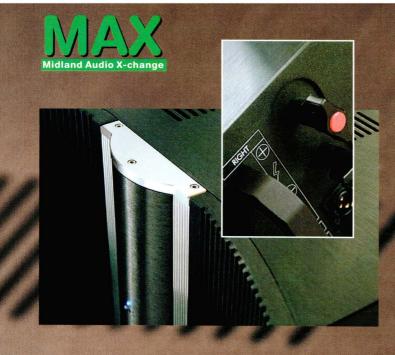
Multichannel	amplifiare
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INTEGUIED AV AMPS       Solution         Arcam AVR200       800       Upgraded AVR100 with Dolby Pro-Logic II and some bass management. Great for stereo, a bit bass-light for multichannel       Image: Constraint of the stereo and stereo a		RECE	LINE I	7.1 COMPATIBLE	HANNEL POWER (M)	ISSUE NUMBER		
			COMMENTS	RECEIVER		ATIBLE	ER (M)	IMBER
INTEG	RATED AV AMPS	Contraction of the						
8	Arcam AVR200	800	Upgraded AVR100 with Dolby Pro-Logic II and some bass management. Great for stereo, a bit bass-light for multichannel	۲	6		70	229
8	Denon AVC-A11SR	1,800	Feature-packed with superb spatial processing, combined with powerful, though slightly opaque overall audio quality		11	٠	۲	235
EC	Denon AVC-A1SR	3,000	An AV amp with genuine high-res hi-fi credentials. Includes a ground-breaking 'wide bandwidth' digital audio link		8	۲	170	232
8	Harman Kardon AVR 5500	749	Powerful-sounding receiver with come clever features, such as an automatic set-up, but a bit hard-edged	۲	8	۲	85	229
88	Marantz SR9200	2,000	Powerful, cool-running UK-customised THX receiver with spacious, relaxed sound quality with music and movies alike	•	9	۲	۲	235
88	NAD T761	650	First-rate home cinema amp that sounds more powerful than its specs imply, and competes with specialist stereo amps	0	9		80	223
ŝ	Onkyo TX-DS989	2,850	Authority personified, excellent AV signal processing, but sound quality a tad unsubtle	۰	9	0	160	210
>	Pioneer VSX-D2011	900	Outstanding sonic performance for the price and a remarkable features list to boot	0	10	۲	140	235
EC	Pioneer VSA-AX10	2,700	Seven channel tour de force with automatic speaker set up and eq, excellent with music, movies and DVD-A/SACD		8	۲	150	229
Ř	Sony VA-777ES	1,500	Smart circuitry gives this model unusual precision and transparency, and it is a fine all-rounder		9		100	210
AV PR	DCESSORS AND POWER AMPS							
EC	Arcam AV8/P7	5,498	State-of-the-art processor (£2,999) and seven-channel power amp (£2,499). An excellent fusion of stereo and surround sound		7	•	180	235
EC	Bryston SP1/9B THX	7,100	Stripped-back 5.1 channel processor/amp combo reaches genuine audiophile heights		6	opt	120	219
EC	Copland CVA306/CVA535	3,748	Tube analogue six-channel pre transforms multichannel audio from a novelty into a genuine advance for the high fidelity art		5		125	236
≥	Cyrus AV8	1,100	A refined and listenable processor that will integrate into an existing hi-fi system with ease		9			235
B	Cyrus AV8/3x Smartpower	2,900	Classic Cyrus sound translated to a multichannel arena, limited features and power, but civilised sound		3		105	238
88	Marantz PS-17/2 x SM-17	3.400	Classy and capable system, great steering, warm solid sound and high detail resolution, and some great gadgets		10	۲	60	238
EC	Meridian 861	9,833	Powerful surround processor with flexible modular construction, marvellous versatility to drive any speaker configuration		6	0		230
R	Myryad MDP500/MA240/360	3,799	Superb three-box, five-channel AV amplifier. Great with movies and beats most multichannel amps hands down with music		9	opt	120	215
R	Naim AV2/NAPV175/NAP150	4,175	First truly credible multichannel system from Naim is idiosyncratic but offers excellent basic sound with modest spatial steering		5	۲	50	238
88	Primare SP31.7/A30.5	4,200	Great all-round system which brings the qualities of good stereo high fidelity to a multichannel world		5	0	120	238
B	Roksan DSP/5ch amp/VSU	2,440	Clean, powerful stereo expanded seamlessly, if without distinction, to 5.1 channels		4		80	210
EC	TAG McLaren AV32R EX	2,994	Flexible AV processor, unusually good with music. Excellent for multichannel system in standard or seven-channel 'EX' form		6	۲		215

SPECSICY RECEIVER Integrated multichannel amp with built-in radio tuner. LINE INPUTS Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. 7.1 CHANNEL COMPATIBLE The amp either has seven-channel in and outputs or in some instances is equipped with seven channels of amplification.

5-CHANNEL POWER (W) Power output in watts per channel of all channels driven by the amp.





#### Krell KCT Preamplifier

The Krell Current Tunnel (KCT) CAST stereo preamplifier holds the distinction of being the finest sounding, most technologically advanced, and most system friendly stereo preamplifier ever designed by Krell. It derives its name from the way the signal is routed from its input to its output. The signal is brought into the KCT in the current domain from a CAST source such as the Krell KPS 28c Compact Disc Player. The signal stays in the current domain as it travels through the KCT, protected from extraneous noise and unwanted signal interference as if it were in a tunnel. Using CAST technology and power supply regulation that is a direct result of the development of the Master Reference Amplifier, the KCT is able to deliver a usable bandwidth that extends to 1.5 MHz. The result is seamless, transparent musical reproduction of even the most dynamically demanding sources. Ease of operation is also accounted for in equal measure with features that include dual-zone operation, with independent volume controls, Theatre Throughput for integration into home theatre systems, and RS-232 controls for whole house automation. The KCT is a stereo preamplifier that delivers the ultimate o performance today and the opportunity for continued growth into the future

#### www.midlandaudiox-change.co.uk

#### Krell FPB400cx/700cx

0/X

The Full Power Balanced X Series Stereo Amplifiers offer the greatest performance possible from a stereo amplifier. All X Series amplifiers share the same circuit topology, from the 300 Watt Full Power Balanced 300cx and the mid-level FPB 400cx at 400 Watts, to the awesome 700 Watt FPB 700cx - the most powerful stereo amplifier ever offered by Krell. While the amplifiers have much in common, there are also some important reasons for investing in the additional power. Each amplifier houses a massive power supply, doubling in size with each step. When the power increases from 300 Watts to 400 Watts and 700 Watts, the power supplies increase from 2000 Watts to 4000 Watts to 8000 Watts. respectively. More power delivers more authority on the low end, greater ease through the critical midrange frequencies, and effortless highs. In short, with every significant increase in power, there is a palpable increase in the believability of the sonic presentation. We are pleased to announce that Midland Audio X-Change is the exclusive Krell dealer for the Midlands, and will be hosting a Krell musical evening within the next few months. To hear how good these amplifiers really are - call John Roberts for an appointment



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Krell Current Turne

#### Krell KPS 28c

The KPS 28c Compact Disc Player reveals the full sonic potential of the compact disc format. The KPS 28c is noted for its ability to resolve the finest musical details—many listeners boast of hearing their compact disc collections "for the first time" upon introducing the player into their systems. CAST, Krell's proprietary current-audio connection's featured along with Current Mode, Class A, and discrete balanced circuitry. The power supply, featuring several stages of regulation, is nodelled after the Krell Current Tunnel preamplifier. The beautiful black anodised chassis is finished to complement the Full Power Balanced X Series Amplifiers, nght down to the elegant convex centrepiece. A custom-machined remote control, hand finished and laser engraved, is included

MAX Midland Audi

## Midland Audio X-change MAX

#### **Sonus Faber Cremona Auditor**

In the best of Sonus Faber tradition: precise timbre, state-of-the art components, and a superb finish combine to create the heir to the history of creating compact, versatile speakers. The Auditor meets the most demanding listener's insistence on superior sound. Please book for your demonstration of this fine loudspeaker

#### Verity AudioTamino II

Building on the worldwide success of its prestigious products, Verity Audio is pleased to introduce a new high-quality loudspeaker – The Tamino. It sets new standards of sonic excellence at a sensible price of £3999.

The Tamino is a unique reduced-size floor-standing loudspeaker that incorporates the same attention to detail, exquisite lacquer and level of execution, which granted the Verity Audio

loudspeakers an enviable notoriety.

The Tamino definitely answers a growing need for a system that offers a fine musical experience to more music lovers while being a luxury piece of furniture Book now to hear this amazing loudspeaker.





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Suppliers and installers of High Quality Audio Systems 47 Laboratory Accuphase



ATC Audio Physic Audio Research **Avalon Accoustics** Avid bel canto **Benz Micro** Cardas Clearaudio **Conrad Johnson** dCS Densen DNM/Reson Electrocompaniet **Finite Elemente** Graaf Gryphon

J M Labs Krell Kuzma Lavardin Mark Levinson Martin Logan Michell Nagra Primare ProAc Rega Siltech Sonus Faber Spectral Nordost Sugden **Transparent Audio** Verity Audio Wadia

bel conto

#### Bel Canto eVo2/4

The Bel Canto eVo2 represents the true potential of modern digital amplification — providing a transparent and musical path to the original performance for stereo and multi-channel systems. The eVos present a naturally sweet and extended sound quality that transcends older amplifier technologies in both efficiency and sonic quality. With the advent of new and emerging digital technologies, this is an amplifier design whose time has truly come. Guided by the musicality of Bel Canto design, the eVos mark a remarkable step forward in digital stereo amplification.

## STEREO SPEAKERS

Speaker pairs for stereo sound

While loudspeakers are relatively straightforward in construction, they have one of the most difficult jobs in hi-fi – turning an electrical signal into an acoustic one. Most consist of two or more drive units in a box that usually has a port in it to make life easier for the cone in your mid and/or bass driver. Alternatives to this arrangement include panel speakers, which use electrostatic or ribbon technology, and horns, which use drive units in complex cabinets that greatly improve efficiency.

Box speakers are either designed to stand on the floor (floorstanders) or on a stand (stand or shelfmounts). Floorstanders have greater internal volume which can translate into greater efficiency and/or bass extension, but less substantial designs also introduce cabinet resonance and thus distortion. But they don't need stands and therefore have the aesthetic edge. Standmounts have less cabinet to vibrate and often score in terms of imaging and timing, but need good stands to work well.

#### Positioning

The closer the speaker is to a wall, the greater the reinforcement of bass. As all rooms differ, there's no simple formula for placement and experimentation will yield the best results. Altering the angle at which the speakers face the listener can also make a difference to balance and stereo image.

#### **Going multichannel**

Many stereo speakers can be augmented with centre and surround channels from the same brand to create a multichannel system. The most important element is a centre channel, which needs to match the stereo pair as closely as possible. For the best musical results, surrounds should be as per the front left and right channels, but if space or funds don't permit, smaller designs can be used quite effectively.

Though some speakers have a power rating, this isn't as informative as a rating for how difficult they are to drive, nor does it indicate wattage extremes for the partnering amp. In practice, an amplifier cannot be too powerful. Our listings quote ease of drive to indicate how much power



#### **Choosing speakers**

Because speakers and the rooms they are used in vary so much, choosing a pair tends to be quite subjective. To find some that will suit you, try to listen to a good variety to hear how they differ, and if possible, audition some at home. Tonal balance tends to vary the most, but is less important than more subtle factors such as timing and dynamics. Finally, listen with your ears not your eyes – great-looking speakers aren't necessarily great sounding.

#### **Spikes**

Floorstanding speakers and stands have threaded inserts for spikes that allow rigid coupling with the floor. These have the advantage of draining resonance from the speaker and giving tighter bass, but can result in more vibration getting back to the electronics and often cause the floor to resonate as well.

### POWER

your amp needs to avoid a mismatch. An above-average (A+) speaker will work with amps rated at 25W plus, while an average (A) speaker will need 50W or more, and a below average (A-) speaker could require 100W plus to sound its best. These are guidelines rather than rules.

### 0&A

#### IF SPEAKERS ARE RATED AT 75 WATTS, DOES THAT MEAN I NEED A 75 WATT AMP?

No, see the box on power for the full story.

#### WHICH SPEAKERS ARE BEST FOR SMALL ROOMS?

Those designed to work close to the wall will be smoother in confined spaces. Speakers that have relatively dry, tight bass will also sound better.

#### WHICH SPEAKERS ARE BEST FOR BIG ROOMS?

Big, efficient, easy-to-drive designs are more likely to be able to fill a room better than compact models.

#### DO I NEED TO BUY CENTRE AND SURROUND CHANNELS FROM THE SAME BRAND AS MY STEREO SPEAKERS?

Yes, assuming that you're wanting to create a homogenous surround sound experience, where voices don't change when they move from one channel to another.

## STEREO SPEAKERS BUYER'S BIBLE

### **TOP BUYS**



Audience 42 £400 It might be expensive for a vinyl-covered miniature, but it's an aristocrat among the breed, and we'd be surprised if there's a better small speaker around for the price.



**Castle** Conway 3 £930 A great success with its lovely real wood finish and beautifully balanced sound, along with fine dynamics and transients. A kingly sub-£1,000 floorstander.



PMC FB1 £1,410 A well-built floorstander that delivers the goods sonically, with the sort of subtledy and delicacy that's likely to have strong audiophile appeal.



Signature 805 £2,250 You won't get this degree of resolution out of a wider bandwidth speaker at anywhere near the price, and most of your music will sound considerably better through them.

			GROUP TEST BEST BUY 🔄 GROUP TEST RECOMMENDED 📧 EDITOR'S CHOICE 🔁 NEW GEAR REVIEW		SP	ECIF	ICATI	ONS		
		J	SPEAKERS	size W,H,D (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FR	CLOSE TO WALL	ISSUE
Ster	eo speakers			/,H,D (	ISTAN	OF DF	ROM	FREE SPACE	TOW	ISSUE NUMBER
_	PRODUCT	£	COMMENTS	CM)	DER	RIVE	(HZ)	ACE	ALL	BER
	£1,000	1997	1991年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,199				13			
88	Acoustic Energy Aegis Evo 1	180	An unusually classy and sophisticated performer for the price; laid-back sound and good looks too	19,36,24		A	30	•		226
8	AR S20	150	Might not have the most dynamic sound around, but it's an honest and effective musical communicator	20,37,28		A	28	•		215
	ATC SCM12	999	Transparent, engaging and quick – a revealing, high-fidelity performer that's not afraid to bare all	22,39,25		A	62	۲		237
8	Audio Note AZ One	449	Delivers music with great gusto and enthusiasm, but also more than its fair share of coloration	23,83,29	0	A	30		۲	215
R	AVI Biggatron Red Spot	599	Good bass coherence and timing, but the lean and decidedly forward balance won't be to every taste	19.5,37,30		Α	30		۲	211
88	B&W DM303	180	Chunky looking and lively sounding, with deep bass, a fine midband and a restrained top end	20,33,23	-	Α	23		0	226
88	B&W DM602 S3	300	Old-fashioned size/shape, but this timeless design has a rare combination of grip, authority and headroom	24,49,29		Α	25	•		234
≥	B&W DM309	330	All the grace and punch of the smaller DM303 – a suberb floorstander for the $_{\mbox{m}}$ oney	20,91,30	۲	Α	60	۲		235
88	B&W DM603 S3	600	Excellent all-rounder, smooth for its price with fine bass and mid, though top might be more refined	20,91,29	۲	A-	25	۲		231
8	B&W CDM-1NT	750	An uncommonly stylish and sonically self-effacing standmount that should be very easy to live with	22,40,29		А	30	0		208
- H	Blueroom Minipod	249	Wonderfully blobular styling aside, it's hard not to fall for the Minipod's openness, expression and detail	18,34,17		Α	50		۲	225
8	Castle Durham 3	399	A very attractive near-miniature wallmount with a lively and communicative disposition - lots of fun	19,37,22	۲	Α	45	۲		227
88	Castle Conway 3	930	Lovely real wood finish and a beautifully balanced sound, fine dynamics and transients, but might have more 'air'	22,91,27	•	A+	30	۲		237
8	Dali Royal Tower	750	Cutely compact floorstander has a delightful liveliness and lightness of touch to match its luxury real wood finish	17,85,22	•	Α	25		۲	237
88	Dynaudio Audience 42	400	An aristocrat of the vinyl-covered miniature breed. A terrific small speaker for the price	17,29,24		Α	40	۲		215
R	Dynaudio Audience 62	729	Pricey but cute vinyl floorstander that is a class act sonically - lightweight, but clean and dextrous	20,86,26		A	30	۲		231
R	Elac JET 205	650	Sweet, smooth, clean and delicate tweeter justifies hefty price tag, but a little lacking in warmth and body overall	20,33,29		Α	40	۲		231
BB	Epos M12	499	Retains the beguiling midband coherence that made the ES12 such a favourite. A genuine class act	20,38,26		A	40	0		215
88	Heybrook Optima	259	A dumpy ugly duckling with a heart of gold. Deserves a better tweeter, but communicates well	22,88,29	0	A+	30	•		193
88	Heybrook Heylios	269	Classically styled standmount has a fine balance of smoothness and dynamics, plus real wood veneer	24,36,27		A+	25	•		201
P;	Heybrook Duet	750	Looks slightly old-fashioned and sounds a bit coloured, but its fine timing and liveliness serve music well	23,43,30		A+	27	•		199
88	Infinity Alpha 30	300	Some sharpness and nasality, but fine musical literacy plus a good measure of dynamic expression	22,86,29		A	30		۲	215
R	Jamo E 850	400	A tad bright perhaps, but a cleverly conceived and good-looking speaker at a very reasonable price	18,87,34	•	A-	30	0	_	224
88	JBL Xti40	430	Real wood and a cute shape, with a punchy driving bass and a restrained overall balance	23,82,31	•	A	40			210
88	JMLab Chorus 715	529	A fine all-rounder, this compact floorstander is lively and well balanced with good dynamic drive and grip	20,94,28	•	A-	22		•	227
R	JMIab Cobalt 816	899	A little lean, cool and bright, but has righteous dynamic expression and lively communication skills	22,99,29	•	A	22	۲		224
R	KEF Q1	250	Stylish if slightly small-sounding stand-mount with fine midband coherence; works well close to a wall	22.35.30		A	30		۲	234
8	Mission m71	129	Neat-looking and very discreet-sounding at a very nice price; experiment for best placement	17,29,28		A	40		0	226
BS	Mission m73	199	Good-looking floorstander. Dynamics are a little limp, but it has a good overall balance. Excellent value for money		0	A	25	•		215
	Mission m51	300	Distinctive and dynamic – not the last world in subtlety but enjoyable with both music and video sources	21,32,34		A+	58			228
	Monitor Audio B2	200	A lively and entertaining speaker with tight controlled bass and pronounced midband	18.5,35,25		A	42		0	238
	Monitor Audio Silver S1	300	Super-quick sonics thanks to the C-CAM metalised drivers, Resolution and speed – a great value box	18,30,24		A	45			236
B	Monitor Audio Silver S8	800		19.90.27	0	A	20		-	237
_	Monitor Addio Onitor OU	000	A thoroughly impressive air founder, notable for its while dynamic range, excellent imaging and the fleutrality	10,00,27	100		20	-an-		201

SPECS.KEV SIZE WXHXD (CM) Width, height and depth of one cabinet in centimetres. FLOORSTANDER Speakers that don't require stands. EASE OF DRIVE How much power the amplifier needs (approximately) to drive the loudspeaker effectively. A+ 25 watts plus A 50 watts plus A-100 watts plus ACT Active – the speaker has its own in-built amplifier. BASS FROM How low the speaker goes – the smaller the number the deeper the bass. FREE SPACE The speakers work best away from wall(s). CLOSE TO WALL The speakers will work best when up against a wall (but avoid corners).

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## STEREO SPEAKERS BUYER'S BIBLE

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U			U JE LANLING continued	SIZE V	FLOO	EASE	BASS FROM (HZ)	H	CLOSE	ISSI
Ster	eo speakers			Size W,H,D (CM)	FLOORSTANDER	EASE OF DRIVE	FROM	FREE SPACE	5	ISSUE NUMBER
STATUS	PRODUCT	£	COMMENTS	(CM)	DER	RIVE	(HZ)	ACE	WALL	IBER
≥	Mordaunt Short MS914	300	An even and open loudspeaker that is both detailed and precise. A budget gem	21,90,27	•	А	50	۲		234
R	Neat Petite III	845	The treble is peaky, but this is still one of the most coherent and communicative miniatures around	20,31,20		Α	30		•	211
R	Opera SP-1	525	A strong case for serious hi-fi with curves. Sound is clear, crisp and detailed	16,29,23		Α	50		0	225
88	PMC TB2	700	A worthy successor to the TB1, which sets a high standard in its size/type for neutrality and transparency	20,41,31		Α	30	•		211
R	Sonus Faber Concerto Home	999	Looks good and sounds better. Great midband communication skills, well aligned for close-to-wall siting	24,36,34		Α	40		6	233
R	Spendor S3	600	Beautifully voiced, unboxy, lacks some dynamic and loudness capabilities. Best suited to small rooms	17,31,21		A-	30		0	223
88	Tannoy Mercury mX3-M	229	Beautifully balanced and voiced, with low coloration and good transparency, but could be more dynamic	19,87,25	•	A+	45	0		234
88	Tannoy Revolution R2	400	Bargain price real wood floorstander is beautifully voiced and very even-handed, if a tad laid back	17,94,24	۲	A-	20	۲		193
R	Tannoy Eyris 1	600	Pricey but very cute wallmount miniature; oddball, but has marvellous midband subtlety and delicacy	17, 35, 26		A+			•	227
R	Tannoy Eyris 2	999	This super-slim and cutely different-looking floorstander is very communicative, despite weak treble	17,91,26	۲	Α	20	•		231
BB	Triangle Antal XS	875	Ugly duckling has a rather tasty sound, with plenty of vigour and excitement	22,108,30	•	A-	40	۲		219
R	Wharfedale Diamond 8.2	150	Sonically a bit crude and in yer face, but neat styling and plenty of speaker for your money	21,37,25		A-	30		•	226
ABOVE	£1,000	1 100	Calid ask flavotandar is a little law asunding, but is well belanged and smeath with madest coloration	19,90,26	0	A-	25			211
B	Arcaydis Concept 2 ATC SCM20 SL	1,199	Solid oak floorstander is a little lazy sounding, but is well balanced and smooth with modest coloration						0	
EC		2,051	Not too transparent, but has great dynamic grip and bass to die for. Needs a powerful amp	24,44,33		A-	65	-	•	219
EC	ATC SCM10A	1,269	Stylish, active powerhouses with plenty of subtlety when required (balanced connection only)	23,39,31		A	45	•		221
	ATC SCM50A SL	7,255	350W of power combine with superb drive units and a 48kg cabinet to provide alarming resolution	35,72,48		A	38	•		218
R	Audio Note AN-E/D	1,520	This classic large standmount might have throwback aesthetics, but it delivers an exceptional all-round sound	36,79,28		A+	20	•		204
R	Audio Note AN-J/SPe	1,675	Retro styling, but a vigorous and dynamic performer that creates fine musical tension	33,59,25		A	38	•		219
R	B&W Nautilus 805	1,400	A small-sounding loudspeaker dynamically, but very stylish, clean and 'unboxy', delivering loads of detail	24,42,31		A	28	•		199
EC	B&W Nautilus 802	6,000	Outstanding example of the high-tech speaker builder's art. Needs real power, but gives real sound	39,111,55	0	A-	34	•		183
R	B&W Nautilus 801	8,500	The 801 is a magnificent loudspeaker in nearly every respect, but it is one that likes to play loud	52,111,69	۲	A-	34	۲		186
EC	B&W Nautilus 800	11,000	Unequivocal challenge for world domination. One of the most revealing speakers around	45,120,65	۲	A-	<20			231
EC	B&W Signature 805	2,250	Staggering transparency and resolution for the money, one of the best standmounts money can buy	24,42,34		A-	42	•		232
В	BC Acoustique Araxe	1,300	Neat compact floorstander is a very lively communicator, if a little short on deep bass grunt	21,92,30	0	A-	40	0		204
88	Castle Harlech S2	1,000	Improved Harlech is slightly aggressive, but lots of fun, and very good-looking too	20,96,33	۲	A	50	•		219
R	Castle Howard S3	1,350	A solid all-rounder with uniquely spacious imaging, bit pricey compared to some though	21, 99, 32	۲	A+	38	•		229
В	Dali Noble	1,059	Easy on the eye and the ear, but unerringly musical. Some might prefer harder-hitting dynamics and bass	18,117,23	0	A	41		0	225
3	Dali Evidence 870	1,249	A real heavyweight, sonically and physically, and good for movies as well as music	25,106,36		A-	20	0		204
88	Dynaudio Audience 82	1,460	Bulky, with vinyl finish, but offers exceptional neutrality, bass extension, power handling and loudness potential	22,106,36	۲	Α	30	0		229
R	Dynaudio Contour 1.3 Mkll	1,198	Outstanding performer among compact standmounts; neutral, with fine punch and dynamic range	20,38,29		A-	45	0		219
8	Excel 202A	1,795	Very pro-styling, a compact active monitor in the BBC tradition - neutral, unboxy and laid back	15,21.5,36		ACT	25	۲		214
8	Harbeth Super HL5	1,699	Looks old-fashioned, but classic monitor combines authority and transparency with good neutrality	33,64,31		Α	30	0		233
80	Infinity Intermezzo 2.6	1,600	Bi-amp speaker sounds laid back and 'disappears' acoustically; highly enjoyable, looks and sounds great	25,38,29		A+	27	۰		233
EC	JBL Ti-2K	1,250	Solid standmount with boat-tail rear end and highly detailed, spacious sound alongside weighty bass	42,28,42		Α	45	•		230
88	JMIab Cobalt 826	1,279	Big three-way French floorstander is lively, informative and mostly neutral, if a tad bright	22,103,34	0	A-	35			219
EC	JMIab Micro Utopia	3,349	Superb top-of-the-line standmount with magnificent powers of analysis and communication; no deep bass	26,43,41		A-	50	•		220
В	Linn Katan Aktiv/LK140	2,325	Too small to have much grunt or loudness, but bright top is very sweet, clean and detailed	17,34,23		ACT	40		•	214
EC	Living Voice Avatar	2,700	Dynamic and highly resolved, yet physically discreet design with a relaxed balance	22,104,27		A+	40	۲		218



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Stei	reo speakers	3	SPEAKERS continued	SIZE W,H,D (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER
EC										
88	Living Voice Avatar OBX-R	4,000	Discreet, but extremely fine design with external crossover and an affinity with great amps and sources	22,104,27		A+		۲	6	19
R	Meridian M33	1,560	Compact active wallmount packs remarkable dynamic vigour into a very discreet package	15,38,22	_	-	45		0	21
EC	Naim Allae	1,990	Chunky little floorstander has a 'cold' overall balance, but remarkable powers of musical analysis	24,94,28	0	A		۲		22
	Naim NBL	6,925	Elegant, large floorstander is exceptionally informative, with an awesome dynamic range and dry, forward balance	29,116,47	•	A-	20	۲		20
EC	Naim SL-2	4,995	Delivers magnificent musical analysis and communication skills in a notably discrete physical package	28,103,33	0	A-	20		0	23
EC	Neat Ultimatum MF9	8,500	Superb musical communicator with splendidly deep and agile bass and fine open neutrality	22,150,40	•	A-	20	0	_	22
R	PMC LB1	1,150	Still fully competitive eight years after our original review, this genuine compact monitor is now a modern classic	17.5,53,26		A-	40	۲		19
88	PMC FB1	1,410	Has the lively coherence of a simple two-way, alongside impressive bass weight and extension	20,105,31	۲	Α	20	٥		20
R	PMC AML1	3,700	Sparkling active Pro monitor with serious attitude, 'in yer face' balance and great dynamics	20,40,32	ļ	A	25			2
EC	PMC IB2	6,150	Stunning in an understated way, this speaker creeps up on you and hooks you with its transparency and power			A-	25	•		23
EC	Royd Revelation RR2	1,199	Pretty little floorstander delivers genuinely deep bass without 'thump'; lovely clean, open midband too	19,89,18	0	A-	20	0		22
R	Ruark Prologue II	1,250	Attractive shape with a punchy and unusually open and neutral sound that's impressively free from harshness	22.5,96,24	0	A+	40		0	22
R	Ruark CL20	1,650	This punchy rock'n'roller has plenty of drive and enthusiasm, but can sound aggressive	23,93,34	۲	А	38	۲		2
88	Snell E.5 Mk2	1,520	Large floorstander has serious deep bass extension, and also a delicate midband with low coloration	22,109,30	۲	Α	20	۲		2
R	Spendor SP2/3e	1,295	Large standmount is polite to a fault, but has beautiful 'hear-through' transparency - a genuine classic	28,55,33		A+	50	0		2
B	Spendor S8	1,700	Classic midband neutrality and transparency, the S8 has great subtlety and fine bass grunt too	23,92,32	۲	A+	40		۲	2
EC	Spendor S9	2,500	Meaty three-way with superb bass and explicit mid - one for detail fans	24,99.8,38	۲	A+	37	۲		22
EC	TAG McLaren F1	17,995	Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality	40,127,48		A-	25	0		20
EC	Tannoy Dimension TD10	5,000	Extremely competent and rhythmic speaker, a futureproof supertweeter and detail to die for	35,101,37		A-	38	۲		2
EC	Tannoy Dimension TD12	6,500	Art Deco-inspired style, plus magnificent headroom and genuine monitoring neutrality - a tour de force	42,126,41		A-	23	0		23
R	T+A Talis TLS3	1,799	Super-slim and beautifully engineered metal towers deliver marvellous musical results with superb imaging	15,130,17	0	А	30	0		2
R	Vandersteen 2Ce Sig	1,990	Very superior midband neutrality, impressive freedom from boxiness and splendid stereophony. A classic	41, 109, 26	0	A-	30		۲	2
EC	Veritas H3	6,000	Loads of fun with wonderful dynamic and temporal integrity from horn-loaded Lowther drivers	30,110,47	0	A+	50		0	19
R	Vienna Acoustics Mozart	1,500	Gorgeous slimline floorstander sounds very laid back, but also very charming and musical	17,97,30	۲	A-	25	0		19
R	Waterfall Victoria	1,500	Glass enclosures go with any decor. The Victorias make music in a confident and involving way	21,100,21	0	Α	45	•		2
EC	Wilson Benesch Chimera	15,000	Elegant with lovely sonic delicacy and plenty of weight too. Works best at low levels, but a difficult load to drive	24,145,55		A-	20	0		23
EC	Wilson benesch Discovery	5.500	Innovative three-way with built-in stand, combines great subtlety with weight and headroom	23.47.38	0	A-	45	0		2

### AV SPEAKERS Speaker solutions for multichannel surround sound

Multichannel speaker systems have a front left/right (L/R) stereo pair, a centre or dialogue channel, two (5.1) or four (7.1) surround speakers and often a subwoofer. For best results, each of these speakers bar the sub should be identical. The problem is that few surround systems are dedicated to music and perform a home cinematic role as well, meaning the video monitor. Centre channels are usually wide and short for this reason.

This should not be a barrier to great surround for music and movies however, as many brands make centre channels with a very close sound to their L/R designs.

#### **Music vs movies**

SELLE

High-resolution SACD and DVD-A music recordings tend to be mastered with

Ideally you should set up surround speakers with as much care as you would stereo systems, but practical issues tend to have a significant bearing on surround and centre speaker placement. Surround channels can be floorstanding or wallmounted, and centres usually have to perch on the TV or underneath it. Given these limitations, adjust your L/R front

centre speaker has to sit above or below a

speakers to give the best tonal match with the centre. If there's more than just you listening, 'toe in' the speakers so that their axis crosses in front of the listening position – this gives a wider stereo image. And if there's a subwoofer it should be placed near the front speakers. Use a sound pressure metre (available from Tandy among others) to accurately set levels. surround speakers in the ITU standard position which is as far behind the listener as the front channels are in front. 5.1 movie soundtracks tend to place surround channels not so far behind and to the side of listeners. Usually, practical limitations will dictate a limited range of placement options, but if you are a dedicated music fan, check out the ITU set-up regulations in the booklet supplied with SACD discs.

SPECIFICATIONS

### **SUBWOOFERS**

Subs start working where stereo speakers run out of steam at low frequencies. The idea is to create deeper, better-controlled bass rather than more of it. They usually have onboard amplification (active) and connect to either the LFE (Low Frequency Effects) channel in a home cinema set-up or the speaker terminals in a stereo set-up.

## AV SPEAKERS BUYER'S BIBLE



600 S3 package £750 Incorporates 602s, 601s and an LCR 600 centre speaker. Great in both stereo and multichannel surround modes.



KEF Q AV7 £1,300 With the latest Uni-Q refinements, this system is astonishingly accomplished and amazing value.



**JMlab** Cobalt package £1,797 There's no avoiding this package's fine underlying sound quality - both stereo and multichannel are reproduced with aplomb.



Mirage Omni 2 £2,650 Dark tonality but superb imagery makes this an excellent all-round choice for music and movies alike

> NUMBER OF S BASS FF

EASE

SPECIFICATIONS

FR

SPECIFICATION

SIZE

BASS

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CLOSE

**USSI** 

## Our favourite 🗔 group test best buy 🔄 group test recommended 🔟 editor's choice 🎽 new gear review **AV SPEAKER PACKAGES**

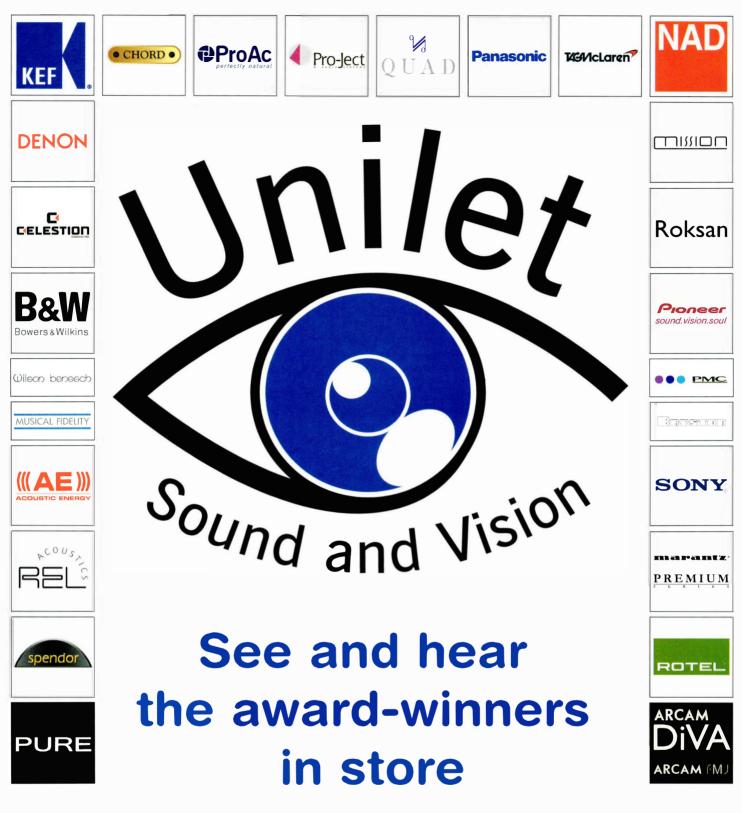
	lultichannel speakers		OF DR	PEAKERS	ROM (HZ)	E SPACE	TO WALL	NUMBER	
STATUS	PRODUCT	£	COMMENTS	Ā	BS	Ę,	R	F	99
88	Acoustic Energy Aegis	650	High-value package with deep bass and smooth neutrality	A+	5	22	•		198
38	B&W 600 S3 package	900	Unquestionably delivers the sonic goods. High-quality drivers in standmount enclosures (uses 602 S3s at the front)	A-	5	22	۲		224
R	Castle CAV Sterling	1,250	Lovely real wood veneers. Sound has fine dynamic drive and expression, but can sound a little hard	Α	5	28			224
88	JBL Xti-series	980	Hexagonal boxes all round, this package has decent authority and all-round tension	Α	5	40		۲	210
8	JMLab Cobalt	1,797	A little lean and bright, but with righteous dynamic expression and lively communication skills	Α	5	22			224
B	JMIab Electra system	3,017	Bold, solid system, tremendous consistency and easy to expand with an added subwoofer	A	5	50			232
88	KEF Q AV7	1,300	With latest Uni-Q refinements, this system is astonishingly accomplished and amazing value	A+	5	35	0		232
R	Mirage Omni 2	2,650	Dark tonality, but superb imagery makes this an excellent all-round choice	А	5	30	0		232
R	Mordaunt-Short Declaration 500	1,600	Good value vinyl THX Select package with Power Towers. Good authority, but must be 5.1-connected	А	5	25		0	210
4	PMC FB1/TB2	2,485	Classy, if bulky and pricey, package has good transparency, coherence and weight	А	5	20		0	210
B.	Rega Jura/Ara/Senta	938	Classy real wood package does a good all-round job, but sounds bright and might have more surround weight	А	5	25		۲	210
R	Spendor S-Series	1,650	Ultra-tinies lack some dynamic and loudness capabilities, but beautiful voicing and freedom from boxiness	А	5	30			224
98	Tannoy mXAV4	500	Lacks some grunt, but smooth and refined with seamless surround coherence. Excellent value	Α	5	20		۲	210
8	Wharfedale Pacific	700	Plenty of speaker package for the money. Balance is somewhat wayward, but unquestionably entertaining	A-	5	25	•		224

SPECS KEV EASE OF DRIVE How much power the amplifier needs (approximately) to drive the loudspeaker effectively: A+ 25 watts plus A 50 watts plus A- 100 watts plus NUMBER OF SPEAKERS The amount of individual loudspeakers in the package. BASS FROM How low the speaker goes, the smaller the number the deeper the bass. FREE SPACE The speakers work best away from wall(s). CLOSE TO WALL The speakers will work best when up against a wall (but avoid corners)

## Our favourite 🗌 group test best buy 🗉 group test recommended 🖲 editor's choice 🎽 new gear review **SUBWOOFERS**

Bass	iss speakers			V,H,D	OWER	ROM	NUN
STATUS	PRODUCT	£	COMMENTS	(CM)	3	(HZ)	JMBER
8	Acoustic Energy Aesprit 308	650	Tuneful and dynamic sound with music or movies from this compact sub, which comes with a handy remote	41,37,30	200	35	225
8	Monitor Audio ASW100	300	For the price, this compact subwoofer performed well	32,32,34	120	27	225
R	REL Strata III	700	A little more bottom octave might have been preferable, but in terms of agility and coherence, this is a fine hi-fi subwoofer	42, 52, 33	100	20	210
R	REL Storm III	900	Excellent sub with powerful, detailed and deep bass. Comprehensive facilities, including flexible filter adjustment	42,62,33	150	18	225
EC	REL Stadium III	1,500	It's a bulky piece of furniture, but offers superior filtering as well as an ability to delve deep into the bass nether regions	59, 56, 39	200	16	217
BB	Ruark CL300	2,000	Shows what a good subwoofer can do: controlled, detailed and dynamic. A delight with music and movies alike	60,52.5,40	300	30	225

SPECS KEY SIZE WXHXD (CM) Width, height and depth of one cabinet in centimetres. POWER (W) How many watts the onboard amplifier of active models delivers. BASS FROM How low the sub goes, the smaller the number the deeper the bass.



Are you someone who is not easily satisfied? Someone who demands the very best, the latest or perhaps the purest? Then you are going to love seeing what Unilet have in store.

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The Hidden Hi-Fi Store

## HEADPHONES BUYER'S BIBLE

## HEADPHONES

For your ears only

Headphones come in several varieties and some are designed for particular usage. The majority of 'cans' use dynamic cone and coil-type drive units and can be used with anything from a personal stereo to a dedicated amplifier. Other types also exist, most significantly electrostatics that use a charged panel membrane to produce a distinctly refined sound. These are supplied with their own dedicated amplifiers, which tends to increase the price.

Cans are split into several types. There are open and closed-back designs, the latter being best for noisy (or noise sensitive) environments as they minimise leakage and intrusion. Open-back types tend to have a more open, less 'in-head' sound. There are also three variants of earpad design: circumaurals

enclose the ear and press on your head, supra-aurals press on the ear and intra-aurals sit in the ear and are particularly popular with personal stereo users.

#### Getting the best from your cans

Getting a good result with headphones is not quite as straightforward as it should be. Merely plugging them into the output on your CD player or amp will not give particularly engaging results unless you are very lucky. If you are planning on serious listening, invest in a dedicated amp - the increase in dynamics is not in the least bit subtle. A variety of models are made and prices start at around £80 for a QED, a little more for designs from, say, Creek or Musical Fidelity. And if you're really into cans, look up the valve-powered Earmax.

## **Our favourite** НЕЛИНИНС

		UNLO	ELECT	SUPF	CIRC	9	CLOSED	<	JACK	ISSUE
Stereo headphones		ELECTROSTATIC	SUPRA-AURAL	CIRCUMAURAL	OPEN BACK	SED BACK	WEIGHT (g)	JACK ADAPTOF	NUMBER	
PRODUCT	3	COMMENTS	D IC	r -	12	×	×	(g)	OR	39
AKG K44	20	Lively, enjoyable and remarkably detailed: a bargain			0		0	190	•	219
AKG K100	36	Leather-clad groover with bags of power and clarity, for a respectable asking price		۲		0		190	•	205
AKG K270 Studio	129	Pro oriented design which is very transparent and great with acoustic material			۰		•	270		230
Audio Technica ATH-D40fs	105	Detailed and involving sound with a professional 'studio' quality appeal			۲		۰	250		194
Grado SR60	90	For sheer musical enjoyment these are hard to beat. Retro styling may not be to everyone's taste		۲		۲		200	•	194
Grado SR80	110	Not perhaps as neutral as some but they communicate well and that's the point of the exercise.		۲		۲		200	•	230
Philips HP890	70	A remarkably sophisticated and very comfortable headphone			۵	۲		330	0	219
Sennheiser HD590	160	Assured and confident player with very low coloration and great comfort			۲	۲		270	0	205
Sony MDR-CD480	40	Generally neutral and nicely detailed - comfortable too			۲	۲		250	۲	219
Technics RP-F800	50	Comfortable budget model that sounds sublime with great dynamics		0			0	160	0	205
Stax System II	400	Luxury option at its price, but the sound delivery is five-star quality all the way	۲		۲	۲		295	0	205
Vivanco SR222S	30	Not that subtle, but high fun factor compensates		•		0		250	0	219

SPECS KEY ELECTROSTATIC Uses electrostatic film instead of more common cone or dome dynamics. SUPRA-AURAL Earpads sit on ear rather than around it. CIRCUMAURAL Earpads rest on the head around the ears OPEN BACK Vented cansules let sound in and out CLOSED BACK Sealed cansules WEIGHT In grams 3.5MM JACK ADAPTOR Allows connection to personal stereos, computers etc

Connections

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... the RIGHT cables ... in YOUR system ... for YOUR ears ... in YOUR home

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CONNECTIONS (A division of Connection 90' Travel Ltd.)

## HI-FICHOICE BUYER'S BIBLE CABLES

## CABLES

### Wires to hook your system together

Hi-fi cables come in two varieties: interconnects and speaker cables. Interconnects come in preset lengths, generally with RCA phono plugs attached, though some equipment uses XLR connectors for balanced connection. Speaker cable is sold by the metre and can be used without plugs or can be fitted with screw or solder-on types.

Choosing the best cables is not quite as

## **Our favourite**

straightforward as it might seem. One problem is that components interact with the cables you use and this often results in audible effects, but there are few cables that are fundamentally incompatible with any components, and we recommend the advice of a good dealer. In any case, you should look to spend as much as you can afford.

Digital cables come in two flavours: electrical and optical. In most instances electrical varieties sound better than optical, but if you are after a smoother sound the light carriers have the advantage, as they do if long lengths are needed (10m+). Optical outputs tend to have Toslink connectors (around 99 per cent), but some electrical digital outputs are of the superior BNC type, which uses a bayonet-type socket. Check which type your digital component has before buying a digital interconnect.

				S	PECIF	FICATI	ONS	
CABLES		cables	STRANDED	SOLID CORE	CO	S	DIGITAL CABLE TYPE	ISSUE NUMBER
PRODUCT	£	COMMENTS	NDED	CORE	COPPER	SILVER	TYPE	MBER
ANALOGUE INTERCONNECTS	2	Comments						
Acoustic Research Master	50	Decent performance all round and good interference rejection	0		0			224
Cable Talk Advanced 3	35	Good sound and great detail, but a slight brashness in the treble	0		0			211
Chord Calypso	30	Informative, clear sound at a decent price	0		0			211
Ecosse The Composer	30	A high degree of realism and delicacy, and a fantastic price (0.8m)	0		0			211
Ecosse Reference Diva	100	Very good performance in all areas, with particularly fine, tuneful, bass (0.8m)	0					224
Ixos Gamma Audition II	30	Detailed and neutral, with just a hint of pleasant mellowness	0		0			211
Monster Interlink 400 Mk2	70	Really lively and enjoyable sound	0		0			224
Profigold PGA4201	5	No pretensions, but sound is perfectly listenable with fair detail and extension	9		0			211
Prowire VHQ	10	This crisp cable lacks a little refinement, but it's great for the price	۲		۲			211
QED Qunex 1	20	Well balanced and easily rivals more expensive cables	0		0			211
Townshend Isolda DCT	300	Unusual construction and cryogenically treated too: whatever the reason, a remarkably capable wire		0	0			234
van den Hul The Bay C5	45	Terrific detail, nice balance - a great cable	0		0			224
van den Hul D102 Mk III	79	Hybrid conductors (carbon and copper) and intelligent construction give strong bass and excellent detail			۲			234
Vivanco Prowire SHQ	30	Good performance all round, with just a hint of bass congestion. Very good value	0		0			224
DIGITAL INTERCONNECTS					2.0%		17.50 M	
Audioquest Digital One	35	A neutral and capable cable that adds little or no character to the sound			0		Е	207
QED Qunex P75	25	A superbly capable interconnect that's highly detailed and well balanced			0		Е	207
QED Qunex SR75	50	Lots of bass and good clear midrange and treble at a sensible price	۲				Е	234
Ross OP004	20	Sounds much like most other Toslink leads: slightly lacking detail, but good value					0	207
van den Hul Optocoupler Mkli	49	Noticeably has the edge over other optical leads, but still second best to electrical types					0	234
SPEAKER CABLES PRICE PER METRE			100 B 100 C					
Black Rhodium Aero Space S130x2	20	Bi-wire cable with great kick in the bass, though the treble can sound dry and recessed	0		۲			227
Ecosse Reference MS2.3	23	Favours excitement over refinement: can be slightly bass-shy, but plenty of life	۲					227
Electrofluidics Monolith 2020	45	Excellent bass extension and very fine performance elsewhere - one of the best cables available all round		۰	0			203
Ixos Gamma 6003	3	A little midrange dryness, but bass is among the best at this price; strong and consistent	۲		۲			203
Kimber 4PR	5	Considering the price, this cable's very slight dryness is forgivable when everything else is so right	۲		۲			192
Kimber 8VS	18	Beautifully full, open and transparent sound right across the board. Price for 1m terminated pair	۲		0			22
Kimber 8TC	39	Very capable in all areas, particularly good at imaging and with firm bass. Price for 5m terminated pair	0		0			203
QED Silver Anniversary	5	A few minor flaws, but overall performance is very assured for this price	0		۲			192
QED XT300	10	A natural and well controlled sounding cable that's cost effective for mid-priced systems		۲	0			234
QED Profile Silver 12	15	Very slightly laid back, but good tone and detail - wears its achievements lightly	۲		۲			21
Supra Ply 3.4/S	8	Good in all areas, with rich bass and just a touch of treble roughness	0		0			20
Tara Labs Prism Nexa	10	Slight tonal softness affects both bass and treble, but the overall sound is very listenable	0		0			21
Townshend Isolda	50	Superb sound all round, and amplifier compatibility enhanced by included stabilising inductor		0	0			20
van den Hul The Snowline	5	A hint of high-end civilisation with a few rough edges and a slightly warm balance	6					21

SPECS KEY STRANDED Cable has a number of (usually) twisted strands to conduct the signal. SOLID CORE Cable has one or more individually insulated strands to conduct the signal COPPER Material used to form the conducting element of the cable. SILVER Alternative material used to form the conducting element of the cable. DIGITAL CABLE TYPE E – electrical, O – optical Cables are one metre length unless otherwise stated.

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## STANDS AND SUPPORTS BUYER'S BIBLE

## STANDS AND SUPPORTS

### Equipment racks and speaker stands

In hi-fi there are two types of stand. One is a rack that holds turntables, amps, CD players and so on and is described as an equipment support, and the other is a speaker stand. The latter comes in three basic varieties, two for standmount speakers: lightweight, multilegged types; and heavy designs with fewer legs and the ability to be mass-loaded for extra solidity. The lighter variety is

said to have a quicker sound, while heavyweights give deeper bass and a calmer sound. The third speaker stand type is a platform that sits under floorstanding speakers or speaker/stand combinations, the pneumatic Townshend Seismic Sink being an example.

There are two speaker-to-stand interfacing options: spikes or Blu Tak in each corner of the top plate. Try both and take your pick.

SPECIFICATIONS

SPECIFICATIONS

PLATE

NUMBER OF

ISSUE

## Our favourite EQUIPMENT SUPPORTS

Equipment supports			HEIGHT	JZE (CM)	WELDED	SHELVES	ELF TYPE	NUMBER
PRODUCT	£	COMMENTS	크	M)	8	ES	PA	5
Aavik Furniture A4	350	Good sound and stylish Scandinavian looks at an affordable price	80.5	47		4	MDF	193
Atacama Equinox	280	Stable, modular design with style. Excellent bass transients and a fresh design concept	81	50,50	۲	4	Glass	217
Audiophile Furniture Base	615	Price is justified by its earth-shattering sonic abilities - a worthy upgrade	82	43		4	MDF	193
Avid Isoschelf	1,100	An enthusiast's equipment support stand free from coloration, if a little fiddly to set up	87.5	48		5	MDF	193
Clearlight Audio RDC Aspekt	550	Stunning neutrality and detail from a well-damped design. Its performance makes the price tag good value	75	53.5,45		4	MDF	217
Custom Design Aspect650	270	Smart looks and practical thanks to adjustable shelves. Sound is fair with some loss of detail	66	46	9	4	Glass	206
Elemental Audio Isotube X4	849	A hefty stand that demonstrates just how much difference a good support can make	90	49	۲	4	Glass	193
Naim Fraim	1,825	Pricey but very classy looking and sounding, with modular flexibility	96	45,34		5	Glass	232
Quadraspire Q4	280	Simple, but modestly effective and very attractive	52	49		4	MDF	206
Quadraspire Q4 Reference	480	Excellent performance from the school of wobbly racks. Natural sounding and plenty of detail	51.5	49,39.5		4	MDF	217
Sound Organisation Z560	195	Excellent value rack, five shelves too! Well balanced and under 200 quid!	92	50,40		5	Glass	217
Standesign Design 4	190	An all-in-one support at a budget price, with good sonic performance	88.5	50.8	0	4	Glass	193
Towshend Seismic Sink Stand	900	Serious resolution and stunning isolation from air decoupled self-levelling design. If you have the cash, buy one	61	53,39.5		4	MDF	217

## **Our favourite**

<b>SPEAK</b>		{ JIANUJ		TOP PLATE			NUMBER	ISSUE
Speaker stands			HEIGHT	SIZE (CM)	FILLABLE	WELDED	OF LEGS	NUMBER
PRODUCT	£	COMMENTS	벽	M	Ē	Θ	S	55
Atacama Nexus 6	60	An excellent all-round performer and a genuine hi-fi bargain	60,50	14.5,18	۲		3	202
Cyrus CLS50 Stand	200	Unusual combination of style and performance, and a definite contender in the right environment	64	17, 19			1	220
Custom Design R/S300 Mkll	100	A solid stand improving on the original, with better focus and detail	61,56,51	16.5,18	0		2	202
hne Cableway	399	Looks great, sounds great, so start saving! Clean and sweet, and neutrality is exceptional with orchestral material	63	17, 20	۲		1	220
Kudos S50	115	Formidable bass with real authority, and a wide dynamic range across a broad bandwidth	61	15, 20	0		1	220
Partington ANSA 60	90	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15	۰		4	232
Partington Dreadnought	100	Fully welded high-class engineering gives a very clean, open sound at a sharp price	61	17, 15	0	*	5	220
Partington Dreadnought Ultimate	299	Super heavyweight stand that is an open window to the speaker placed on it	63	21,24	۲		1	202
Sound Organisation Z522	95	Very hefty build for the price helps to deliver a solid sound with good authority and drive	60	16	0		4	220
Townshend Seismic Sink	499	Unique inflatable plinth that works wonders with decent floorstanders, as well as standmounted speakers	4	38,48			0	202

EQUIPMENT SUPPORTS SPECS KEY HEIGHT Of complete stand. TOP PLATE SIZE (CM) Width by depth of the supporting platform(s). Single figures indicate a square platform. WELDED As opposed to bolt-together construction. NUMBER OF SHELVES To put your kit on, SHELF TYPE Material that shelves are made of

SPEAKER STANDS SPECS KEY HEIGHT Of each stand, not including spikes. TOP PLATE SIZE (CM) Width by depth of platform. Single figures indicate a square platform. Speakers generally overhang top plates FILLABLE The stand can be mass-loaded with sand and/or lead to stop ringing. WELDED As opposed to bolt-together construction. NUMBER OF LEGS That support the stand





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## TECHNICAL & DESCRIPTIVE TERMS BUYER'S BIBLE

## GLOSSARY

#### **TECHNICAL TERMS**

5.1-CHANNEL AUDIO Six discrete channels, typically front left and right, centre, surround left and right, and LFE (Low Frequency Effects) for a subwoofer. BALANCE Most loudspeakers have a characteristic frequency balance resulting from emphasising parts of the audio range and/or de-emphasising others. BASS The lowest three octaves of the audio band – hence 'low bass' refers to the bottom octave (20-40Hz); 'mid-bass' the middle octave (40-80Hz); and 'upper bass' the 80-160Hz octave.

**BI-AMP** (sometimes tri-amp) Loudspeakers equipped with separate access terminals to each drive unit can be driven by separate (matching) power amplifiers for each driver.

**BI-WIRE** (sometimes tri-wire) Loudspeakers with separate access terminals to each driver can be driven by separate cable runs between the amp and each driver.

**CD-R** Recordable CD that cannot be erased, though discs that have not been completely filled can have tracks added until the disc is finalised.

**CD-RW** Re-writable or re-recordable CD, incompatible with older CD players. **CLASS A** The operation of an

amplifying stage or device in which current always flows, as opposed to Class B, where some of the devices are effectively turned off some of the time. Class A tends to have the advantage of offering lower distortion while Class B tends to generate less heat.

**CLASS AB** Most practical amps operate in Class A for the first fraction of a watt and Class B thereafter.

CLIPPING An amplifier's output waveform is 'clipped' if the volume is advanced too far and no more 'volts' are available to sustain ever-increasing power levels. Distortion increases dramatically at this point.

**CLOCK** Any electronic oscillator that is used to generate a timing reference signal. Used to synchronise the data being taken from a disc.

CROSSOVER A simple electrical network which divides the full bandwidth signal received from the power amplifier, apportioning appropriate parts of the spectrum to the various drive units. DAB (digital audio broadcasting). Digital radio using frequencies in the band 217.5 - 230MHz. Broadcasters use varying degrees of compression and offer a broad range of programming. DAC or Digital-to-Analogue Converter. The stage in any digital component at which incoming digital data is used to reconstruct a recognisable analogue (music) waveform.

#### DOLBY DIGITAL DD (AC3)

A compressed digital audio format that typically contains five or more entirely discrete channels, eg 7.1 EX where side and rear channels are used.

**DOLBY PRO-LOGIC, DPL** Forerunner to DD that 'steers' information to the front *UR*, centre and mono surround channels via an analogue matrix.

DRIVE UNIT/DRIVER A transducer which converts electrical energy into acoustic energy, eg bass driver, tweeter. DSD (direct stream digital) The coding format used for SACD offers a frequency response of over 100kHz and a dynamic range over 120dB, it has over four times the data capacity of CD.

**DSP** or Digital Signal Processor. Integrated circuit that handles the decoding of digital audio streams. In 5.1 processors it separates the left from right and front from rear while managing the various bass options.

DTS or Digital Theatre Sound Competitor to Dolby Digital with a reduced 41 compression ratio that, ostensibly, promises higher quality. DVD-A High-resolution variant on DVD offering up to 192kHz bandwidth and 24-bit dynamic range. Discs are

#### compatible with standard DVD players. **ELECTRICAL DIGITAL** Any digital connection that uses an electrical cable

rather than optical. Includes the balanced ('AES/EBU') interface. **FILTERS** Filters are intrinsic to digital

FILTERS Filters are infinitial to digital audio, both analogue and digital. These are often very sophisticated in design, and in total they probably have rather more to do with the 'personality' of CD player sound than most other factors. FREQUENCY RESPONSE The range

of frequencies, from low to high, which a loudspeaker will reproduce.

complex electrical load that a loudspeaker presents to the amplifier which is driving it.

JITTER An insidious distortion specific to digital audio caused by the clock, used to regulate the conversion of data into analogue audio, being imprecise. KBPS (Kilobits per second) Digital data rate measurement system used primarily with highly compressed formats such as MP3, DAB etc. The higher the amount, the better the quality.

LINE LEVEL Practically every modern source component (except phono cartridges) gives an output in the region of 1-2V, referred to as 'line level'. It follows that all inputs labelled 'CD', 'tuner', 'aux' or 'tape' are designed for this input level and are thus interchangeable.

#### LOSSLESS COMPRESSION A

method of reducing the number of data bits (density) without corrupting the original description of the musical signal. **LOSSY COMPRESSION** Reduction in data density by recourse to a psychoacoustical model that predicts what is, and what is not, 'audible' within a sequence of music.

**MIDRANGE** The middle three or so octaves of the audio band, where the

ear is most sensitive, covering the approximate frequency span from 160Hz up to 3kHz.

MP3 (MPEG layer 3) Lossy compression format for digital audio that drastically reduces data content in order to squeeze music through internet connections or allow hundreds of CDs to be stored on a hard disc.

OUTPUT IMPEDANCE A measure of resistance to alternating current, a source with low output impedance (below 100 ohms) helps ensure compatibility with most amplifiers, even with long interconnect cables.

PCM (pulse code modulation) The digital coding system for analogue waveforms used for CD and DVD. Quality is limited by the oversample and bit rates used – CD is 44.1kHz/16-bit while DVD-A is capable of 192kHz/24-bit.

PRESENCE BAND Critical section of the audio band at the point where

midrange and treble meet. QUANTISATION NOISE A form of

distortion or noise resulting from errors in the description of the musical signal by the digital code.

SACD (super audio CD) was launched in 1999 and is a Sony/Philips format based on DSD coding that offers high resolution stereo and multichannel sound from hybrid discs that can also be played on ordinary CD drives.

SAMPLE RATE The rate at which the musical waveform is sliced up into discrete chunks. For CD this is 44.1kHz or once every 0.023msec. DVD will also support 48kHz and 96kHz.

SENSITIVITY The relative loudness that a speaker generates for a specific voltage input. Expressed in decibels per watt (dB/W).

THX Standards system for home cinema set-ups which includes amplifier power and speaker dispersion characteristics. THX Ultra is more stringent than THX Select.

**TOSLINK** The proprietary name given by Toshiba to the optical fibre signal transmission system it invented for consumer applications.

TRANSISTOR/MOSFET The two main types of power semiconductor used in solid state amplifier output stages. TREBLE High frequencies, the top end of the audio band, ie above 3kHz. TWEETER Treble driver.

TWO/THREE-WAY Loudspeaker crossovers split the signal into two or three frequency bands, a two-way speaker can have more than two drive units.

WATTS (per channel) The watt is the unit of electrical power and the WPC rating is the maximum average undistorted power that an amp can deliver to a typical speaker. However, speaker sensitivity variations can make more difference than amplifer output.

#### **DESCRIPTIVE TERMS**

AGGRESSIVE Forward and bright sonic character. AMBIENCE The impression of an acoustical space, such as the

performing hall in which a recording was made. ANALYTICAL Highly detailed.

ARTICULATE Intelligibility of voice(s) and instruments and the interactions between them.

ATTACK The leading edge of a note and the ability of a system to reproduce the attack transients in music.

BALANCE Essentially tonal balance, the degree to which one aspect of the sonic spectrum is emphasised above the rest. Also channel balance, the relative level of the left and right stereen channels

**BODY** Fullness of sound, with particular emphasis on upper bass.

**BOXY** The sound of a loudspeaker with audible cabinet resonances.

**BRIGHT** A sound that emphasises the upper midrange/lower treble.

downwards with increasing frequency. Opposite of bright.

**DECAY** The fadeout of a note, it follows the attack.

**DEFINITION** (or resolution) The ability of a component to reveal the subtle information that is fundamental

to high fidelity sound. **DEPTH** (of image) The perception of music being reproduced behind the loudspeakers and inhabiting a reproduction of the acoustic space of

the original recording. **DETAIL** The most delicate elements of the original sound and those which are the first to disappear with lesser

equipment. DRY A sound that is devoid of 'juice', which usually comes across as finegrained and lean. Also a loss of reverberation as produced by a

damped environment. DYNAMIC The suggestion of energy

and wide dynamic range. Related to perceived speed as well as contrasts in volume both large and small. **EUPHONIC** An appealing form of distortion that generally enhances perceived fidelity, often ascribed to the harmonic elaborations of some valve amps.

FAST Good reproduction of rapid transients which increase the sense of realism and 'snap'.

**FOCUS** A strong, precise sense of image projection.

FORWARD(NESS) Similar to an aggressive sound, a sense of the image being projected in front of the speakers and of music being forced upon the listener.

**GRAINY** A slightly raw, exposed

sound which lacks finesse. **GRIP** A sense of control and sturdiness in the bass. **GRUNT** See grip. **HARD** Uncomfortable, forward, aggressive sound with a metallic tinge.

HARSH Grating, abrasive.

**IMAGING** (stereo) The sense that a voice or instrument is in a particular place in the room.

**JUICY** Sound that has joie de vivre, energy and life.

LOW-LEVEL DETAIL The quietest sounds in a recording. MUSICAL or musicality. A sense of

cohesion and subjective 'rightness' in the sound.

OPAQUE Unclear, lacking transparency.

OPEN Sound which has height and 'air', relates to clean upper midrange and treble

PACE Often associated with rhythm, a strong sense of timing and beat. PRESENCE A sense of an instrument

or voice occupying a place in the listening room.

PRESENCE RANGE The upper midrange.

**SEISMIC** Very low bass that you feel rather than hear.

**SIBILANCE** An emphasis of the 'S' sound, often heard on radio.

**SNAP** A system with good speed and transient response can deliver the immediacy or 'snap' of live

instruments. **SPEED** A fast system with good pace gives the impression of being right on the money in its timing.

**STURDY** Solid, powerful, robust sound.

THICK A lack of articulation and clarity in the bass. THIN Bass light.

TIMBRE The tonal character of an instrument.

TIMING A sense of precision in tempo. See speed and pace. TRANSIENT The leading edge of a percussive sound. Good transient response makes the sound as a whole more live and realistic.

TRANSPARENCY, transparent. A hear-through quality that is akin to clarity and reveals all aspects of detail. TWEAK To tune a system or

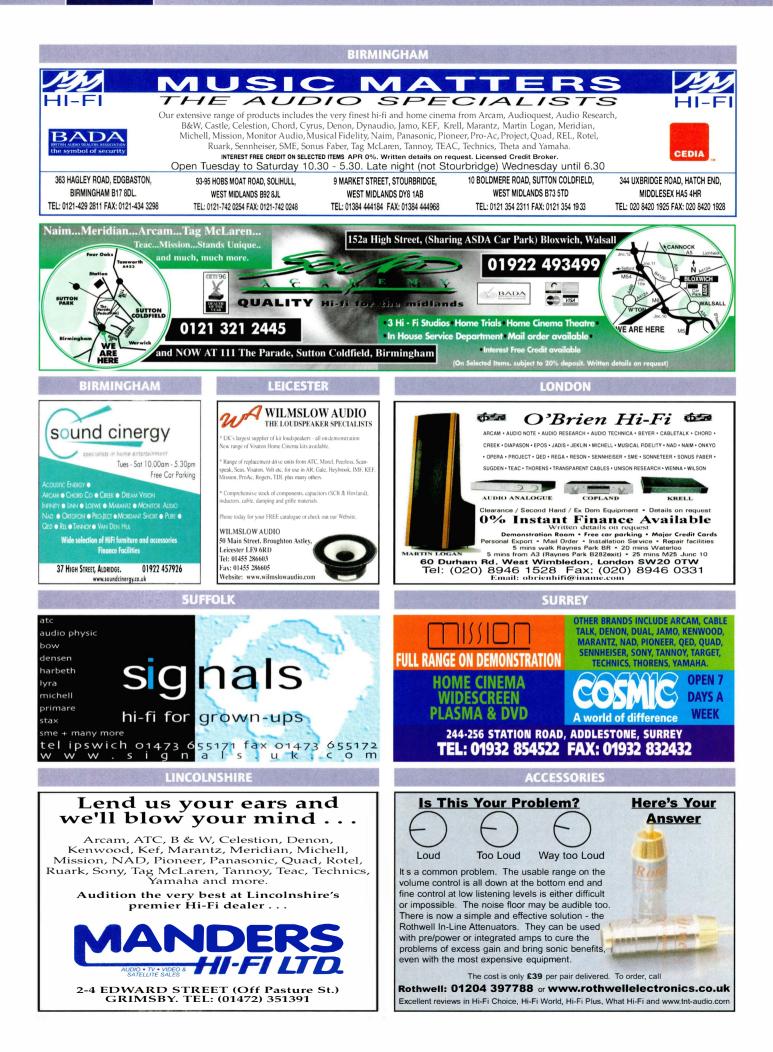
component in an attempt to get the best performance from it.

**TWEAKER** Someone who enjoys this process.

**VEILED** Loss of detail due to limited transparency.

WARM A fullness in the lower midrange/upper bass.

WEIGHT A sense of substance and underpinning produced by deep, controlled bass GLOSSARY





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S3tlm	6.5" IPL metal, 1" Seas treb	903 x 230 x 350	£243.00	£10.00
S3tlm Rib	6.5" IPL metal, Ribbon treb	903 x 230 x 350	£398.25	£10.00
S4tl	8" Audax HDA, Seas treb	960 x 276 x 400	£243.00	£11.00
S5tl	10" Audax, 5" mid, 1"treb	1080 x 320 x 400	£420.00	£12.00

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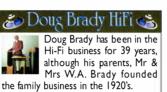
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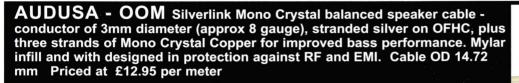
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GNLM 05/2.5 (CSA2.5) £48 for 1.0m,£58 for 1.5m, £68 for 2.0m, Off the reel £30 for 1st meter, £20 per m thereafter. GNLM 05/04 £58 for 1m, £68 for 1.5m, £78 for 2.0m Also off the reel.

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including tonearm. The Audio Salon has tried other turntables, and rests with these three extremely experienced manufacturers' consistency and integrity - vital for this very difficult genre of acoustical-mechanical device which relies on so many skills. The same might be said of pick up cartridges, where our experience of handmade cartridges commends Sumiko. We have a few remaining of their acclaimed Blue Point Special at the reduced price of £249 (saving £30) and one Pearwood Celebration remaining at £995 (saving £200). Lyra is the best all rounder, and we have two Lyra Beta MC cartridges at the Christmas sale price of £495.



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List No 79 - February 2003

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DIGITAL		
DIGITAL====================================	Eu22.900	DOA
TAS Class 1 product (Ex-D)	Eu22,900	FUA
Gryphon Adagio CD Player (Ex-D) 2nd level upsampling redefines CD! One only!	£4,300	£2,995
AMPLIFIERS====================================		
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Bow Wazoo XL	£2,495	£1,495
Integrated Amplifier 75 wpc, (Ex-Dem)		
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conrad-johnson PV14L pre-amp (s/h)	£2,200	£1,150
3-hrs use. Plus 12 unused NOS valves for £100. See		
Gryphon Sonata/ Allegro/ Legato	£10,600	£6,900
State of Heart pre-amp with phono stage		
Dual monaural, ultimate construction (Ex-D)		
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Mark Levinson Power Amplifiers		
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Musical Fidelity A100 (s/h)	£1,495	£ 695
Class A, integrated amp, separate PSU		
PassLabs Aleph-5 (s/h)	£3,350	£1,750
60 wpc, s/e RCA and Balanced		
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Near Offer Considered; additional set of GE NOS valv	res	
Schematic included; very impressive		
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Sugden MasterClass Pre-amp (s/h)	£2,300	£1,250
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Tenor Audio 75 Wp (OTL tube monoblocks)	\$20,900	POA
Winner TAS Golden Ear 2002		
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LOUDSPEAKERS====================================	£3,990	£1,990
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Audio Physic Virgo 3 (New!) Reduced price Unused but slight dent (Luxury Cherry) Kharma Ceramique 1.2 Reference Monitors		
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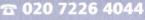
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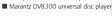
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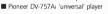
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#### Hi-Fi Choice 240 on sale 27 March

Nano-fi is coming

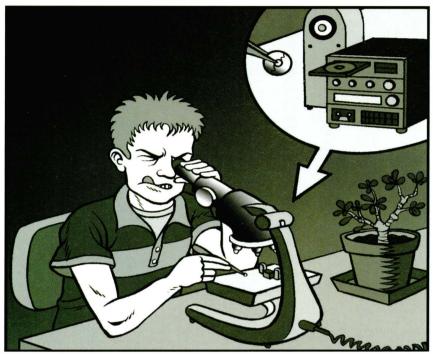
## David Vivian finds you've got to think small to think big

t's been called the "final technology". The revolution that will change everything. The next big pay day for Michael Crichton. Depending on who you believe – and there are two camps of thought – nanotechnology (building and manipulating things at the molecular level) will either utterly transform the way we live or, um, wipe us off the planet. Given the choice, Crichton, author of *Jurassic Park*, saw greater commercial mileage in the scenario where things go pear-shaped. In his latest book, *Prey*, a gang of rapidly replicating, artificially intelligent nanobots – really, really tiny fellas – go bad and set out to do the dirty on mankind. Like a virus? Yeah, only worse.

Actually, Crichton's vision of the not-sodistant future has rather more credence than growing dinosaurs out of manky old fossilised DNA, and sections of the scientific community are seriously worried that in what's becoming a headlong rush to unlock the potential wonders of nanotechnology, we might unwittingly create the next dominant life form on earth and relegate ourselves to just another link in the food chain.

So, let's face it, it must be good stuff. Now there's small and there's small. A nanometre is a billionth of a metre, a distance so tiny it makes a human hair look like the channel tunnel. The emerging ability to work at these molecular scales has staggering implications on just about every front, from medicine to space travel, from fashion to warfare. And – somewhere in all this, surely – hi-fi.

One day, if we truly do master the art of building things atom by atom, all the engineering compromises we currently take for granted will vanish. It won't be a matter of choosing the most suitable materials from which to build a product but creating the perfect materials with molecular assembler/replicators. These atomically precise machines will make and break chemical bonds using mechanosynthesis to produce a wide variety of products under software control, including copies of themselves. They will



"One day, if we truly do master the art of building things atom by atom, all the engineering compromises we currently take for granted will vanish."

behave almost exactly like living cells. Not a great leap of imagination for Crichton, then.

The new technology won't just revolutionise computing and data handling by several orders of magnitude but make the insanely fanciful possible. How about a turntable made entirely out of diamond but with an MDF stylus? Whadda novelty! Or a micro system you need an electron microscope just to find? Absurd yes, but, according to some scientists, the absurd could be normal in a few decades.

Hi-fi will feel the effects of nanotechnology far sooner than that, though. Computer giant IBM recently created the world's smallest transistor, measuring just six nanometres – a tenth of the size of those found in the latest microprocessors. IBM claims the new transistor could, in theory, be used to pack 100 times more transistors into components. Contrastingly, the company's prototype Millipede chip, while no bigger than a postage stamp, stores a terabit of data in the form of tiny indentations. One terabit is equivalent to the information stored on 200 CDs. An obvious application of the technology is that it will massively increase the capacity of an MP3 player and result in more powerful computer chips which, in turn, will improve the performance of digital replay systems.

Experiments have been conducted that suggest tiny tubes of carbon (nanotubes) may conduct electricity without any resistance, at temperatures stretching up past the boiling point of water. Which would make them the first superconductors to work at room temperature. If a material could carry current with no resistance at room temperature, no energy would be lost as heat, meaning faster, lower-power electronics. You get the idea.

No one knows exactly where this is going. Not even Michael Crichton. The good news, though, is that the first benefactor of nanotechnology is electronics. Hang onto something, it's going to be a thrilling ride.



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